The influence of Microsoft Innovative Educator Expert Programme on teachers' attitudes towards embracing new technologies for teaching and learning in Kenya

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ABSTRACT

The purpose of this study was to examine how the Microsoft Innovative Educator Expert (MIEE) programme influence teachers' attitude towards embracing new technologies for teaching and learning in Kenya. The research focused on how being a member of Microsoft Educator Community and the recognition through winning badges, certificates and getting awards affect the attitude of teachers in embracing new technologies in their practice. The MIEE programme is designed to bring together educators who are keen on tapping into new technologies to transform the teaching and learning experiences across the world. The study was conducted through a descriptive survey research design using Microsoft forms to collect real time data. This was a relevant research instrument tool as the respondents were well conversant and frequent users of the app. The study found out that majority of the respondents frequently use the new ICT tools in their teaching after being recognised as MIEEs, where 30.2% agreed and 41.9% strongly agreed. 37.2% agreed and 58.1% strongly agreed making a total of 95.3% of the respondents who network and collaborate with educators beyond their schools after becoming MIEEs. The study concluded that joining a professional Platform like Microsoft Educator Community greatly influences teachers to embrace new technologies. This is also in line with literature review which shows that insufficient knowledge and lack of support contribute to the teachers' negative attitude in the use of modern technologies in their classroom. The study further concludes that when teachers are recognised for their achievements in ICT integration, they get motivated and embrace the new technologies in their classrooms even

more. This study therefore demonstrates that Microsoft Innovative Educator Expert Programme has an influence on the teachers' attitude towards embracing new technologies for teaching and learning in Kenya.

1. Introduction

1.1 Background of the Study

Technology is quickly changing the rules of the game in all sectors of our lives. Due to rapid technological advancements, we may not know how the future will look like but we know for sure that it will not be what it is today. In education, ICT has resulted in immense changes "not only in learning methods for learners, but also in the teaching approaches of instructors" (Tezci, 2010). Bates (2015) for instance describes the impact of the internet on education as a complete paradigm shift in terms of educational technology. With all the changes in technology, there is really no such a thing as 'students need to learn the technologies that they will be using in the future'; instead, they need the concepts and the skills of making them long-life learners.

Research has found out that for technology to be effective in a school, all the stockholders must share the vision and that training the staff is essential. It is actually suggested that a school should hire a full time technology director and teachers be given time to reflect and share the best practices (Muir-Herzig, 2004). Toledo (2005) in fact recommends that a teacher should be the one to be appointed as a technology director. Furthermore, "Integrating ICT in the curricula requires an investment both in these technologies and in trained personnel" (Tezci, 2010). Schools should purchase modern educational technologies and train the teachers on their use in the most efficient way possible. Among the many methods that a school could adopt, Leblanc (1996) argued for the training of trainers' method as the most cost-effective method for schools.

Most teacher colleges have been found not to be progressive in the way they teach the integration of new technologies in teaching and learning. "The course focus becomes one of acquiring basic skills using basic tools rather than purposeful integration of technology in the curriculum content areas" (Beisser, 1999). This is no wonder many teachers are stark with traditional use of PowerPoint, email and even word processors but meaningful infusion of technology in lesson planning seems to be missing.

This study is informed by the research recommendations that ICT as a pedagogical tool needs "an in-depth investigation by looking on teachers' willingness, confidence, motivation, feeling, thinking, belief and the actual practices" (Ndibalema, 2014). "Information is required about teachers' attitudes for plans about and future investments in ICT" (Tezci, 2010).

Teachers' attitude in the use of ICT has been quite an issue of debate in the trends in education. Sampson et al. (2016) conducted a study that aimed to determine a scale for measuring teachers' attitudes towards ICT use in teaching and learning process where Teachers' ICT Attitudes Scale (TICTAS) was recommended as a reliable tool. Singh and Chan (2014) conclude that the successful implementation of any ICT integration programme is highly depended on teachers' readiness and also positive attitudes towards ICT. Tezci (2010) conducted a research in Turkey and found out that the teachers' attitudes towards embracing the use of computers and internet vary with their years of experience and levels of knowledge. Further studies also show that age and gender do not really influence on attitudes directly. "Rather, it is the bias towards age and gender that obstructs the integration of technology in school" (Mustafina, 2016).

Bamigboye et al. (2013) conducted a study on teachers' attitude and competency towards the use of ICT resources in their lectures and found out that when the attitude is positive, the use of ICT in instruction enhance academic performance of students. Contrary to public perceptions that teachers have a negative attitude towards the ICT, the study revealed that majority of the respondents had positive attitude due to their competency towards use of ICT resources while teaching. The issue of attitude therefore seems to be simply linked to knowledge and competency levels.

"Microsoft Innovative Educator (MIE) Expert program is an exclusive program created to recognize global educator visionaries who are using technology to pave the way for their peers in the effective use of technology for better learning and student outcomes" ("Microsoft Educator Community," 2018)

1.2 Statement of the Problem

Many studies done seem to point out to the teachers' attitudes as the greatest factor to consider in the effective integration of technology in teaching and learning. Mustafina's research for instance concluded that teachers' attitudes toward technology had a great influence on ICT integration in one of the secondary schools in Kazakhstan. But why will teachers let their attitude limit them from supporting students achieve better learning outcomes? Whether teachers are knowledgeable about the technologies and how to use them seems to be what determines their attitude. The research showed that, "ICT knowledge and teachers' attitudes were positively correlated" (Mustafina, 2015). This study therefore, unearths the potential of the MIEE program in mitigating the challenge of the attitude.

A lot of resources have been invested by Microsoft and the MIEE program has become so popular attracting teachers from across the world especially in the annual global educator exchange conferences. Many teachers in Kenya have joined this program and it is gaining popularity among teachers keen on exploring the opportunities for new technologies in teaching. Four schools have also been nominated by Microsoft to be Microsoft showcase schools but there still seems to be little or no research done to ascertain the impact of the MIEE program in influencing the teachers' attitudes in embracing the new technologies in teaching. This study therefore aimed to fill in this gap by paying a particular focus on the Microsoft Innovative Educator Expert Programme and its influence on teachers' attitude towards embracing new technologies for teaching and learning in Kenya.

1.3 Objectives of the Study

The following were the key objectives of this study:
  i.   To determine the influence of joining a technology-based professional platform on teachers' attitude towards embracing new technologies in teaching and learning
  ii.   To examine the influence of recognizing teachers' achievement in the infusion of ICT on the teachers' attitude towards embracing new technologies in teaching and learning

1.4 Research Questions

The following two questions guided the study:
  i.   How does joining a technology-based professional platform influence the teachers' attitudes on embracing the new technologies in teaching and learning?
  ii.   How does recognizing teachers on their achievements in the infusion of ICT influence their attitudes on embracing the new technologies in teaching and learning?

2. Literature Review
2.1 Theoretical underpinnings
Expectancy Theory of Motivation
This study was grounded on the expectancy theory of motivation as conceptualized by Victor Vroom (1964). According to the theory, expectancy, instrumentality, and valence are the three key elements that determine an employee motivation. "A person is motivated to the degree that he or she believes that (a) effort will lead to acceptable performance (expectancy), (b) performance will be rewarded (instrumentality), and (c) the value of the rewards is highly positive (valence)" (Lunenburg, 2011). The basic expectancy model is summarized by the figure 2.1 as shown below.
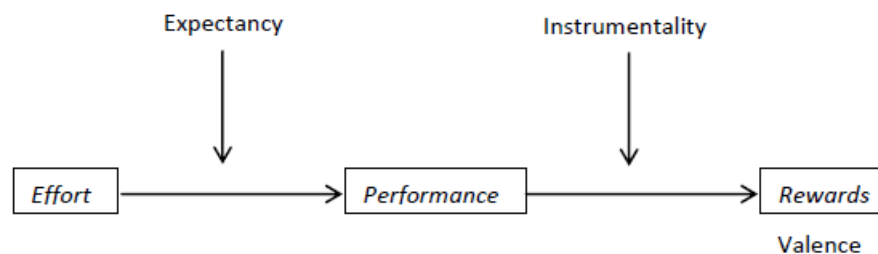

Figure 2.1: Basic expectancy model (Lunenburg, 2011)

The theory links well with this study that primarily explores how teachers' attitude towards embracing new technologies could be influence by them gaining skills through online professional platforms and being recognised for their achievements. Just like the theory, the expectancy of the teachers is likely to be high when they have the necessary support, skills and resources, and they know that their performance will attract a valued outcome. Research establishes a close link in the 'relationship between the performance appraisal elements and the employees' motivation using the expectancy theory' (Baakeel, 2018).

2.2 Improving teachers' attitude towards embracing new technologies
When thinking 'new technologies in the classroom', the teacher's attitude is an important factor to consider. The research on "Teachers' Attitudes toward Technology Integration in a Kazakhstani Secondary School" exposed teachers by showing students complaints of technology being rarely used in the classroom although "the findings showed that mostly teachers were very positive towards technology integration in school" (Mustafina, 2016). Another study shows that "The majority of student-teachers have positive attitudes towards computers for personal use. More than 60% of the Cypriots revealed not only that they like working with computers but also that they have confidence working with them" (Kyriakidou et al., 1999). This suggests that the issue is not simply attitude but something more than this. Teachers are not well supported to integrate the use of technologies. When they go to class, although knowing the importance of enhancing their pedagogy with new technology, they seem to focus on what will 'count' at the end of the day. "Some teachers still believe that they have a role to deliver knowledge through data dumping of information to students because they have to cover the curriculum content in preparation for standardized tests" (Monari, 2019). There also seems to be a correlation between the teachers' attitudes and students' attitudes. "Teachers' positive attitude to use of ICT in classroom should influence students to also have positive attitude towards ICT" (Okorie & Agah, 2014).

Tezci (2010) argue that motivated teachers use ICT more frequently. A study done to investigate the knowledge level, attitude towards the use of ICT in teaching-learning and obstacles faced by the in-service teachers in secondary schools found out that "attitudes of teachers on use of ICT vary with their years of experience and level of knowledge on ICT" (Singh & Chan, 2014). The more knowledgeable teachers are about how to use the technologies, the better their attitude towards embracing even newer technologies. Research has also indicated that implementing new technologies in teaching and learning is still a challenge because the "Student-teachers' ability in using software as a tool for teaching and learning is low since more than two thirds of student-teachers indicate a lack of confidence in using software as an educational tool" (Kyriakidou, Chrisostomou, & Banks, 1999).

One of the best ways of improving the effective use of technology in class is the "creation of an environment in which faculty are encouraged to risk trying new technologies and methodologies" (Toledo, 2005). Monari (2018) conducted a survey among primary school teachers in Kenya and found out that training can influence the teacher's attitudes positively. The study shows that the teachers who underwent training in ICT integration in teaching were more willing to use it and even to learn more about other useful technologies. The negative attitude could therefore be as a result of the lack of knowledge and skills. Another case study done on the teachers use of iPads and their attitude indicated that "teachers had little concern with gaining extra training on classroom time and organization and with conflicts between their interests and teaching responsibilities when integrating iPads" (Pepe, 2016). There is a general feeling that education leaders are under pressure to have their schools use new technologies too but they are not willing to support the process to the later. Teachers therefore see it as a fix and an add-on to their work and mostly do it to impress rather than as a need. The integration of new technologies should be carefully thought with thorough consultation and the implementation should not be rushed. The goal should be to support the stakeholders and ensure that it works rather than it being used as a punitive measure for those who are not using it.

2.3 Joining a technology based professional Platform for teachers

Although Admiraal et al. (2017) advocates that the success of teaching with technology is traced down to the teachers' college; their teaching practice and model teachers, it is important to note that the dynamic nature of technologies will require teachers who are long-life learners through continuous professional development. Joining an online platform to share the ideas could be one of the best ways to build personal capacities. Toledo (2005) recommends that online educational portal should be employed for future use in schools that want to excel in employing technology effectively. Professional platforms are essential in providing networks where experience and resources are exchanged. The networks can capture views from a vast pool of expertise, as the members have connections across markets that assist in collecting and collating information and best practice from around the globe so as to broaden their perspectives (Green, 2015).

Topp, Mortenson, & Grandgenett (1996) already noted that school managements should "provide an institutional environment supportive of the 'risk taking' necessary by faculty to try new approaches to instruction" Enrolling teachers to professional online platforms can be an enabling environment where teachers engage in a self-paced training and development. Microsoft in Education has created the Microsoft Educator Community (https://education.microsoft.com) which is a personalized hub where educators can connect and collaborate, find training and lessons, and earn badges and certificates for free ("Microsoft Educator Community," 2018). This platform also gives teachers an opportunity to connect their classes with the rest of the world through Classroom Skype and other online collaborative apps like Sway, Classroom OneNote and Teams. Through the self-training platform, free interactive and digital courses are offered via the Microsoft Virtual Academy and teachers are able

to plan and monitor their own learning where knowledge production, collaboration and sharing skills are greatly emphasized.

2.4 Recognition of teachers' achievements in infusing ICT in teaching and learning

Ndibalema (2014) argues that there is little evidence on how ICT as a pedagogical tool has been successful in schools. This is probably because the efforts of a few who do this are not recognised and there are no official platforms to do so. Even beginning teachers who are enthusiastic about the use of technology are soon discouraged because it does not seem to be the real focus for many institutions. "…the complexities of surviving the first year teaching with new content, materials, resources, and classroom management leaves little energy for using computers in teaching and learning" (Beisser, 1999). There is need therefore for a curriculum redesigning to easily accommodate the integration of the new technologies. Teachers' effort to employ new technologies should be recognised and curriculums should also start assessing skills and concepts rather than the constant traditional focus on content.

"One issue relating to adoption concerns teachers' perceptions of using technology – whether it is seen primarily as a tool for admin purposes or whether they see it as a tool for teaching" (Price et al., 2005). Gentry and Lindsey (2008) study revealed that teachers use technology more for managerial functions rather than as a toll to enhance instructional practices. This is definitely what is recognised mostly; responding to emails, preparing exams and reporting students' achievements. This is in agreement with another research report which observes that "more than half of the teachers equipped with computers only use them for administrative functions, and only half of their students report using technology more than once a week (Mundy, Kupczynski, & Kee, 2012).

Kyriakidou et al. (1999) recommends that teachers should "be given the impetus to employ ICT in their teaching practice and in their academic life as developing professionals". Part of the negative attitude is the thinking that after all the efforts will not be acknowledged as many educators are after syllabus coverage and performing well in standardized tests. Perhaps that is why study shows that the school leadership should "provide an institutional expectation that faculty will include educational technology in their instruction" (Topp et al., 1996).

Recognizing the small steps made by teachers can help in "strengthening of the relationships between the support personnel and the faculty"(Toledo, 2005) The Microsoft Educator Community believes that technology is an accelerator, but alone it does not enable change. The focus therefore is in the power of the educator, and the impact educators can have when they are brought together and recognized for their achievements. Microsoft in education programs are keen to recognize and reward the teachers' effort as they go through the journey of learning and using technology. The more the teachers on the platform use technology to enhance learning the more points they gain and get badges, certificates and recognition to the extent of being invited to attend global conferences. An example is Richard Appiah Akoto, a teacher from Ghana whose efforts to teach how to use Microsoft Word using a blackboard went viral in media in 2018 and Microsoft stepped in to recognize his efforts by equipping the school with computers and Wi-Fi connectivity.

2.5 Conceptual Framework

The following figure 2.2 is a mind map of the dependent and independent variables. It shows that teachers joining IT-based professional platforms and being recognised for their achievements can improve their attitudes towards embracing new technologies in teaching and learning as explored in the literature review.
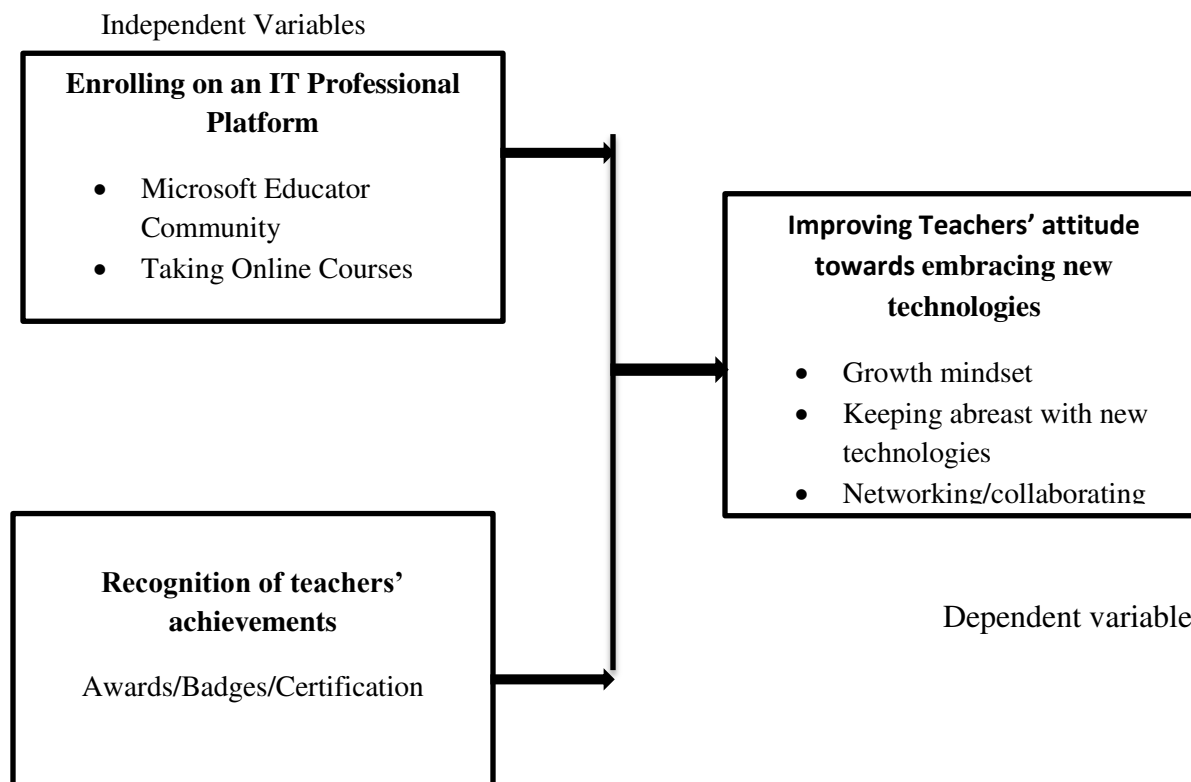
Independent Variables

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┌─────────────────────────────┐
│  Enrolling on an IT Professional │
│          Platform            │
│                              │
│  • Microsoft Educator        │
│    Community                 │
│  • Taking Online Courses     │
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┌─────────────────────────────┐
│  Improving Teachers' attitude │
│  towards embracing new       │
│       technologies           │
│                              │
│  • Growth mindset            │
│  • Keeping abreast with new  │
│    technologies              │
│  • Networking/collaborating  │
└─────────────────────────────┘
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┌─────────────────────────────┐
│  Recognition of teachers'    │
│      achievements            │
│                              │
│  Awards/Badges/Certification │
└─────────────────────────────┘
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Dependent variable

Figure 2.2: Conceptual Framework (researcher 2019)

3. Research Methodology

This study was conducted through a descriptive survey research design targeting 50 teachers who are or have been Microsoft innovative educator experts in Kenya. Microsoft forms application was used to prepare the survey questions and the link was sent to the target population through their emails and the Kenya MIEEs WhatsApp group platforms. There is evidence of research that it is possible to implement Internet-based surveys in effective and cost-efficient ways concluding that the Internet will continue to grow in importance for conducting certain types of research surveys (Fricker Ronald & Schonlau Mathias, 2002). Since these are teachers who are keen on using the Microsoft technologies in teaching and learning, using the Microsoft forms app which most of them were well conversant with deemed to be timely and appropriate. Most of the teachers already had smart phones and could access internet and hence a good number of them were reached and were able to respond immediately.

The forms were designed to be objective and simple to fill in and they helped to collect information unanimously as participants were neither required to indicate their names nor email addresses. The average time used to complete the questionnaire was 4 minutes and a total of 43 responses were recorded by the time the data was being analyzed. The survey forms also had open ended questions where the participants were encouraged to give any other comments concerning the MIEEs program and the influence it has on their attitudes as teachers expected to champion the use of technology to enhance learning in their respective teaching institutions. The participants were encouraged to be honest as the information was for educational purposes and to improve the MIEE program. The participants were also informed that their participation was voluntary and there would be no monetary or any other benefits they would get out of the survey except that the report of the study would be shared with them.

The data collected through the Microsoft survey forms was real time and came in with the analytics showing percentages and pie charts according to how teachers filled in the info. This data was extracted and further processed and the descriptive statistics was used to find out the mean and standard deviations. The data was then organized and presented in the form of frequency tables.

4. Data Presentation, Analysis and Interpretation
4.1 Joining a professional Platform-Microsoft Educator Community and its influence on embracing new technologies
The respondents who participated in the study were asked to give their opinion on what influence joining Microsoft Educator Community has had on their attitude towards embracing new technologies. Based on statements on a scale of 1-5, where 1= strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). Results of the findings are presented in table 4.1.

Table 4.1: Joining Microsoft Educator Community and its influence on embracing new technologies

Items	Statements	SD	D	N	A	SA	Mean	SD
1.	Being a member of Microsoft Educator Community motivates me to stay up to date with new technologies and their implication in class	0 (0%)	5 (11.6%)	6 (14%)	25 (58.1%)	7 (16.3%)	**4.27**	**1.1**
2.	I am now even willing to pay for an ICT related training to better my skills	4 (9.3%)	3 (7%)	13 (30.2%)	19 (44.2%)	4 (9.3%)	**3.17**	**0.82**

Source (field survey report 2019)

From table 4.1, 65.1% marks the total number of the respondents that agree and strongly agree that being a member of Microsoft Educator Community has helped them stay up to date with new technologies and their implications in class. With a mean of 4.27 most of the respondents are keen with the new trends in technology and how they can use the technology tools in teaching and learning. Majority of the Kenyan MIEEs that were interviewed also indicated that following their experience in the MIEE program, they are now willing to pay for an ICT related training to better their skills. 30.2% of the respondents were however not sure whether they will be willing to pay or not pay for an ICT course so as to better their instructional methods.

4.2 Recognition of teachers' achievements and its influence on embracing new technologies
The respondents who participated in the study were also asked to give their opinion about the influence of the recognition of their achievements in the use of ICT on their attitude towards embracing new technologies. Based on statements on a scale of 1-5, where 1= strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). Results of the findings are presented in table 4.2.

Table 4.2: Recognition of teachers' achievements and its influence on embracing new technologies

Items	Statements	SD	D	N	A	SA	Mean	SD
1.	I frequently use the new ICT tools in teaching after being recognized as MIEE	0 (0%)	4 (9.3%)	8 (18.6%)	13 (30.2%)	18 (41.9%)	**3.19**	**0.83**
2.	I frequently network/collaborate with teachers outside my school for new solutions in ICT infusion in teaching and learning	0 (0%)	2 (4.7%)	0 (0%)	16 (37.2%)	25 (58.1%)	**5.1**	**1.3**

Source (field survey report 2019)

According to table 4.2 on whether the respondents frequently use the new ICT tools in teaching after being recognised as MIEEs, 8 (18.6%) were neutral, 13 (30.2%) agreed and 18 (41.9%) strongly agreed. 4 respondents who strongly disagreed on being frequent users of ICT tools in teaching and learning also alluded to lack of modern ICT equipment in their schools. As to whether the respondents were frequently networking with teachers outside their schools for new solutions in ICT infusion in teaching and learning, 37.2% and 58.1% agreed and strongly agreed respectively making a total of 95.3% of those who are of the same views. Only 4.7% of the respondents disagreed that they frequently collaborated with teachers outside their schools and they cited challenges of internet connectivity in their learning institutions.

5. Summary of Findings, Conclusion and Recommendations
5.1 Summary of Findings and Conclusions
The study found out that being members of Microsoft Educator Community, a professional platform that challenges teachers on the infusion of technology, had resulted to challenging the MIEEs to keep themselves abreast of the new technologies and how they could infuse them to enhance the teaching and learning outcomes. The finding that majority of the respondents were willing to pay for a technology course that would improve their skills was a clear demonstration of a positive attitude and desire for a continuous professional development amongst the Kenyan MIEEs. Moreover, the study found out that after teachers were recognised as MIEEs, they got more motivated to use even more technologies in their lessons. What was also remarkable was the fact that almost all the MIEEs recorded that they were collaborating and networking with teachers outside their schools for new solutions in ICT infusion in teaching and learning.

Based on the findings above, the study concludes that joining a professional Platform like Microsoft Educator Community influences teachers to embrace new technologies. This is also in line with literature review which shows that lack of competency is the course for a negative attitude in the use of modern technologies in the classroom by teachers. The study further concludes that when teachers are recognised for their achievements in ICT integration, they get motivated and embrace the new technologies in their classrooms the more. If teachers are members of an active ICT professional platform and also get recognised for the steps that they make in their journey of integrating ICT in pedagogy and content, they will embrace the new technologies for use in their classrooms. To sum it all therefore, Microsoft Innovative Educator Expert Programme has an influence on the teachers' attitude towards embracing new technologies for teaching and learning in Kenya.

5.2 Recommendations

i. The study recommends that teachers should join professional platforms that challenge them to keep abreast of the new technologies and how they can be used in the classroom.
ii. The study also recommends that teachers' effort in learning and using new technologies should be recognised and celebrated by their administrators and/or employers.
iii. The study recommends that, for there to be consistency and accelerated use of new technologies by the Kenyan MIEEs, Microsoft should invest more on face to face meetings where teachers will share their experiences and be recognised for their efforts.

5.3 Suggestions for Further Studies

The study suggests further reading on the Microsoft in education programs and their impact on the actual learning outcomes in Kenya. The study suggests that further research be conducted on:

i. The influence of Microsoft in education programs in teaching and learning in other countries
ii. The impact of using specific Microsoft apps in teaching and learning
iii. The relationship between the availability of ICT tools and the teachers' attitude towards integrating technology in their teaching and learning.

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Monari is currently a teacher of English Language & Literature and Theory of Knowledge at Aga Khan Academy Mombasa in Kenya. He teaches both in the Middle Years and the Diploma Programmes. He is an innovative teacher who is involved in supporting other teachers nationally to use technology in the classroom. He is currently a Microsoft Innovative Educator Fellow who has been invited to attend global exchange conference both in 2016 at Budapest and 2018 at Singapore among other several conferences that are held in Kenya. As a passionate classroom teacher, he believes that innovative teaching can breathe life into the 'dozing' lessons and spark great craving for learning.