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EDITORIAL

The pandemic brought with it, a lot many changes and the major change was reflected in education and thus started the era of online education. With the major focus on health at the earlier stage, education was the second most focussed area of interest for the researchers. It was this time when education saw a lot of changes – regular classrooms were replaced by online teaching, seminars by webinars, launching of several online short-term courses, several web platforms to add to the knowledge etc. Education being the key to all the problems, to avoid any compromise, as well to avoid any wastage was initiated the online teaching and the term turned so popular that some of the enthusiastic scholars and experts for their ease and comfort termed the regular classroom teaching as offline teaching and thus started the comparison. No doubt, the online teaching has its own merit but simultaneously it has several demerits as well. Several researches show the merits and demerits but in any case, the most agreeable idea is the social, mental, moral and emotional loss of the students that resulted of the lack of the classroom teaching. Whereas the educated parents are hardly satisfied with the online teaching and remain worried about the intellectual loss or the academic loss of the students, the home maker remains worried about the aggression, stress, anxiety and the negativity penetrating and making its home in their child. Although a tough time for all, amidst this pandemic also, several researches were conducted and the result of those research from across the globe resulted into the timely publication of Voice of Research. The current issue with major focus on the teaching learning process includes nutritional needs, school management and effective use of smart classroom, food hygiene awareness, ICT attitude & competence, mathematics phobia in teacher trainees, female students being entrepreneurs, employee's competencies on customer satisfaction, east-west economic corridor, cut-off point for class X a policy perspective.

Dubey and Soy studies nutritional needs of different age group school going children; Mushimiyimana focusses on school management and effective use of smart classroom in teaching and learning process; Dubey and Rani talks on food hygiene awareness; Chhetri and Thokchom discuss about ICT attitude & competence; Dwivedi presents mathematics phobia in teacher trainees; Juliette, Kizito, Byiringiro & Uwurukundo studies female students towards being entrepreneur; Mengesha relates employee's competencies with customer satisfaction; Patthira presents east-west economic corridor as a route of economy and friendship whereas Dochu evaluates waving cut-off point as a policy perspective.

Maybe with this pandemic the online teaching may turn acceptable but it remains the fact that the classroom teaching has not alternate, for the classroom teaching is not restricted to the academic achievement but adds to the social, mental, emotional and ethical harmony of the child. The classroom is the place where most of the child learns to express themselves, turn themselves a good citizen, learn to balance their emotion and add to their being human. It is the place that adds to the knowledge, curiosity, experience, confidence, motivation and leadership amongst the child. It is the platform of oneness and togetherness, as well for sharing and caring. With online teaching, the mental and physical health of the students being affected, it remains to see its forthcoming impact on the society. It won't be an exaggeration to say that in the forthcoming days all the young children of developing countries will be seen in glasses, most of them with the joint aches, body aches, neckache, gastric problems, laziness, aggression, stress, anxiety etc. which is likely to create many more problems. The country needs to be prepared for the same too.

In this pandemic, with so many researchers throbbing with their research, I am thrilled with the idea of the human endeavour to any threat. It depicts the integrity of the individual with his society and presents the value, ethics and cultural richness of society to survive against any odds. Only such a society can create a history otherwise it takes no time to turn itself as history. With a hope of best for the mankind, I am sure this issue will enlighten the potential researchers and the society as well it will help us all think about development and future course of action.

With the hope of best for mankind,
Avdresh Jha
Chief Editor
Voice of Research

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NUTRITIONAL NEEDS OF DIFFERENT AGE GROUP SCHOOL GOING CHILDREN OF 'HO' TRIBE IN WEST SINGHBHUM OF JHARKHAND

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Abstract

"A sound mind in sound body" is well-known fact. A sound body is impossible without proper food and nutrition. Proper food and nutrition diet enhance "healthy mind in a healthy body". Balanced food and nutritious food related to good health. The right kind of food plays important role in promoting good health of an individual. Healthy children have bright clear eyes smooth glossy hair, a clean and shining skin, well-developed muscles erect on well-formed sturdy bones. They also possess food stamina and physique are active mentally and physically have good endurance, vigour and vitality. They are very cheerful and good natured. Good food means good health. For the nutritional needs of the school going children is very important roles in education. Therefore, the present topic has made an honest attempt to the study the nutritional needs.

Keywords: Nutrition, Children, Development

Human body needs balance diet and nutritious food for the physical well-being of child. Because nutritious diet fulfills body requirement for healthy living. Nutritional needs of the children is directly related to overall development. Nutritious diet is necessary for school going children for the proper development such as physical, mental, emotional and social and it enhance healthy environment and for the prevention and control of communicable and non-communicable disease.

Therefore, balanced diet and nutritious diet is directly related to health of school going children. School going children are the future generation of any country and nutritional needs are critical for the well-being of society. The complex myriad of physiological as well as psychological changes, accompanied by rapid growth and increases in physical activity creates special nutritional needs that are higher during adolescence than at any other time in life. Failure to consume adequate diet at this time can potentially retard physical growth, intellectual capacity and delay sexual maturation (World Health Organization 1999). Addressing the nutrition needs of school going children could be an important step towards breaking the vicious cycle of intergenerational malnutrition, chronic disease and poverty.

As we known tribal populations in India re considered to be socio-economically the most disadvantaged group. The problems of tribal communities differ from area to area. We also know that school going children are the neglect group especially rural areas of schedule tribe children. Since the target group is school going children of different age group. Thus, the nutritional needs of school going children is prominent topic in present education discourse.

Need and significance of the study

Healthy mind lives in a healthy body. Healthy body require balanced diet or nutritious diet. Psychological changes and development of their own personality can impact on their dietary habits during a phase when they are very influenceable (WHO 2006).

Schools plays an important role for the future and has a major effect on the issues including nutrition. The teachers can provide necessary instructions to the school going children to requirement and needs of nutritious food/ diet will usually carry those habits into their adulthood too.

Objectives of the study

To study the nutritional status of school going children of 'Ho' tribe boys and girls;

To study the nutritional status of school going children of 'Ho' tribe of urban and rural area of West Singhbhum district.

Hypothesis of the study

There is no significant difference between boys and girls regarding nutritional needs;

There is no significant difference between rural and urban school boys and girls regarding nutritional needs.

Methodology

Descriptive survey method was used using tool (self-developed questionnaire) 2- point scale i.e. 'Yes' and 'No' regarding nutritional status, and data was collected for the study. Mean, S.D. and T-test statistical technique were used for analysis of the data.

Sample: The sample of the study constituted randomly selected 60 students of elementary / primary classes boy and girls from Wes Singhbhum district of Jharkhand.

Delimitations of the study: The study is limited to sample of 30 boys and 30 girls students studying in various elementary schools of rural and urban are in Wes Singhbhum district of Jharkhand only.

Major finding of the study: Keeping in view the objectives and hypothesis of study, the results of the data after using the statistical technique "T-test" have been explained as follows.

Hypothesis 1: There is no significant difference between boys and girls regarding nutritional status.

To test the hypothesis obtained data are arranged in following table

Table – 1

Variable	N	S D	T- Value	Level of Significance	
Boys	30	4.63	1.92	0.05 (2.00)	0.01 (2.66)
Girls	30	5.07		Not Sig.	Not Sig.

The computed T-Value is 1.92, which is quite smaller than table value at 0.05 level (2.00) and 0.01 level (2.66) of significance. Hence we can conclude that there is no significant difference between boys and girls regarding nutritional needs of different age group school going children. So Ho1 is accepted at both of 0.05 level and 0.01 level of significance. So we say that both boys and girls are aware about their nutritional needs.

Hypothesis 2: There is no significant difference rural and urban school boys and girls regarding nutritional needs.

Table 2

Variable	N	Mean	S.D.	T- Value	Level of Significance	
Rural School	30	27.7	5.05	4.46	0.05 (2.00) Sig.	0.01 (2.66) Sig.
Urban School	30	21	3.83			

The computed value is 4.46 is quite larger than table value at 0.05 level is (2.00) and at 0.01 level is (2.66). Hence it is taken as quite significant at the 0.05 level and 0.01 level of significant. However, we can conclude that 95 times out of 100 and 99 times out of 100, there can be difference between urban boys and girls and rural boys and girls regarding nutritional needs. So, Ho2 is rejected at both level of significance.

This can be concluded, as we can notice significant difference between urban boys and girls and rural school boys and girls regarding nutritional needs. This may be due to most of families and off course teachers are aware and known towards nutritional needs of their school going children.

Conclusion

Now days most of the families of urban and rural area are educated. They know the nutritional values and needs of own and their children very well. And school play a crucial role for the overall development of the school going children as well as nutritional requirement. Awareness of teachers and parents and students towards nutritional needs for the overall development and good health and also have increases through good promotions of media and newspaper about nutritional needs.

With a view to enhancing enrolment, retention and attendance and simultaneously improving nutritional levels among children, the National programme of nutritional support to primary education was launched as a centrally sponsored scheme on 15th August 1995. The nutrition needs of school going children could be an important step towards breaking the vicious cycle of intergenerational malnutrition, chronic disease and poverty.

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TEACHING AND LEARNING PROCESS
SCHOOL MANAGEMENT AND EFFECTIVE
USE OF SMART CLASSROOM IN TEACHING
AND LEARNING PROCESS

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Abstract

Many countries are improving education system as an instrument that can lead them to speed development. This study was carried out to investigate the School management and effective use of smart classroom in teaching and learning process. The study used 39 participants from Gicumbi District in Rwanda. The results of study indicate that majority of respondents explained that leadership has great effect on the effective use of smart classroom, contributing in ICT development in country and rising country economy. And teachers gave suggestion on how government help in improving use of smart classroom.

Keywords: *school management, smart classroom, teaching and learning process, Rwanda.*

Nowadays, globalization and technology are affecting world at high speed, these are totally different from the ancient world, the time that human being used traditional ways of living. Rapid exchange of information and data has affected world. Traditional way of teaching was basically on fixing information on wall, which is totally different from introduction of smart classroom. It doesn't mean that one is uprooting traditional teaching methodology but integrating traditional methods with new (Hemant & Sharma, 2016). School management goes hands in hands with effective school leaders who always make monitoring and evaluation by checking if how planned activities are being progressed by subordinates. This helps to know if they are still working towards set mission and vision of school (*Leadership for Learning: A Headteacher's Professional Companion*, 2019). According to Yusuf, (2005) indicated that education also has been affected by (ICT) revolution. It means that since introduction of IT, teaching method has been changed because teaching and learning methods adopted modern methods. The world moved from traditional ways of teaching and learning and then adopt new modern ways of delivering courses by using technology. Nowadays, it doesn't require much energy or spending much time relying on sitting in class or preparing lesson for the students, facilitator can even teach and prepare contents while he/she is at home. Smart class has changes traditional teaching and learning methods of considering students as passive agents of teaching and learning but it lets them participate in activities and develop their research. Smart class uses instructional materials that are helpful to attract learners attention because it uses videos, audio, and other electronic devices (Ganaie & Bano, 2016). School managers need training on how to manage school and educational institutions correctly. School leadership has given priority at international level by focusing or changing education policies. School management and leadership staff are among the organs that should motivate as well as improving the capacities of teaching staff (Khan et al., 2011). Many important researchers proved that provision of training or having well trained man power is a strategy of increasing industrial productivity (Reza & Umar, 2019).

TEACHING AND LEARNING PROCESS

ICT activate the world in terms of innovation, creativities and expose new generation to market place and one who learns in this modern ways of education can adopt himself or herself anywhere. ICT strength teaching and learning process and helps school change its methodology (Bergin, 1992),(Davis & Tearle, 1999). Many countries are using more effort to introduce smart classroom in education so that they cannot be left behind in world of technology. There are continual provision of continuous professional development in ICT as a strategy to enhance teachers adopting them in technological arena and making smart class effective. Stakeholders have turned their eyes to the Introduction of ICT in secondary schools by providing tools such computers, furniture, network and training to the implementers.

Students around the world needs skills that they can globally use everywhere. According to (Darajat, Ojat & Basuki, 2014) explained that technology has developed the flexibility in teaching and learning because learners can have access to the materials anytime and everywhere, because the content can be uploaded online by teachers or save it offline. In addition to that duties of giving quality education and curriculum implementation, cannot be responsibility of stakeholders or other actors of education but also requires changing many philosophy and government policies. When student misses class, can learn at home by browsing using internet and then access the content. ICT introduces new methodology in teaching and learning process. Schools shift from using teachers centered methods or lecturing to learners centered method as long as learner can access materials anytime and wherever she/he can be, means that technology has developed research system, self-teaching to the learners and learners become very creative and innovative without waiting teachers intervention(Fang et al., 2012).

Many implementers were given training on how to adopt new teaching methods, teachers were given in service training and in additional continuous professional development support (Ndiokubwayo & Habiaremye, 2018). In addition some Rwandan school principals were trained about school management on how to manage schools equipment and resources so that those school resources can provide significance impact in education but there some gaps in management of those materials that are provided in teaching and learning those training was given by VVOB¹(Sandhya et al., 2018)(Bennett, 2013). Researchers explained that principal should put computers in computers lab where students and teachers can access them easily instead of keeping them in store place of different school and this can help in implementing curriculum activities and cross-cutting issues. ICT conducive environment encourage multimedia tools. ICT has significance importance in developing quality of education and e-learning programme².

Government of Rwanda has introduced smart classroom in education and started supplying materials such computers, internet, building infrastructures that would help in developing teaching and learning by using ICT. Students should be prepared to 21st century. Some schools that has computer labs use them in computer lesson only not as smart classroom that can be helpful in teaching all kind of subjects. Rwandan

¹ VVOB: is a Belgian non-profit organization with more than 30 years' experience in sustainably improving the quality, efficiency and effectiveness of education.

² E-Learning: Electronic Learning

government is moving from One Laptop per Child to the concept of Smart classroom that will be an important programme in strengthening technology by reducing costs and increase the materials accessibility and equity (Ministry of Education, 2016).

While government put more effort in availing materials and other equipment that can help in using ICT³ in teaching and learning, Many schools leaders are not motivated to let teachers use smart classroom as it was planned by the government of Rwanda but computers can be in store without being in activity. REB⁴ and ministry of education do not put make rules and regulation clear about effective use of smart classroom. Many school principal deserve knowledge and skills related to school management, data management, communication and making facilitation of her/his subordinates of effective way (Sackney & Walker, 2006).

Rwanda is developing education as an aspect that can lead us to vision 2050 (Government of Rwanda, 2011) country is projecting to rise economic, political aspect basing on introduction of technology in all sectors. This will enhance country to produce human capital that will outcompete others at international market as job creators instead of job seekers.

Research Questions

What is the role played by school leadership in use of ICT in education?; What are the challenges that faced during the use of smart classroom in teaching and learning activities?; What are the possible solution to the challenges that hinder the effective use of smart classrooms in Rwandan secondary schools?

Methodology

This study use qualitative research design, because this method allow respondents to express his/her opinions and ideas freely without limitation of time and other circumstance that can prevent respondent to give all available information(Tang et al., 2018; Duan et al., 2015).

According to (Mathis, 2016) indicated that qualitative research give chance to interviewee to put out their ideas and feeling about the topic instead of dictating or imposing them the types of things they should answer that was imposed by others. Purposeful sampling technique were employed to the teachers and director in charge of studies and head teacher. This techniques are very important in researches that are qualitative in nature when researcher wants to collect the information that are rich and relevant to the area of interest (Duan et al., 2015).

The researcher gather information from different respondents: teachers, about extent to school management facilitate them to use smart classroom while delivering lesson to the class and during the time teachers want to use technology in class, Headmasters and Director in charge of studies were asked on how do they facilitate teachers in use of smart classroom and their in empowering the program at school, Sector education officers were asked about their role in motivating teachers in implementing use of smart classroom and on how do their supervision. This research was conducted to the school which locates in Gicumbi District, Northern Province, Rwanda. Selected school was

³ ICT: Information Communication Technology.

⁴ REB: Rwanda Education Board.

TEACHING AND LEARNING PROCESS

GS⁵ Kageyo because this school is among the school which was given the equipment that could help them in introducing smart classroom. Therefore, the survey was conducted to 36 Teachers, one head teacher, one DOS⁶ of secondary school in GS Kageyo and one SEO⁷. Teachers were selected to be included in research because are key users of smart classroom and they have all information, In addition, selected teachers, were selected because they received training on ICT in education that enhance them to be aware of using Smart classroom, simply, they were targeted because most of them have basic skills and knowledge on technology that they received from training, CPD⁸ and in University, as majority of them learned University, DOS were selected because they kept records of marks before introducing smart classroom and after its implementation. Head teacher and SEO were selected because they know background and reason for implementation of smart classroom and hold key role in leadership and management of school resources and Sector education officer were selected because is the one who is in charge of all activities of education take place in sector level.

In this study, researcher use interview as an instrument for data collection. As study aims at understanding School management and effective use of smart classroom in teaching and learning process, interview was the best instrument to use. Researcher asked respondents about the time he/she will avail to sit for interview question. Then researcher recorded the conversation by using telephone audio recorder. According to (Birt et al., 2016) explained that member checking” "is a technique for exploring the credibility of results. Data or results are returned to participants to check for accuracy and resonance with their experiences" (p.1802) and then later researcher sent Audio to interviewee to listen to the conversation and he/she will be allowed to comment if there is something missing to add or there unnecessary information that can be removed. Documentation also were used to search for additional information that can be relevant to what researcher was studying. Documentation will be use by reading records of the past marks of students in different exams. Researcher analyzed different document that are available at school. This obliged researcher to read books, essays, articles, reports and magazines that related to the problem of study.

In the process of analyzing data, the researcher used thematic analyzes methodology for data analysis. Thematic is the methods of analyzing, reporting, interpreting patterns or themes (Braun & Clarke, 2006, p.79) since the topic is understanding School management and effective use of smart classroom in teaching and learning process in Gicumbi district. Using thematic as methodology is suitable for achieving the objective of this study. In addition to that the results that are found used thematic method is very understandable to everybody (Braun, 2006). for ethical risks, some participants declared that they are not secure for sharing their information and researcher ensured them that information provided by them will be kept and remain confidential.

In the process of data analyses researcher used six phases of thematic analysis processes as described by (Braun & Clarke, 2006): first phase: familiarizing oneself with data: the

⁵ GS: Groupe Scolaire

⁶ DOS: Director in of Studies

⁷ SEO: Sector Education Officer

⁸ CPD: Continuous Professional Development

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researcher transcribed data from media, interviews into written form. Read and re-read, then transcripts, listen to the recording while writing down notes.

Second phase: generating initial code: the researcher coded most important features systematically across the whole data set. Collate data each data to relevant code (Nowell et al., 2017). Third phase: searching for themes: the researcher arrange codes with their perspective themes, means that researcher gathers all data to their relevant themes. Fourth phase: reviewing themes: researcher checked if all themes are matching or working with extracted codes and entire data set. Then late generate thematic map. Fifth phase: defining and naming themes: researcher refine the details of each themes, make a clear definition and name of each theme. Sixth phase: producing reports: Research analyze select the appropriate extracts and make final report. Discussion of analysis should be related to research questions or literature

Findings

The researcher used pseudonyms in presenting the results to preserve the names of participants and school confidential. For example the teachers were given (T1, T2, T3.....) while authorities were given (A1, A2, A3.....). Remember that in Authorities, there are SEO, Head teacher and DOS. The following part of this study is divided into three sections: first is school leadership style in developing use of ICT in education. Second is the challenges that faced during the use of smart classroom in teaching and learning activities. Third is possible solutions to the challenges that hinder effective use of smart classroom in Rwandan secondary schools.

School leadership style in developing use of ICT in education

Teachers and authorities who participated in this study were asked to describe relationship between school leadership style and effective use of smart classroom. During interview some respondents explained that “some leaders at school use authoritative style that worsened communication between teachers and authorities and this cause tension among both side. So teachers do their own tasks and authorities do theirs because there is no collaboration” (T1, T5, T6, T10, T78, T11, T25).

Another interviewee also continued describing leadership style by explaining that “among our leaders there are some who use bureaucratic style, means that they always stay in the office, using computers and signing some officials’ documents, they do not even make movement around compound observing how situation is, even asking them help or to intervene in teaching and learning is not easy. They do not know if computers are working or if they were stolen” T3, T7, T17, T25, T30, T31, T2, T7, T8.

Leadership style can be among the factors that can contribute in effective use of smart classroom, other participant indicated that “another challenge is that there are leaders who manifest kind of nepotism and despotism among the teachers, for example one teacher can ask a computer to use but leader refuses to hand it to that teacher while others have access to those electronic devices at school”. T20, T24, T26, T5, T9, T15, 34, 35 and A1

Among the participants one tried to explain that “leadership style as an important factor that can enhance effective use of Smart classroom at school and explained that some of leaders use dictatorship, others laissez faire, this become barrier to the teachers to access school instructional materials and other equipment” (A1, A3).

Challenges that faced during the use of smart classroom in teaching and learning activities.

This section presented perspective of teachers and authorities while they are conducting teaching and learning in smart classroom. They were both asked in interview the challenges that they face. Extracted that was combine in one theme of challenges faced. The data analysis based on the challenges that was given by teachers and authorities, are grouped into four main challenges which are lack of extrinsic motivation, language barrier, inadequate professional training, big number of leaners and insufficient instructional materials.

Lack of extrinsic motivation.

One teacher explained that *“challenge that she faces is that there is no motivation from government and school leaders, because sometimes teachers are obliged to bring their computers or borrow projectors to be used in classroom, because there is no computers at school or they are not sufficient. Some leaders do not let teachers, use computer lab fearing that they can be stolen by students”* T13.

Another respondent explained that *“at school, many computers remain in store at school. No one who is allowed to enter and use them frequently in teaching and learning activities. Because leaders they do not put their time to welcome teachers in using of smart classroom”* (T36).

For example one authority said *“that they work under fair because when one is stolen a computer is put in jail or be dismissed from job so they decide to keep them for the security and even ministry of education and other organs demotivate them because of those strict punishment”* T1

Language barrier

Among respondents one come up with challenge by saying that” Many devices and electronic tools that we use in smart classroom are in English. Teachers and learners are obliged to use English while they are in class. It became barrier to both side to teachers and students. And this affect poor academic performance of learners” T19.

Inadequate professional training.

Use of smart classroom is also challenged by inadequate professional development, one of the participant said that” *there is a problem of insufficient training about use of technology in teaching and learning process, trainings are few per example: there are teachers who are is in teaching and learning process who did not go in training in his life time. Training are not sufficient to the teachers, even new hired teachers do not get induction week which can give overview to the new teacher.* (A3, T2, T11, T27).

Big number of leaners

Many teachers and authorities claim that around the countries, there are problem of big number of students but schools are few, teachers reported that *“overcrowded classroom are among the challenges that hinder effective use of smart classroom, for example you can find seventy students are under one teacher while one classroom in some schools can host 80 learners. Computer lab that has 45 computers is expected to host all the students at school. This is a challenges for effective implementation of smart class”* (A3, A4, T36, T33, T31, T27, T23, T11).

Insufficient instructional materials

Instructional materials are insufficient from the past years, this was challenge in education system in Rwanda, teachers explained that” *in Rwanda we have problem of having instructional materials like books, computer lab, and other materials. But accessing materials that are saved on internet is not easy because poor internet connection, some schools have internet connection while*

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other do not. Implementation of smart classroom is not possible while we still have the issues of internet connection and even technological materials are scarce” T2, T14, T26, 23, T33, T21, 24.

Possible solutions to the challenges that hinder effective use of smart classroom in Rwandan secondary schools.

This section presents perspective of teachers and authorities on possible solution to the challenges that hinder effective use of smart classroom. Teachers, authorities during interview were asked to share their opinions and ideas about the problem. This is subdivided into four themes.

Provision of continuous professional development to both authorities and teachers.

Twenty teachers explained that one of the challenge that hinder effective use of smart classroom is insufficient training that are given to the teachers. *Teachers need training about technology and use of IT⁹. Many teachers did not get enough training about smart classroom, they do not know how to use this devices such projectors, interactive whiteboard and computers. (T10).*

Increase numbers of teachers and classrooms

Ten teachers and two authorities explained that government should increase number of classes and teachers as solution to overcrowded classroom. One of teachers said that *“Many schools have problem of insufficient building that can host big number of students who are enrolling studies. It is problem that become routine at schools for example you can find three children sitting on one chair. There is no space in class as one class host 50 students. Government should build new classes and also increase number of teachers” T15.*

Evaluating leadership and management of schools.

School leadership and management is crucial for enhancing effective use of smart classroom as described above how leadership style can affect positively or negatively use of smart classroom. Many respondents explain that *“Leaders are also among the people who can delay effective use of smart classroom. Government and RED have to make monitoring and evaluation of school leadership and management. In addition they can even provide to the leaders professional development about leadership and management”*. A1 and T3, T5, T6, T7.

Strengthening use of technology

School authorities and teachers who participated in this study contributed to grant possible solution to different challenges. One teacher explained that *“the problem of scarcity of instructional materials also affect ineffective use of smart classroom. It can be easy for teachers to get instructional materials from internet and other offline materials that can come to supplement existence materials. For example Rwanda Education Board should put materials on internet not only REB but also schools and teachers” (T28).*

Discussion

This chapter explain the findings of study and the show the way they are relating with research questions and existing literature.

Government and Rwanda Education Board should motivated teachers and authorities in different means such providing rewards, increasing salaries and giving them scholarship, sending teachers to the seminars that related to smart classroom. Sharing information with other teachers where smart classroom is developed. Extrinsic

⁹ IT: Information Technology

motivation is motivation that one engage in by expecting income and physical outcome(Linnenbrink et al., 2002)

Teacher and authorities reported that giving teachers professional development can be strategy to increase teachers motivation and other employees(Gravani, 2012). Giving professional development to the teaching and administrative staff can be the best solution, to the challenges that hinder effective use of smart classroom.

Language barrier, in 2009, Rwanda education system was shifted from French to English as an instructional language. From that time many teachers and authorities faced language barriers till now, depending to finding from this study, majority of teachers and authorities indicated that they are not able to express themselves in English. This forced many teachers to start using local language in teaching and learning, many teachers are struggling in learning English but it is still problem because they do not know many vocabularies (Anyiendah, 2017). This was similar to majority participants in this study who explained that it is not easy to shift from French to English.

School management has to reformulate because some of head teachers accuse ministry of education and Rwanda Education Board to use tough punishment to the leaders who lost school materials especially computers and other technological tools. Some of punishment there are sending them in jail, firing sacking from job and forced resignation. Some leaders refuse to take this risks and decide to let those materials in stores. Finally, they should be partnership among those administrative structure in handling that problem of unfair collaboration between school management.

Conclusion

School management and effective use of smart classroom in learning and teaching process. Study clarified that in education system of Rwanda has some of the challenges as participants such as teachers, head teachers, director in charge of studies, sector education officer explained a lot. Some of the challenges related to language barrier, poor school leadership and management style, insufficient continuous professional development. Study confirmed that effective use of smart classroom still has a long journey which can take us to the achievement. Simply use of smart classroom is poor. Teachers are advised to use improvisation in teaching and learning and improve creativity and innovation that can be added to the training that Rwandan government is giving them.

Rwanda education board and ministry of education should collaborate hands in hands to make the programme clear and set rule and regulation that guide the use of smart classroom. Instead of keeping the machines and others materials in store, because they are afraid of losing them and face sanctions from higher authorities. Provision of enough training about use of smart classroom is necessary to the teachers while authorities should be given both training on school management and on smart classroom.

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FOOD HYGIENE AWARENESS AMONG SECONDARY LEVEL STUDENTS

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Abstract

Food hygiene' means all measures necessary for ensuring the safety wholesomeness and soundness of food at all stages from its growth, production, manufacture unit its final consumption. Young adults have inadequate knowledge about measures needed to prevent food borne illness. The objectives of this study were to assess the level of food hygiene awareness among secondary level students. Information concerning food hygiene awareness were collected using self administered questionnaire. A total 100 students participated in the study. It is critical for children to understand food related risks to preserve their health. The purpose of this study was to explore the inclusion of 13 to 19 years old students in food preparation activities and to determine their understanding of food related risks, food safety awareness and self reported practices in their domestic environment. Therefore the present study has made an honest attempt to study of food hygiene awareness among secondary level students in Bulandshabar District of Uttar Pradesh state.

Keywords: Food Hygiene, Awareness, Secondary level students.

“A sound mind in a sound body” is a well known any adage. A sound body is on impossibility without proper food. The right kind of food has an important to play in promoting good health. A healthy man have good physique and stamina, are active mentally and physically, have good endurance, have a cheerful mind and are good health. India is a country of villages and its majority population lives below the poverty line. Most of the people in these villages either do not have enough to eat or do not have the right kind of foods. Foods available for young children are particularly unsuitable. This is mainly due to lack of knowledge and awareness of the value of foods in relation to the needs of the individual.

Food makes our body because we are what we eat. The weight and composition of the body entirely depends on the food we eat. So people need to be protected against food which has been contaminated by bacteria which are harmful. People also need to be protected against the sale of adulterated food, foods of inferior quality and false advertising. Some of these problems require government help, other depend upon individual under standing and vigilance. Food is frequently subjected to chemical and biological contamination in a number of ways and this has a direct extensive and important bearing on public health. There is clear evidence now that a vast amount of human diseases and suffering is unsafe food creates a vicious cycle of food borne illness and malnutrition, children are highly vulnerable to food borne illness because their immune system are still developing and they produce less stomach acid that kills ingested harmful bacteria food borne illness can also cause lose of appetite and disruption of feeding routines and behaviour, there by leading to nausea vomiting, stomach pain and Cramps, fever and chills.

Everyone knows that good diet is needed to sustain good health. By health we mean the well being of an individual in physical, emotional and social conditions. Just the presence or absence of a disease can not label a person as healthy. Sound emotional and mental condition of an individual is contributed by good food. Bacteria enter the body through either food or water from contaminated source and cause poisoning which in majority of cases, turns out to be fatal. So observe the rules of food hygiene at every stage in the handling of food. People known to be harbouring infections should not be allowed to handle foodstuffs in the critical stages of preparation and distribution.

Thus, careful selection of foodstuffs and observing certain food sanitation measures prevent all the food borne infections and other diseases which are hazardous to health.

Need and significance of the study:

In a recent report of World Health Organization (WHO) it was revealed that every year 1.5 million cases of food borne disease are reported in developing countries. Each year, 2.5 million people die because of food borne disease and most of the cases involved in the children (Tehet al., 2016, Stratevet, al., 2017) when the consumers prepared food at home, most of them practice a variety of poor and bad hygiene (Tehet al., 2016). It is important to stress here that 95.4% people are failing to implement basic food hygiene practice at home. It shows that most of the consumers are lacking the knowledge about food hygiene. Food safety and the awareness is also required to know that how to practice it in daily activities (Tehet al., 2016). Every year thousands people suffer from food poisoning as a result of eating food that may look, taste and smell perfectly normal but is in fact contaminated with large numbers of harmful bacteria. The symptoms of food poisoning are either diarrhoea and abdominal pains or nausea and vomiting. Although in some cases both may occur. They usually start between 1 and 36 hours after eating the contaminated food and last between 1 to 10 days. In severe cases, food poisoning can be fatal. Therefore, in the present circumstances, we are curious to know the level of food hygiene awareness among our society. Secondary level students are belongs to that age group, where they are more curious about everything. Hence, the food hygiene awareness can be affectively transmitted to the children's at this stage.

Secondary level students are considered to be the positive change agents in the youth and society if the secondary level students who are the future of India receive, understand and act upon messages of personal, and food hygiene management, they would also be able to influence members of their family and the community. The secondary level students are more curious about the new knowledge. Once they understand the need of food hygiene. They will continue to practice food related behaviours at home as a presenters for family members or as employees in the food business sector.

In this age group most of the children start cooking and serving. Therefore, children of this age need to be aware of food hygiene, if this age groups students became aware of food hygiene then it can be expected that they can make their family and society aware of food hygiene.

Objective of the study

To study the relationship between boys and girls regarding food hygiene awareness;
To study the relationship between urban and rural students regarding food hygiene awareness.

Hypothesis of the study

There is no significant difference between boys and girls regarding food hygiene awareness; There is no significant difference between urban and rural students regarding food hygiene awareness.

Delimitation of the study

The study is applied to the secondary school of Bulandshahr (U.P.); The study is applied to the students studying in secondary level of the Education; The study is performed on 100 secondary level students; The study is applied to 9 to 10 class students (age group of 13 to 19 years); The study is applied to the government school of Bulandshahr.

Major Findings of the study

Keeping in view the objectives and hypothesis of the study, the results of the data after using the statistical technique, 't-Test', have been explained as follows:

Hypothesis 1: There is no significant difference between boys and girls regarding food hygiene awareness.

Table 1

Area	N	M	SD	t-value	Level of Significance 0.01 (2.63)	Level of Significance 0.05 (1.98)
Rural	50	22.24	5.88	1.01	No Significant	No Significant
Urban	50	21.08	4.84			

To test the hypothesis, obtained data are arranged in a table as follows:

The computed value of t-test, 1.07 is quite smaller than 2.63 and 1.98 both (Table 1). Hence it is taken as no significant at both the 01 level and 0.05 level of significance. Hence there is no significant difference in food hygiene awareness of secondary level boys and girls.

Hypothesis 2: There is no significant difference between rural and urban students regarding food hygiene awareness.

Table 2

Area	N	M	SD	t-value	Level of Significance 0.01 (2.63)	Level of Significance 0.05 (1.98)
Rural	50	21.88	6.04	0.406	No Significant	No Significant
Urban	50	21.44	4.71			

To test the hypothesis, obtained data are arranged in a table as follows.

The computed value of t-test, 0.406, is quite smaller than 2.63 and 1.98 both (Table 2). Hence, it is taken as no significant at both the 0.01 and 0.05 level of significance. Hence there is no significant difference in food hygiene awareness of rural and urban secondary level students.

Conclusion

We observed in this study that most of the students have rare contact with the media. Their parents have less knowledge and awareness about food hygiene and health.

Many times they are careless about hygienic and healthy habits. This study will be helpful to increase the conscious and importance of the food hygiene among students. This age (13 to 19) group students are more curious about new knowledge. Once they understand they need of food hygienic practices, they will continue to practice food hygiene related behaviours at home and other sectors.

Therefore, it is strongly believed that educating them about food hygiene is vital to bring any change and move towards hygienic and healthy food. Healthy mind lives in a healthy body. Therefore, health related awareness such as food hygiene is necessary for safe, secure and healthy environment and for the prevention and control of communicable and non-communicable diseases.

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DEVELOPING VALID AND RELIABLE ICT ATTITUDE & COMPETENCE INSTRUMENT FOR HIGH SCHOOL STUDENTS-A PILOT STUDY

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Abstract:

ICT (Information and Communication Technology) has been considered as a powerful tool in bringing efficient teaching-learning in educational settings. Efficiency in a task can only be brought if there is positive attitude and competence towards that task. This paper aims to measure validity and reliability of ICT attitude and competence instruments for students studying during the session 2017-18. A pilot study was conducted on 50 class-X students of four high schools in Imphal West, Manipur for measuring validity of self-made ICT Competence instrument. For checking the reliability of ICT-Attitude Scale developed by Kofi Ayebi Arthur (2010), test-retest method was adopted. Self-made ICT Competence instrument obtained an acceptable valid result. The test-retest result for ICT-Attitude Scale also gave an acceptable reliability value of 0.96.

Keywords: *Valid and reliable, ICT-Attitude, ICT Competence, instrument.*

The world today has been transformed from industrial age to information age. At this 21st Century in which we are living, all aspects of life, be it of medicine, tourism, banking, business, job opportunities have been touched by information and communication technology and we are compelled to adopt it. ICT acts as a powerful tool in changing educational practices to make it efficient. Studies has proved that computers can make learning experience much more exciting, satisfying and rewarding for the learner and teacher. Kulick, Bangert and William (1985) have explored that computer programs can raise students' scores in final examination. Using ICT as a tool for students' learning and teachers' instruction to bring quality education in both formal and non-formal settings is necessary (Mudasiru O.Yusuf and Modupe R. Balogun, 2011). Moreover, gaining competence in ICT is one of the most important challenges of 21st century where it opens route for job opportunities and place oneself capable for these era of modernization and globalization. Effective adoption and integration in ICT is not gained only by maintaining the quality and quantity of ICT equipment, but by having positive attitude and competence towards them. More positive attitudes towards computer were associated with a higher level of computer experience was affirmed by Dyck and Smither, 1995; Teo 2008).

According to Merriam Webster, attitudes are positive or negative feelings, or a way of thinking that affects a person's behavior. Lee (1997) explored that, positive responses towards ICT use as one of the causes for success. So, there is a dire need to develop positive attitude and competence towards ICT among students so that they would be able to make a place for themselves in IT revolutionized era.

Rationale

ICT is considered as a potentially powerful tool in bringing efficiency in education of different settings such as urban, rural, high and low socioeconomic population, young and old age persons, girls and women, person with disabilities and all those who cannot avail themselves for formal education. Using ICTs in classroom prepares the current generation of students for a workshop since ICT components such as computers and internet are becoming pervasive. Possessing effective and efficient ICT skills are considered as a representing and outfoxing criteria in an increasing globalizing job market. EnGauge of North Central Regional Educational Laboratory (U.S) has identified some skills for global economy which is called the 21st Century skills; The skills also called the digital literacy skills comprise of cultural literacy, functional literacy, visual literacy, scientific and technological literacy and information literacy; high order thinking and reasoning skills, inventive thinking skills and high productivity and effective communication skills. ICT promotes these skills and brings about quality education by creating learner-centered environment.

Although ICT integration in education has undeniably regarded as an effective means to bring efficiency, ICT access, ability and affordability has confronted a high challenge in Indian scenario. Sheikh, Majid Mustafa (2016) mentioned that the main barrier in Indian rural society is the fact that people underestimate the significance of ICT and have behaved passively towards the ICTs. The present study attempts to study the differences in attitude and competence of high school students in Imphal West, Manipur. Attitude and competence can serve as important dimension when analyzing the adoption and diffusion of technologies. Analysis of this study would give starting point for encouraging more people to use technologies. The findings would be of immense help for educators, policy makers and various stakeholders.

In order to explore the competence of the class-X students, in the present study, a self-made questionnaire was designed according to the syllabus of computer and communication technology framed by Board of Secondary Education Manipur for class-X students. To explore the attitude of the students, ICT Attitude Scale developed by Kofi Ayeibi Arthur (2010) was used.

In order to check the reliability of the ICT Attitude Scale, in the context of the study area, test-retest method was applied. To obtain content validity, the self-made questionnaires for ICT competence was made to go through checking by five experts who are teaching professionals of computer education for class-X students studying in schools affiliated to Board of Secondary Education Manipur. The face validity of ICT competence instrument was checked by the subject-matter professionals before the administration of the test.

The research instrument both on ICT Attitude and ICT competence which underwent reliability and validity test respectively would be of immense help in making headway for the main research work. Moreover, the validated instruments would be helpful for early-stage research scholars aspiring to work on ICT based studies in schools.

Objectives of main study: To study the attitude of students towards information and communication technology in schools of Imphal West; To study the ICT competence of students in schools of Imphal West.

Objectives of the pilot study: To test the face validity of self-made ICT Competency instrument; To test the context validity of self-made ICT Competency instrument; To test the reliability of the ICT-Attitude Scale developed by Kofi Ayebi Arthur (2010).

Literature review on importance of reliability and validity of research instrument:

In the present study, two types of questionnaires had been used: namely the ICT attitude Scale developed by Arthur Ayebi Kofi and self-made ICT Competency Scale.

Barr et al (1953) defined questionnaire as a systemic compilations of questions that are submitted to a sample of population from which information is desired.

In order to obtain accurate findings of the study, a research instrument has to be reliable and valid. A reliable research instrument is the one which measures accurately and consistently. And a valid research instrument measures accurately what is supposed to measure (Wan, 2002).

A reliable test produces approximately the same scores when applied in repeated conditions (Marczyk et al, 2005).

By knowing the validity and reliability of a research instrument helps the researcher in designing and judging one's own work. Additionally the researcher would be able to evaluate research literature and choose alternative research designs (Gliner & Morgan, 2000).

Test-retest reliability is the measure of consistency of a sample of two occasions with some interval in between (Drost, 2011).

An acceptable test-retest signifies that the internal validity of a test and ensures that the test is both representative and stable overtime (Mathew Itobbs, 2016).

In the present study, face validity and content validity was taken up for test. Face validity is the extent to which a test appears to measure and what is intended to measure. A test is said to have strong face validity if most of the people agree that the test items appear to measure what the test is intended to measure (Johnson E, 2013).

Tests, in which the purpose is clear, even to naïve respondents, are said to have high face validity. And the tests, in which the purpose is unclear is said to have low face validity (Nevo, 1985).

Content validity measures the content domain of which it was designed to measure knowledge.

Content validity is mostly measured by keeping on view, the knowledge of people who are familiar with the construct being measured. Here, the subject-matter experts are consulted and asked for feedback on how well each questions measures the construct in question.

There are three key aspects of content validity which are domain definition, domain representation and domain relevance (Sireci, 1998)

In some instances, where it is difficult to measure the traits of a test, two independent judges rate the test separately. The test items which are strongly stated relevant by both judges will be included in the final test. Measuring of content validity uses logical reasoning and hence, easy to apply (Venkitachalam R, 2015).

Research Design:

A pilot study was conducted in four high schools of Imphal West District Manipur which are affiliated to Board of Secondary Education, Manipur. The study was limited to 50 class-X students selected by using simple random technique. Out of four high schools selected two were Government schools and two were Private schools.

The Government schools were Keishamthong High School, Keishamthong and Ibotonsana Girls Higher Secondary School, Uripok. The Private schools were St. Peter High School, Kwakeithel and Catholic High School, Canchipur. Number of student selected was 10 from Keishamthong High School, 10 from Ibotonsana Girls Higher Secondary School, 10 from St. Peter High School and 20 from Catholic High School.

Table 1 - Shows the demographics information of the student participants from four selected schools for pilot study.

Name of the institutes	Type of institution (private/ government)	Number of respondents	Gender	
			Male	Female
Keishamthong High School	Government	10	6	4
Ibotonsana Girls Higher Secondary School	Government	10	-	10
St. Peter High school, Kwakeithel	Private	10	8	2
Catholic School, Canchipur	Private	20	15	5
Total	4	50	29	21

Normative-Survey Method was used to collect the data.

The questionnaires comprised of first section which inquired about the demographic information such as name, gender, status of institution (whether Government or Private Schools), class and session which they are admitted. The second section comprised of self-made ICT- Competence Scale and third section comprised of ICT-Attitude Scale designed by Kofi Ayebi Arthur, 2010 of Cape Coast.

The ICT-Attitude Scale by Kofi Ayebi Arthur (2010) comprised of 21-ICT Attitude based statements which had four point scale Likert response Mode of strongly agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). (SA coded: 4; A coded: 3; D coded: 2; SD coded: 1 for positive students). (SA coded: 1; A coded: 2; D coded: 3; SD coded: 4 for negative students).

The self-made ICT –Competence Scale comprised of 30 statements which had five point scale Likert response mode of fully competent (FC), Competent (C), Neither competent nor incompetent (NCI), Incompetent (IC) and Fully incompetent (FIC). (FC coded: 5; C coded: 4; NCI coded: 3; IC coded: 2 and FIC coded: 1).

Justification of the Instrument used:

ICT –Attitude Scale by Kofi Ayebi Arthur (2010) had been used for its easily understandable statement. The sample of the study were the students studying in class-X, they might understand the statements with greater ease. Moreover, the scale touches all three domains of cognitive, Affective and Behavioral aspects.

The self-made ICT-competency scale comprised of 30 statements. Various aspects of competency areas are taken into consideration. Such as Basic Computer Operation, Basic Concepts for a Database, Internet and its services and Basic concepts of Web browser. The statements are constructed according to syllabus of Information Technology for class-X under Board of Secondary Education Manipur. Thus, the choice of both ICT-Attitude Scale by Kofi Ayebi Arthur (2010) and self-made ICT questionnaire are quite justifiable.

Analysis and Interpretation:

Step 1: Considering the objective 1 of the pilot study which is to check the face validity of the items, panel of 5 subject-matter professionals were asked to give judgment. Likert scale was used to assess the face validity. The rating scale extended as: The test is extremely suitable for the given purpose; The test is very suitable for the purpose; The test is adequate; The test is inadequate; The test is irrelevant and therefore unsuitable. Table 2 gives the judgmental statement from the subject-matter professionals.

Table 2 - Assessment of Face Validity By Five (5) Subject-Matter Professionals.

Sl. No.	Subject-Matter Professional (SMP)	Face Validity Indication in Statement
1	NO.1	The test is very suitable for the purpose.
2	NO.2	The test is adequate.
3	NO.3	The test is extremely suitable for the given purpose.
4	NO.4	The test is very suitable for the purpose.
5	NO.5	The test is adequate.

Indication:

The face validity as indicated by five subject-matter professionals ranged from extremely suitable to adequate. Therefore, the test items are considered to have acceptable face validity and can be used for the study.

Step 2:

The self-made ICT-Competence Questionnaire containing 30 items were made to check by five subject-matter teaching professionals of schools under Board of Secondary Education Manipur. The items of the questionnaires are students' self-efficiency ICT Competence statements which had five point scales with Likert response mode of Fully competent (FC), Competent (C); Neither competent not incompetent (NCI), Incompetent (IC) and Fully incompetent (FIC): (FC-Coded:5, C-Coded:4, NCI-Coded:3, IC-Coded:2 and FIC-Coded:1).

Considering the objective (ii) of the pilot study which was to check the content validity of the questionnaire items, the panel of five subject-matter professional were requested to check the relevancy of each item and mark with a three degree range of "not necessary"; "useful but not essential" and "essential".

Table 3 gives the items of self-made ICT competency questionnaire and the degree range given by the five subjects-matter professionals (SMPs).

Table 3 - Assessment of 5-Point Scale Self-Made ICT Competency Questionnaire for Content Validity by Five (5) Subject Matter Professionals (SMP)

Sl. No.	Items with Competency Area	Indications by Subject Matter Professionals (SMPs)				
		SMP1	SMP2	SMP3	SMP4	SMP5
	Column A: Basic Computer Operations					
1.	Start and connect computer and its peripherals.	Essential	Essential	Essential	Essential	Essential
	FC <input type="checkbox"/> C <input type="checkbox"/> NCI <input type="checkbox"/> IC <input type="checkbox"/>	al	al	al	al	al
2.	Understand the various functions of the components of a computer such as Monitor, Keyboard, Mouse and CPU.	Essential	Essential	Essential	Essential	Essential
	FC <input type="checkbox"/> C <input type="checkbox"/> NCI <input type="checkbox"/> IC <input type="checkbox"/>	al	al	al	al	al
3.	Play audio and video files using appropriate media players.	Essential	Essential	Essential	Essential	Essential
	FC <input type="checkbox"/> C <input type="checkbox"/> NCI <input type="checkbox"/> IC <input type="checkbox"/>	al	al	al	al	al
4.	Well aware of health and safety issues related to use of computers	Essential	Essential	Essential	Essential	Essential
		al	al	al	al	al

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	FC		C		NCI		IC		FIC				
5.	Easily handle CD and DV in a Computer System							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
6.	Easily print in various printing devices							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
7.	Send data by Modem.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
Column B: Concepts for a database using MS.													
8.	Create a database.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
9.	Enter data into a database.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
10.	Open a document in MS-Word.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
11.	Transfer files from one drive to another.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
12.	Insert files into a new folder.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
13.	Easily search files from a device.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
14.	Set up validation rule.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
15.	Use simple editing like centering, folder size, bold, italics, etc.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC		FIC				
16.	Change colors of text on a slide.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
17.	Initialize text, change margins and layout in a dialogue box.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC		FIC				
Column C: Internet and its services and web browsers													
18.	Search content through internet.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
19.	Communicate with others through video conferencing and online chatting.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC		FIC				
20.	Download textual information by using internet service.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
21.	Create email ID.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
22.	Send and receive messages via e-mail.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
23.	Locate sites using search engines.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
24.	Find people by using net.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
25.	Browse using internet explorer.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	
26.	Save text and images from web pages.							Essenti	Essenti	Essenti	Essenti	Essenti	
	FC		C		NCI		IC	a	FC	al	al	al	

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27.	Attach files to outgoing e-mails.					Essenti	Essenti	Essenti	Essenti	Essen
	FC		C		NCI		IC	a	al	al
28.	Use web authoring tools to create web content.					Essenti	Essenti	Essenti	Essenti	Essen
	FC		C		NCI		IC	a	al	al
29.	Create and save HTML.					Essenti	Essenti	Essenti	Essenti	Essen
	FC		C		NCI		IC	a	al	al
30.	Write a program for simple mathematical operations such as addition and subtraction.					Essenti	Essenti	Essenti	Essenti	Essen
	FC		C		NCI		IC		FIC	

Indication:

All the test items were marked “essential by all the five subject-matter professionals”.

Now, the content validity ratio was calculated by using the formula,

$$\text{CVR (Content Validity Ratio)} = \frac{(N_e - \frac{N}{2})}{\frac{N}{2}}$$

where, N_e is the number of subject matter-professionals indicating “Essential”;

N is the total number of subject matter professionals.

From Table no. 3, it is observed that all the five subject-matter professionals have marked “Essential” for all test items.

Therefore, N_e for all items is 5.

Using the formula,

$$\text{CVR (Content Validity Ratio)} = \frac{(N_e - \frac{N}{2})}{\frac{N}{2}},$$

We have,

$$\begin{aligned} \text{CVR} &= \frac{5 - \frac{5}{2}}{\frac{5}{2}} \\ &= \frac{5 - 2.5}{2.5} \\ &= \frac{2.5}{2.5} \\ &= 1. \end{aligned}$$

The numeric value of CVR is determined by Lawshe table value.

The Lawshe table gives a minimum value of 0.99 for five numbers of panelists for the content to be valid.

Since, the obtained value of the self-made items is 1. It may be concluded that the test items are indicated to have content-validity and may be used for the study.

Step 3: Considering the objective 3 of the pilot study which was to check the reliability of the ICT Attitude Scale developed by Kofi Ayebi Arthur, 2010, the test-retest Method was adopted. The scores of 50 selected participants score were recorded and after an interval of three weeks, retest was administered on the same participants. The value of the test and retest are against each item are given below in table 4.

Table 4 - Test Retest Score of Students on Ict-Attitude Scale Developed by Kofi Ayebi Arthur, 2010

Participants (student)	Test score (x)	Retest score (y)	x ²	y ²	xy
1	80	80	6400	6400	6400
2	70	71	4900	5041	4970
3	70	70	4900	4900	4900
4	85	86	7225	7396	7310
5	80	80	6400	6400	6400
6	84	84	7056	7056	7056
7	88	88	7744	7744	7744
8	90	90	8100	8100	8100
9	90	90	8100	8100	8100
10	100	100	10000	10000	10000
11	98	96	9604	9216	9408
12	96	96	9216	9216	9216
13	90	90	8100	8100	8100
14	84	84	7056	7056	7056
15	76	76	5776	5776	5776
16	89	89	7921	7921	7921
17	83	83	6889	6889	6889
18	88	88	7744	7744	7744
19	72	72	5184	5184	5184
20	84	84	7056	7056	7056
21	90	90	8100	8100	8100
22	90	90	8100	8100	8100
23	86	87	7396	7569	7482
24	88	86	7744	7396	7568
25	90	90	8100	8100	8100
26	86	86	7396	7396	7396
27	90	90	8100	8100	8100
28	89	90	7921	8100	8010
29	77	78	5929	6084	6006
30	87	87	7569	7569	7569
31	86	86	7396	7396	7396
32	72	72	5184	5184	5184
33	70	71	4900	5041	4970
34	80	80	6400	6400	6400
35	82	82	6724	6724	6724
36	87	87	7569	7569	7569
37	89	89	7921	7921	7921
38	77	76	5929	5776	5852
39	80	80	6400	6400	6400
40	82	82	6724	6724	6724
41	80	80	6400	6400	6400
42	85	80	7225	6400	6800
43	82	82	6724	6724	6724
44	72	72	5184	5184	5184
45	71	71	5041	5041	5041
46	80	70	6400	4900	5600
47	72	71	5184	5041	5112
48	80	82	6400	6724	6560
49	86	80	7396	6400	6880
50	88	80	7744	6400	7040
Total (n): 50	4174	4144	350571	346158	348242

The reliability of the test is checked by applying Pearson's product-moment correlation coefficient,

$$r = \frac{(n \sum xy - \sum x \sum y)}{\sqrt{((n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2))}}$$

where, r is the correlation (reliability) coefficient,

n is the number

x is the test scores of students

y is the retest scores of students.

By applying the formula, we have,

$$\begin{aligned} r &= \frac{(50 \times 348242 - 4171 \times 4144)}{\sqrt{((50 \times 350571 - 4171^2)(50 \times 346158 - 4144^2))}} \\ &= \frac{(17412100 - 17284624)}{\sqrt{((17528550 - 17397241)(17307900 - 17172736))}} \\ &= \frac{127476}{127476} \\ &= \frac{\sqrt{131309 \times 135164}}{127476} \\ &= \frac{\sqrt{17748249676}}{127476} \\ &= \frac{133222.56}{127476} \\ &= 0.96 \end{aligned}$$

Interpretation: The product movement correlation coefficient is 0.96. Thus, the reliability of the test is found to be established at 0.96 which indicates high reliability and acceptable value for the research instrument and can be applied for the study.

Findings: The self-made ICT-Competence questionnaire has acceptable face validity; The self-made ICT-Competence questionnaire has acceptable content validity; The ICT-Attitude questionnaire developed by Kofi Ayebi Arthur (2010) has a high reliability value.

Conclusions

The ICT-Attitude Scale developed by Kofi Ayebi Arthur (2010) has a high reliability value in the context of present study and can be safely used for measuring Attitude of High School Students towards Information and Communication Technology. The self-made ICT questionnaire possessed acceptable face and content validity and can be used to measure competencies of class-X students studying in Board of Secondary Education Manipur.

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MATHEMATICS PHOBIA IN TEACHER TRAINEES

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Abstract

Mathematics class room is becoming increasingly diverse. Mathematics is all around us. Our life is governed by time and to understand time we need to understand mathematics. Teacher trainees must speak the language of mathematics to be successful in learning mathematics. Word problem solving in mathematics is an important aspect of learning mathematics and mathematical thinking. We need mathematics at every moment in our life. Many people enjoy mathematics in and out of the school, but at the same time mathematics anxiety and fear of mathematics subject is not new.

Keywords: Mathematics, Phobia, Maths, Education, TLP

Since years we have noticed that fear of mathematics has even contributed in deviating from one's career. Students decide their field of further studies on the basis of many factors. Various factors that affect their selection of subject are their aptitude towards that subject but the most important factor is the teacher teaching a particular subject. In B.Ed teacher trainees have to take up two subjects on the basis of their graduation. It has been observed that the teacher trainees at B.Ed level show fear towards Mathematics. The present paper intends to study the causes and probable solutions of Phobia towards Mathematics. It is a study consisting of a population of 200 B.Ed trainees.

Significance of the Study

Mathematics is one of the most important fields because it is a foundation in studying other subjects such as science, physics, chemistry which still rely on mathematical calculations and thinking process. As stated in the Basic Education Core Curriculum that mathematics is highly significant for the development of the human mind.

It enables a person to think logically and systematically, to analyze various problems or situations, to anticipate, to plan, to make decisions, to solve problems and to apply mathematics to daily life.

Indeed, mathematics is not only a tool that helps with the accuracy of obtained results in any kind of problem solving but also an imperative instrument in workplaces, regardless of which line of work that requires careful thinking and reliable problem solving process. Researchers knew their teacher trainees over the period of ten months and found that most of the trainees do have mathematics phobia.

Looking into the mentioned importance of mathematics in one's life, researchers have plan to undertake the action research on causes of mathematics phobia towards the subject. A self-constructed questionnaire was administered to study the causes of phobia towards mathematics. The obtained data is analyzed statistically. The findings and the feedback are presented in the research paper.

Objectives of the study

To identify the probable causes of mathematics phobia in teacher education; To design the follow up work for mathematics phobia in teacher trainees

Statement of Problem: Mathematics Phobia in Teacher Trainees, KSV, Gandhinagar of the year 2018-2019.

Population: The teacher trainees of B.Ed colleges having mathematics as one of the method subject constitute the population of the study.

Sample: The teacher trainees of the Faculty of Education of two colleges i.e. R. H. Patel English Medium B.Ed College and S.S. Patel College of Education constituted the sample of the study.

Methodology

Tool: A self-constructed questionnaire was administered on 165 teacher trainees. Action Research was carried out on the B.Ed trainees. The tool was based on three different areas. In order to arrive at the probable causes of phobia in mathematics, the causes are bifurcated into following components. Causes related to faculty who takes mathematics; Causes related to teacher trainees; Personal causes

Causes related to faculty who takes mathematics subject: Faculty is not approachable; Faculty does not include tough portion of the content undertaken; Faculty does not bother to give time to note down important points; Faculty does not show any enthusiasm in teaching; Faculty focuses only to particular students; Faculty does not give enough examples and case studies; Faculty does not use innovative methods.

Causes related to Teacher trainees: Fundamental concepts are not clear, they do not show seriousness; Dislike of the subject from the beginning as it was not conceived properly; Do not know the answers of the questions; Do not understand the content of the question itself; Hesitant to answer in front of peers due to language problem; Do not have readiness to learn concepts at this stage.

Personal Causes: Teacher trainees have study mathematics at the school level only and having got the gap of many years all together, have created the phobia of mathematics; Teacher trainees are not willing to study because their preliminary concepts are weak; Teacher trainees avoid asking questions because they are hesitant or have language problem; Teacher trainees do not have to learn mathematics concepts at this stage; Teacher trainees feel shy to learn fundamental concepts.

Data collection: Data was collected from the teacher trainees of Faculty of Education. Questionnaire was administered and frequency and percentage have been calculated.

Analysis

Objective 1: To identify the probable causes of mathematics phobia in teacher education

Analysis of objective 1: It was found that 80 % of the trainees were responded positively for taking up action research on them. They opine that these types of action research every teacher should do, because it is not only paybacks trainees but also faculty comes to introspect one's own teaching and modifies accordingly; 85% of the trainees confessed that they had studied mathematics only till 12th standard. They had no link with mathematics at their graduation and post graduation level; 72% trainees felt that they disliked mathematics because their fundamental concepts were not very clear; 15% trainees shared that at this stage they have many other commitments

because of which they are not able to spare sufficient time to learn the basic concepts; 4% trainees are hesitant and shy of asking their doubts in the class of mathematics; 2% trainees say that they are not able to understand and interpret the problem.

Objective 2: To design the follow up work for mathematics phobia in teacher trainees

Analysis of objective 2: Based on the outcome of the result it was opined that action research is extremely helpful in teaching -learning process because the teaching has been crafted as per the needs of the trainees. Here, a lot of interaction, discussion, interest, initiative by trainees etc. take place, which fetches enormously E -prep culture in the class. Researchers have become motivated to do action research in proper time gap to bring the E-Prep culture in their classroom to achieve the eventual goal of teaching; It was also learnt from the research that the faculty needs to develop more of content mastery along with pedagogical skills. It was also thought that with the B.Ed becoming of two years more time can be spared at the content mastery of the trainees as content mastery will help them to become a better teacher; Along with the Content Mastery & explanation with sufficient examples, the faculty has to work on innovative and easy techniques for learning concepts of mathematics which will further help the trainees in their teaching practices; For those trainees who have left their touch with mathematics since long can be given extra classes specially customized for them. They can be given some online practice sessions also; Beyond everything, a mathematics teacher educator has to be self motivated to bring about a change in the mindset of trainees..She needn't show her language skills but should aim at trainees easy understanding techniques. Teacher should have proper eye contact, and should use positive re-inforcers to appreciate trainees. Faculty need to identify weak students and give proper guidance separately. Important contents being made more clear by giving more drill work.Faculty needs to frame the questions which are easily understandable and to the point. These all actions are definitely going to be beneficial for trainees.

Framing the Probable suggestions: If faculty uses learning by doing method rather than normal lecture method with LCD etc., interest will be generated which in turn may lead to sustaining of teacher trainees and avoid phobia in mathematics; If faculty explains the entire concept in depth with necessary rules, illustrations and case studies and with supporting pictures in the beginning, teacher trainees demonstrate their understandability and phobia in mathematics will go downward; If faculty has content mastery, good class room management skills then mathematics phobia will fade away and their concentration will remain undisturbed in class; If faculty maintains a better eye contact, and has presentable body language then teacher trainees will bound to show interest and their phobia of mathematics will die away; If faculty allocates time for teacher trainees to copy down the important concepts and Rules in class, this drags their concentration and reduces distraction; If the faculty shows a motivated and enthusiastic attitude by coming to the level of teacher trainees, their understandability increases and reduces phobia in mathematics; If faculty identifies distractive teacher trainees and brings them back mentally, then phobia will be reduced; If the faculty gives proper attention to all teacher trainees then they feel interested in class and

phobia is lost; If faculty uses simple language while explaining concepts to the level of teacher trainees which is easily understandable then interest will be generated and phobia diminishes; Faculty members practice simple language while explaining concepts to the level of teacher trainees which is easily understandable.

Conclusion

As a researcher at the end would like to imply that mathematics is a problem solving reasoning abilities and way of communication and expressing it. It is a mode of telling the story, which is enjoyed by all levels of students. To make it a joyful sessions let the students create their own methods of solving problems and appreciate every step that they take up in classroom sessions. It is very essential for a mathematics teacher to enjoy the subject himself/herself only then can a teacher create interest of students in the subject. It should no longer be a phobia rather practiced and solved with greatest joy. This is achieved only when Educators are flexible, accepts every child's uniqueness interests, strengths and weaknesses, eventually linking with daily life's state of affairs.

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STUDENTS TOWARDS BEING ENTREPRENEURS
RWANDAN FEMALE STUDENTS TOWARDS BEING
ENTREPRENEURS AFTER HIGH SCHOOL

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Abstract

Many countries undertake entrepreneurship lessons as an accelerator for creating new jobs and encouraging students to be entrepreneurs. The present study was carried out to track the female students' career paths after completing high school. The study surveyed 41 students from both a day and a boarding school in Kayonza district, Rwanda. The findings reveal that female students from both schools prefer entrepreneurial jobs after completing high school. In comparison, 80% of students in the day and 58.5% of boarding school students chose their career path as entrepreneurs. The study was limited in the sample, and it suggested further research in the same area; however, it recommends teachers to inspire their students by inviting entrepreneurs around to school.

Keywords: *Entrepreneurship, female students, boarding school, day school*

Every person was born rich (Proctor, 2015). In this book, the famous New York Times bestseller, Bob Proctor, encourages people to follow their dreams. As Sandra Gallagher, the CEO¹ and Co-Founder of Proctor Gallagher Institute, testified, Bob Proctor is the best business motivation public speaker, and his writings and speeches have changed the entire life of those who read him. He said: "Most people are extras in their movie (Proctor, 2015, p. iv)." Most of us, if we think about the life we live, may realize that we are not the star of our movie at all. These bits of advice take us to the work of Robert Kiyosaki, "Rich dad Poor dad" (Kiyosaki, 2012), who compared what we study at school and what we use to attain and fulfill our needed life and wealth. He figured out that if what we study at school is connected to what we use to dig our real world, everyone would be satisfied and sustain his/her financial needs. Unfortunately, this is not the case. Kiyosaki has invented a four-quadrant cash flow to explain how income is distributed among people. The first quadrant comprises employees who work for others, the second comprises self-employed, the third comprises business people, and the fourth comprises investors (Kiyosaki, 2012). It is interesting that most intellectuals think about getting jobs and always stagnate in the first quadrant of cash flow (Kiyosaki, 2012; Proctor, 2015). It is noted that 95% of the world population is employees and self-employers, while business people and investors comprise only 5% of our world population. The ridiculous phenomenon is; those employees have attained the highest education to work for this small portion of third and fourth quadrant people who have invested their time thinking the great ideas

¹CEO: chief executive officer

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that improve human life instead of spending time studying for degrees. Thus, people should be equipped with the necessary skills to use after their schooling, as Kiyosaki argues that what lacks is financial literacy (Kiyosaki, 2012).

Entrepreneurship is a substantial mirror and generator of today's world economy (Hatak & Reiner, 2011). "Entrepreneurship is more than the mere creation of a business. The characteristics of seeking opportunities, taking risks beyond security, and having the tenacity to push an idea through to reality combine into a unique perspective that permeates entrepreneurs (Kuratko, 2003, p. 2)." Many countries are currently encouraging their citizens to look around and think of creating their jobs instead of seeking them from the government or private sector to provide jobs to others. For instance, Sweden has been identified as the first country that cares about entrepreneurship education. From this experience, due to the mission of mini-business 'Presnatch' based on offering solutions to the problem of visitors robbed of their handbags in public places, 87% of students believed that by participating in the program, their knowledge of how to run business and the ability to solve their routine problems had increased (Hatak & Reiner, 2011). Relatively, an Entrepreneurship lesson is one of Rwanda's lessons to augment the number of people who prefer to create their job instead of being job seekers. From 2010, Rwanda's government started implementing teaching Entrepreneurship lessons in secondary schools to help graduate students create their jobs. As the level of the unemployment rate was increased, the government of Rwanda expected that the Entrepreneurship lesson would reduce and exterminate unemployment (Niyonkuru, 2005; United Nations Rwanda, 2014). In Rwanda, the gender equity policy has been raised, emphasized, and implemented.

Various scholars have discussed the relationship between the intention of being an entrepreneur and the motives of schools. For instance, on the analysis of the impact of teaching entrepreneurship in graduate schools at Tunisian University, Ben and Boujelbene (2014) found that what the entrepreneurship's master alumni have learned is beneficial to their works got. It is to say; the entrepreneurial skills help them to perform their duties related to their current jobs. Self-efficacy and education have positively influenced female business students in Nigeria towards entrepreneurial intention (Isidore & Norsiah, 2012). These authors also found that friends' social environment helps the relationship between entrepreneurial orientation and entrepreneurial intentions. Bandura (2010) defines self-efficacy as one's belief to execute behaviors necessary to produce specific performance attainments and reflect on confidence in exerting control over their self-motivation, behavior, and social environment.

On the other hand, entrepreneurial intentions are the ambitions of an individual to pursue a future business career. There was a strong positive correlation between strengthening entrepreneurial self-efficacy and entrepreneurial intentions (Shinnar, Hsu, & Powell, 2014) moderated by gender differences among students. The authors found no statistical significance of entrepreneurial intentions in gender; however, the increase in entrepreneurial self-efficacy was statistically significant in male students.

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Veciana et al. (2005) found that boys are likely to desire and have a strong ambition to venture and create new firms than girls.

Much of the literature has mostly focused on male students in higher institutions; however, this study highlights the level of understanding of entrepreneurship career early as it investigated female secondary school students. This study aimed to know the overview of Rwandan students towards being Entrepreneurs after high school, especially female students who are in the last year of their secondary education. The study will help recognize if the students are aware of entrepreneurship's importance for themselves, their family, and the country. The study also will contribute to know what the female students think about the Entrepreneurship lesson. Therefore, it will stimulate other students towards engaging in the entrepreneurship industry and their teachers to teach entrepreneurship effectively and in a way to students benefit “open mind.”

The study has the following research questions: What is the career path do Rwandan females prefer after graduating high school?; How do Rwandan females value the Entrepreneurship lesson?; What are the proposed solutions to overcome challenges faced by females Entrepreneurs in Rwanda?

Methodology

Research design and population: This study mainly used qualitative methods (Fraenkel et al., 2012). Thus, we seek female students' opinions on what they will do after their high school studies and presented their ideas in the form of described themes (Orodho et al., 2016) and direct quotes. We conducted this study in two secondary schools located in Kayonza district, Eastern Province, Rwanda. We selected two schools, purposively and conveniently. One school was a girls' school while another school was mixed. The girls' school is boarding while the mixed school is a day school. Therefore, we surveyed 41 students of senior six MEG,² where 20 students are from the day while 21 students are from boarding school. This sampling technique allowed us to compare female students studying in boarding and day schools. We preferred day and boarding school students because their learning environments are different. For instance, students at day school spend the night at their home while at boarding school stay both day and night at school. The infrastructures are also different. We selected the combination of MEG because this combination can facilitate students to think about business through Mathematics and Economics lessons and entrepreneurship lessons. We did not consider male students in day school because our focus was to compare girls from both day and boarding schools. Several Entrepreneurs are male (see also in our introduction), so we only preferred to focus on female students to know if they think about challenges that the female Entrepreneurs faced and the solutions to overcome those challenges as the young generation.

Instrument and data analysis: The study used a questionnaire survey for data collection. The questionnaire had eleven questions, including eight qualitative and three quantitative questions (see Appendix A). We used MS Excel for data entry and

² MEG: a subject combination of Mathematics, Economics, and Geography

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analysis. For the first, second, and eighth questions, the MS Excel results were transferred from an excel document to a word document in the form of tables. The written result was also transferred from excel to word document to analyze possible and emerging themes. Therefore, we found three main themes that form the information provided by our respondents. Thus, “the vision of girl’s students about Entrepreneurship” theme, “the importance of Entrepreneurship lesson” theme, and “the challenge of being an Entrepreneur for females” theme.

Findings

The vision of girl’s students about Entrepreneurship: The first intended career was being an entrepreneur as 80% of students from day school and 58.5% of students from boarding school selected that (see Table 1).

Table 1 Preferred career after female students’ graduate high school

Career	Day students	Boarding students
Teacher	0	12.5
Medical doctor	0	0
Pilot	0	8.5
Technician	0	4
Designer	5	8.5
Entrepreneur	80	58.5
Agriculture	0	0
Other (Lawyer)	15	4
Other (Musician)	0	4
Total	100%	100%

This difference among those selected to be entrepreneurs and day students may be caused by the fact these day students are based at their home. Therefore, they can observe and be inspired by the entrepreneurial path than boarding students who are not open to the community. While no student from day school wishes to pursue a teaching career, 12.5% of boarding students wish to be teachers. We have noticed that day students are not confident enough to choose an airspace career as none of them selected pilot as a career while boarding students aim to be airplane pilots. The structure of these schools may cause it in terms of infrastructure and education quality. Boarding schools have more facilities than day schools, and boarding students can concentrate on their studies as they are based at school while day students spend nights and weekends at their homes.

The importance of Entrepreneurship lesson: All students are aware of the role of Entrepreneurship lessons as a necessity for our country. For instance, 100% think that entrepreneurship lesson is necessary because it provides the employment opportunity by reducing unemployment and brain drain in foreign countries, making youth become the job creator than job seekers. It leads to an increase in the citizens' income so that their standard of living also increases. It is necessary because the Entrepreneurs' taxes lead to an increase in the country's economic growth and the government expenditure increase, such as the improvement of infrastructures. Specifically, students from boarding school mentioned that entrepreneurship lesson is necessary because entrepreneurship combines different production factors to produce goods and services to maximize profit. It reduces ignorance in people in the business by which the country's economic activity develops, and the high number of

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dependencies in another country reduces. It helps Entrepreneurs have innovation and creativity in their businesses, expand their market inside and outside the country, and know how the business's properties can be controlled. According to a student from day school, the entrepreneurship lesson helps to know goods and services produced inside and those imported outside the country, to increase the number of investors in the country also increases and promotes friendship among other countries. "Entrepreneurship studies will help my country to use well idle resources in order to reduce over-dependence on another country; they promote economic growth and development, reduction of unemployment level, and increase of Gross domestic product figures within any country." "Entrepreneurship lessons will increase the skills of labor, increasing economic activity, and a high level of technology in my country."

Regarding the Entrepreneurship course's role in their life, students argue that Entrepreneurship will help them do the Budget of daily life and achieve their objectives and plans accordingly. It helps to focus on business as a career, business management by calculating profit and loss and understanding more about marketing. "Entrepreneurship will help me to know how I can manage my resources well in order to get the answers to some economic problems." "Entrepreneurship will help me to improve my skills and knowledge, which will lead me to create my business as a career for preparing my future, and the standard of living also will be improved." One student from boarding school said: "It will help me participate in the production of something new, build self-confidence and be self-reliance without depending on other people, this will prepare well my future family and give me a good life." The other two students from day school said: "It helps to solve the problem in my life, such as poverty, and to promote the increase of the development of the family." "It will help me to advise the new entrepreneurs about Creativity and innovation in their projects through discussion."

Regarding the role of Entrepreneurship lessons to help their family, boarding students said it would help their families share ideas about the strategies to follow in creating a business, managing their products to increase the income and job security. The students know well the importance of saving. For instance, they said what they learned will allow them to teach their families about saving to achieve their goals. Specifically, boarding students said: "through Entrepreneurship, I will take the right decision to create my own business so that my family reduces all of the money spend on me because I will have my money. It will help my family to reduce primitive thinking about the business and reduce the wastage of resources. It will help my family by making a budget and making a plan for daily activities, which helps them use our funds well." Day students said: "Entrepreneurship studies will help my family in the provision of employment opportunities, to reduce poverty in my family, and to improve the standard of life. I will help shift my family from the first category up to the second category by creating a job to get income in my family. I will help my family know production planning by using new techniques to get more product and the family's income and expenses."

The proposed solutions to the challenge of being an Entrepreneur: Apart from school, the study showed that students are occupied with various duties. For instance,

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among 20 students of day school, 65% do the business to raise domestic animals; however, none does agriculture while two students do any other activity. Among those who do business, three do handcraft business; one student does the business of selling sweet potatoes, one makes juice, and one does manufacture business. While in boarding school, the study showed that among 22 students, 40.9% of them do business, 27.27% raise domestic animals, and 18.18% participate in other activities. However, none of them does agriculture activities. For those who do business, 77.77% of students do trading shops, 11.11% of students do the selling of goods in the community, while 11.11% sell food. When asked those who raise domestic animals, the study found that two students raise 14 pigs, one student raises hens, goats, and pigs. We also found that while one student raises cows, goats, and pigs, another student raises nine hens while another raises five cows.

Students are aware of some females who are Entrepreneurs in their community, and they learn from them. Students from boarding school identified 204 females Entrepreneurs in their community. Among the lessons learned, hardworking and self-reliance were favorably mentioned. "What I learned from them is working hard to gain profit. They are self-confident, innovative in their production, and improve the relationship between members." "Always be independent, never give up, keep walking towards your goal, never waste time on unproductive activities, time management. They are the decision-makers, they have a good reputation name, and good risk-takers. I learned to have ambition, to bear risk-taker, and to be a job creator." "I can create a business with a small capital, I learned about how I can increase innovation and invention in my business, being confident in public speaking, having public cooperation with others that they work together, and having integrity." "I learned how to create my own business, how to fill confidence in what I want to do, I learned from them to have self-confidence and hardworking and honest, to be an entrepreneur, and to focus on my career." "I learned proper planning, work in a team, controlling something different, respect, the way and system for running business and techniques use in business, and I can now encourage many females to start their own business."

Students gave the reasons that can discourage the female from creating a business. There were no differences in day or boarding students' responses. They mentioned that there is no self-confidence among many females to create the business, and they have low skills and experience. Discouragement to create the business can also come from the lack of market, sexual corruption, lack of capital for raw materials, lack of family support, and low technology skills. "Females lack enough training about job creation because there are some females who know that business is for men only." Students also mentioned discrimination based on sex, lack of government support through a loan, which can support females in getting enough money to start their business. However, various Rwanda funds are ready to sponsor females in business, such as *NEP Kora Wigire*, women investment fund, and others. This finding may be caused by the lack of information from media and teachers. The low level of competition analysis skills with male entrepreneurs is caused by the fact that sometimes females are afraid to express their skills and knowledge, government policy like high taxes restriction for starting a business, and fear of losing the market. Poor

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infrastructure, lack of skills about the business, and lack of enough land were also mentioned as barriers causing females to refrain from business engagement.

From the causes of refraining females to engage in business opportunities, mentorship was provided by students. If they were the ones to increase the development of Rwandan females, students provided their answers to encourage female students, and they ranked their preferences (see Table 2).

Table 2 Ranks from students towards encouraging females in the business opportunity

		Day students				Boarding students			
		25%	50%	75%	100%	25%	50%	75%	100%
1	To work in the cooperatives	0	3	1	2	2	5	9	7
2	To make enough time looking for the job seekers	2	6	3	5	11	3	7	2
3	To think about how they can be job creators	7	4	4	5	0	3	11	9
4	To show them how they are capable of performing different jobs like male Rwandan	6	1	6	1	0	1	8	15
Total		15	14	14	13	13	12	35	33

To help females engage in businesses, boarding students prefer working in cooperatives than day students do. About nine and seven students at boarding school ranked working in the cooperatives at 75% and 100% respectively as advice to females, while only two students from day school ranked it at 75% and 100%, respectively. The spirit of creativity was shown by boarding students as 11, and 9 of them ranked being job creators at 75% and 100% respectively, while 7 and 4 of day students ranked it at 25% and 50%. Similarly, competition with males was highlighted by boarding than day students as 8 of boarding students ranked it at 100% while 6 of day students ranked it at 25%.

Discussion

“Entrepreneurship and entrepreneurial behavior are of utmost importance in the current global economy (Greet & Gils, 2016, p. 12).” Therefore, schools have the imperatives of stimulating these behaviors among all people within the community. The authors recommend that all countries include entrepreneurship courses in their curriculum. Not only this but also these courses should be learned in competence-based approaches.

In evaluating the Junior Achievement Young Enterprise student mini-company program in American and European selected schools (Oosterbeek et al., 2010), there was a negative effect on students’ intention and entrepreneurial skills to become entrepreneurs. In the present study, female students prefer an entrepreneurial job. Therefore, with this confidence, there is a need to select effective teaching strategies for teaching carefully and advising and advise students on issues related to carrying out entrepreneurship study of Nwokike (2016) in Nigerian schools, practical activities, demonstration, and mentorship in teaching entrepreneurship courses have improved business students' entrepreneurial skills for self-employment. In their study, Itangishatse and Ndiokubwayo (2019) disclosed that students performed better at $p < .001$ when they were taken outside the school to observe the available running businesses and talk to business owners. The study also revealed that this field trip kind

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of teaching strategy raised students' interest at a high level. Therefore, teaching strategies such as field trip (Itangishatse & Ndiokubwayo, 2019), inviting businesspersons to talk to students, video conferences (Kuratko, 2005), learning portfolios or personal development plans (Hahn et al., 2017), hands-on entrepreneurship (Gallant et al., 2010) can be adopted by teachers. Without a doubt, they will direct students into entrepreneurship career. "Guidance of many of these future entrepreneurial leaders falls on the shoulders of those in higher education (Vanevenhoven, 2013, p. 466)." The author encourages students and teachers, and instructors to be entrepreneurs to teach what they experience. It may be difficult for people with a fear of loss (Kiyosaki, 2012) and people who were never taught to be entrepreneurs to directly shift from resistance to change to the world of trials. However, it calls upon the people already in business to provide their experience full of challenges and success stories to students. Therefore, this is a duty of schools with the support of educational policymaking institutions.

The creativity among entrepreneurship students (Helena, 2015) should be taken into high consideration. Students should be trained to develop some innovative materials to develop their thinking at an early age. For instance, teachers may ask students to design a tool such as a cloth style, food, drink, machine they like. From seeing what they designed, they may love it and follow up on how it is made and therefore engage themselves in making them. This outcome is supported by the study of Johansen and Schanke (2014), where it indicated that, with less focus on the enterprise part, entrepreneurship projects had been a suitable teaching method as they improved Norwegian students' performance. Thus, students may be encouraged to prepare their project ideas and compete for rewards and raise their career choice. Due to the entrepreneurial school, Helena (2015) has identified three key objectives. The school should provide a framework for learning environments, illustrating how students develop the necessary knowledge and skills as needed tools for their lives and business. Schools should check their students' professional careers to promote students' attributes and train them to plan for their business. Moreover, "School should introduce entrepreneurial education progressively from an early student age to stimulate the development of entrepreneurial attitudes, skills, and knowledge (Helena, 2015, p. 12)."

"Entrepreneurial motivation is an important link between intention and action (Solesvik, 2013, p. 1)." The students rated the top five barriers in the Shinnar et al. (2009) study. The barriers are a risk, lack of capital, current economic situation, competence, and knowledge. However, female students under the present study outlined related but quite different challenges. These are low self-confidence, lack of motivation, capital, and lack of skills that female entrepreneurs face. Concerning students' motivations for business start-up (Shinnar et al., 2009), the chance to implement their ideas, personal independence, create something of their own, be financially independent, and improve their quality of life was the five motivations highly ranked by the students. While having free time, dissatisfaction in a professional occupation, the difficulty of finding the right job, following a family tradition, and gaining high social status was the lowliest ranked by students. Although making a

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decision is different from implementing that decision, the impacts of entrepreneurship education in business programs (Wilson et al., 2007) resulted in a substantial impact for girls than for boys on entrepreneurial self-efficacy. It shows well that encouraging females to join the entrepreneurial path is possible and beneficial. Westhead (2015) found that female entrepreneurship education students who are aware of business reported higher intentions than female non-entrepreneurship education students. However, female entrepreneurship education students citing risk perception skills reported lower intention showing how females in nature are vigilant and confident.

Empirical evidence shows that attitudes, subjective norms, and perceived behavior control mediate the relationship between perceived entrepreneurial motivation and entrepreneurial intentions (Solesvik, 2013). The role model has a significant impact on influencing female students to take an entrepreneurial path after their studies. For instance, a moderated mediation relationship was observed such that, for women, role models had a more decisive influence on self-efficacy, which, in turn, influenced entrepreneurial career intention (Barnir et al., 2011). Being an entrepreneur is possible after school. In the study of career path and business performance (Menzies & Paradi, 2003), 48% of students who have started businesses some time since graduation depended on the entrepreneurship courses they took. Therefore “students must be ready to be able to swift their current learning approach to a more practical way which is required in the entrepreneurial learning process (Keat, Selvarajah, & Meyer, 2011, p. 216).”

Conclusion and Limitation of the study

Our study “Rwandan Female Students towards Being Entrepreneurs after High School” showed that in terms of various professions such as teaching, nursing, piloting, technique, designing, entrepreneurship, and agriculture, these female students preferred being entrepreneurs after their studies. These students confirmed that what they accumulated from entrepreneurship lessons is vital to the country, their families, and themselves. They argued that it provides the capacity to create employment. Female students were found aware, confident to advise and monitored their fellow females towards business. Most of them know the importance of working in cooperatives and can motivate fellow females by showing them their capability to perform different jobs like males. Although we accommodated both female students from day and boarding students in this study, due to the small sample, we are not able to generalize the findings. In this regard, we recommend that researchers pursue other related studies with a significant sample to check schools' effect on students and entrepreneurship education. From the discussion, we advised teachers to monitor their students well with effective teaching methods and inspiration from entrepreneurs around the schools so that after school, students can pursue an entrepreneurial career.

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EMPLOYEE'S COMPETENCIES & CUSTOMER SATISFACTION
EFFECTS OF EMPLOYEE'S COMPETENCIES ON
CUSTOMER SATISFACTION: STUDY ON PRIVATE SECTOR
IN EASTERN ETHIOPIA

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Abstract

In fiercely competing business world the successes or failures of the organizations depends on the employees competency to attract and retain customers. Competent employees are the key to deliver excellent quality services to attract and retain customers, the main objective of this study is to assess the effects of employees competencies on customer satisfaction in private organizations in eastern Ethiopia. Comprehensive sampling techniques used to select sample of employees and convenience sampling techniques were used for customers. Data for the study were collected through self-administered questionnaires distributed to 400 customers and 200 Employees for 40 private organizations. The questionnaire for employees was structured around six employees competencies areas such as business understanding, result orientation, customer service, team work, interpersonal communication and personal effectiveness. The questionnaire for customers was designed to collect data supplementary to the data collected from employees and data related to competency of employees that might not be directly answered by them. The inter-correlations among the dimensions of employees competencies and customer satisfactions have demonstrated significantly positively correlated. Multiple regression analysis were carried out to test the relations between the dimensions of employee competencies and customer satisfaction. The study shows that there is a significant positive relationship between employees competency and customer satisfaction. The research identifies basic competency deficiencies of Ethiopian employees in handling customers' and has managerial implication of how to staff the work force with the skills, area of knowledge, attitudes and abilities that distinguish high performer to deliver quality service.

Keywords: *Employees competency, Customers satisfaction, Private organizations*

According to Boyatziz (2008), competency is an individual's capability or ability. However, Rossilah (2008) stated that competency or efficiency was referred to as a set of characteristics of knowledge, skills, attitudes, intellect and view of one's own interests to carry out their duties efficiently and effectively. Competence is described as the behavioural prerequisites for job performance and organizational results, indicated by skills attribute, character, quality, ability, capacity and capability (Cumming, et al., 2009; Moore, Cheng, and Dainty; 2002).

Competencies are observable behaviours, knowledge, skills, and abilities of personnel to attract and retain customers by delivering quality service to the customers (Wuim, 2014, Potluri and Zeleke, 2009). Competent employees are invaluable assets for any organization's survival in the dynamic and competitive business environment. In private service organizations where researcher conducted the study. In these organizations employees are the main interface of the organization that play crucial role to delight customers and serve as key source of competitive advantage. Competent employees understand and play their roles and responsibilities to achieve organizational goals and objectives (Berihun, 2016).

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The behaviour and attitude of contact employees can influence customers perceptions of the service quality (Mengesha, 2015). On the other hand employees are the first lines of contact in any organization and they are the main players to create the first and long lasting impression on the organization and project a positive or negative image in the minds of customers. They are capable of creating awareness, understanding need among customers to use the organization's goods and services effectively to generate revenue (Akinyele, 2010). Competent employees play a crucial role to create satisfied and loyal customers. They are the actors who appear front stage in the service stage show when they serve customers (Lovelock and Wirtz, 2004). Competency is more than just knowledge and skills. It involves the ability to meet complex demands by drawing on and mobilizing psychological resources including skills and attitudes in a particular context (Akinyele, 2010, Rycken and Salganik, 2003). Employees collective knowledge, skills and resources are the firm to create satisfied customer. Competencies are observable behaviours, knowledge, skills, and abilities of employees to attract and retain customers by delivering quality service to the customers. Competent employees' are invaluable assets for any organization's survival in the dynamic and competitive business environment. In service providing organizations there is a high customer-employee contact in the service delivery areas. These areas are occupied by a great percentage of an organization's work forces that are usually tasked with dealing with customers on a daily basis and handle most aspects of a customer's interaction. The employees are the main interface of the organization that play crucial role to delight customers and serve as key source of competitive advantage. Competent employees understand and play their roles and responsibilities to achieve organizational goals and objectives, by applying their competency. Employees with this capabilities and process, to apply the collective knowledge, skills and resources of the firm to create satisfied customer (Lado and Wilson, 1994). However, in eastern Ethiopia private organizations has long queue in the service windows at which customers are forced to waste much of their time. The researcher also observed customers complaining on the customer services. These factors have a negative impact on organizations which may lead to dissatisfaction and lose its valuable customers in light of competitive business environment if and when created. With this background, employees competency and customer satisfactions are compelling the attention of the researcher. This therefore, the main objective of this research is to assess the effects of employees competencies on customer satisfaction in private organizations in eastern Ethiopia.

Literature Review

Competency is a fundamental standard of skill, knowledge, ability or behavioral characteristics that an individual needs to perform his/her work successfully (Boyatzis, 2008). It is a combination of several factors like motives, traits, self-concepts, attitudes or values, skills and abilities all of which are required from an individual to function properly and satisfy the needs and interest of customers as well as achieve the objectives of the organization (Potluri and Zeleke, 2009). Competencies are a set of identified behaviors, knowledge, skills, and abilities that directly and positively impact the success of employees in the organization (Hayton,

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and Kelley, 2006). Mirabile (1997) described competency as the behaviors, knowledge and motivations that is required to be effective in a job. Competencies are individual capabilities that can be linked to enhanced performance by individuals or teams (Mathis and Jackson, 2010). According to Sanghi, (2016) competencies are what make your organization unique and are the skills your organization possesses that set it apart from its peers. They are the sources of competitive advantage and the building blocks to future opportunities. Competence is a bundle of skills rather than a discrete skill. Competency is an integration of skills, abilities, knowledge and capabilities. Understanding and developing employees competencies is necessary to enable the organization to exploit the opportunities they provide. Competencies may be considered as talent-based interpretations of business needs. This view defines competencies as demonstrable characteristics of the person, including knowledge, skills and behaviours that enable performance (Chen, et al.,2019). Also these competencies are skills that help place a firm in close proximity to its customers. The important elements of competencies are customer knowledge, customer access and competitor knowledge (Momeni, et al., 2011).

The competency level of employees is used to integrate selection, training, appraisal and compensation. On the other hand, competencies are used as a strategy to strengthen the link with organizational culture, results, and individual performance by emphasizing competencies that are needed across occupational specialties. As a tool to help describe work and what is required from employees in jobs in a broader, more comprehensive way to identify and close the gaps in individuals capabilities and the requirement of the position. As a method to align individual and team performance with organization, vision, strategies and the external environment (Campion et al., 2011, Cardy and Selvarajan,2006).

According to Lengnick-Hall, (2002) in organizations, employees interact with customers while providing the service and customers viewed the employees as if they are the organization. These employees should have basic knowledge, skills, behaviors and experience to promote core values and ethics of the organization through words and actions for customers during the interaction. They should uphold the ethical and social norms of the organization (integrity and honesty), strive for the highest standard of achievement (professionalism), work with others towards a common goal (cooperation) and be sensitive and responsive to others (respect). The Common Wealth of Virginia identified six most important skills and core competencies to be possessed by service employees that help them to work towards profitability and sustainability of their organization and provide quality service to satisfy customers (Rothwell and Lindholm,1999). These employees competencies are ;

Business Understanding

For successful business performance, it needs to build employees' competency around a sound strategic understating of an organization's business to enable them know how to deliver timely, relevant, complete, accurate, and useful services to the customers (Owen, et al.,2001). Employees should understand the organization's mission, objectives, goals. It is also these employees who can identify customers' problems within their work environment and bring forth immediate solutions. Customers do

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not want to do business with staffs that do not know the answers to their questions or handle their requests and problems un empathetically (Zolkiewski et.al, 2017).

Result Orientation

Competent employees carry out their activities with effective management of time and resources to meet/exceed expected results within time budget and quality standards. They focus action and resources on the achievement of strategic goals and priorities of the organization (Luecke and Hall, 2006). This can be successfully achieved when all employees in the organization have a result-oriented culture with the attitude of focusing on excellence and achievement of results. Results orientation is a concern for surpassing standard of excellence. The standard may be one's own performance (striving for improvement) an objective measure (results orientation) challenging goals one has set or even improving or surpassing what has already been done (continuous improvements) (Raven, 2001).

Customer Service Skills

Competent employees have both technical capabilities and behavioral competencies to understand and respond to customers' needs timely, accurately and in a respectful manner. The first elements technical competencies are predominately about acquired knowledge and technical abilities and skills about the service they provide (Hogan, 2012). It is defined in terms of the specialized requirements of an occupation. These competencies are often easier to see, train, and develop. The second element is behavioral competencies, which is deep-seated qualities of an individual (attitudes, traits, and approaches) to communicate effectively and work cooperatively with team members and the ability to understand and help customers needs and interests" (Attia, et al., 2005). The quality of service delivered by an organization not only related to technical and operational knowledge of employees but also their awareness of customers' satisfaction as extremely important part and top goal of the job (Malhotra, and Mukherjee, 2004). According to Lovelock and Wirtz (2004), the quality of service delivered by an organization related to its frontline employees competencies (reliability, responsiveness, assurance and empathy). Reliability: the employees' ability to perform the promised service dependably and accurately time after time. It refers to doing right the first time and every time thereafter.

Teamwork and Co-operation Skills

Team work and co-operation skills are the abilities of employees to work together cooperatively within diverse teams, workgroups and across the organization to achieve group and organizational goals (Holland, et al. 2000). No one seems to know what is going on outside his or her own immediate responsibilities and start to say, I don't know- it is not my Job. This leads to a harsh atmosphere of the service delivery environment that results in poor customers' service (Noe, et al.,2010).

Interpersonal Communication Skills

The service delivery activities at front desk involve a high interaction of employees and customers each day in which effective communication and problem-solving skills at frontline employees are critical (Bharwani, and Jauhari, 2013)). It is enough to know services policies or the job responsibilities to deliver quality services but it is also necessary to communicate openly and honestly with co-workers and customers

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(Karlsson, and Skälén, 2015). Besides, they should treat each other with respect and resolve any conflicts in a positive way to create harmony at the work environment. Customers assume that all elements in the processes may frustrate when the system breaks down due to lack of employee communication with each other about the customers problems and lack of ability to compare kind the complete service process (Lovelock & Wirtz, 2004).

Personal Effectiveness

Employees are required to be effective and efficient in utilizing organizational resources and effective in delivering the service to achieve organizational mission and objectives (Ulrich, 1996). Employees should be personally effective in achieving results, solving problems, planning and managing their own time and works (Ahmed, et al., 2010). Employees working at the front desk should prepare themselves for potential problems before they occur, accept new ideas and new ways of doing activities with a positive attitude, organize and prioritize their own work / activities to stay on track toward and implementing decisions and solve problems at the right time and in the right way (Csikszentmihalyi, 2004).

Customer Satisfaction

Customer satisfaction the extent to which a product's perceived performance matches buyers' expectations. If the product's performance fall shore, of expectations, the buyer is dissatisfied (Hanagandi, and Melo, 2018). If performance matches or exceeds expectations the buyer is satisfied or delighted. Customer satisfaction with a purchase depends upon the product's performance relative to a buyer's expectations (Toivonen, 2015). Customer satisfaction is a term most widely used in the business and commerce industry. It is a business term explaining about a measurement of the kind of products and services provided by a company to meet its customer's expectation. It is well established that satisfied customers are key to long-term business success (Cook, 2010). Customer satisfaction is generally described as the full meeting of one's expectations (Jamal, and Naser, 2002). Customer satisfaction is the feeling or attitude of a customer towards a product or service after being used. Customer satisfaction is a major outcome whereby it serves as a link between the various stages of consumer buying behavior. If customers are satisfied with a particular service offering after its use, then they are likely to engage in repeat purchase and try line extensions (Jamal, and Naser, 2003).

Cengiz, (2010) identifies satisfaction as an overall evaluation based on the total purchase and consumption experience focused on the perceived product or service performance compared with pre-purchase expectations over time. Grigoroudis and Siskos, (2009) regards satisfaction as a fulfillment response or judgment, focused on product or service, which is evaluated for one-time consumption or ongoing consumption.

Customer satisfaction is widely recognized as a key influence in the formation of customers' future purchase intentions (Taylor & Baker, 1994). Satisfied customers are also likely to tell others about their favorable experiences and thus engage in positive word of mouth advertising (Swanson, and Kelley 2001).

Conceptual Framework

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Based on reviewed literature the researcher developed the following conceptual framework. This framework represents the overall study coverage topics in this study.

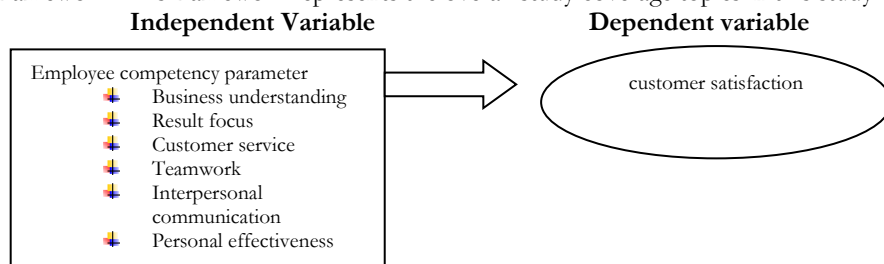


Figure 1. Conceptual Model showing the employees competence on customer satisfactions

Methodology

A cross sectional descriptive survey design was used to gather data pertaining to competency parameter of employees and customers satisfaction for the purpose to meet the research objective and finally providing findings for this research that help private organizations to be aware of the service delivery problems in the high customer contact areas so, as to take appropriate measures through the feedback of the findings. The researcher categorized the business into two state owned and private owned. In the private; organizations are mainly induced to maximize profits and attract more customers through dependable service provision on a competitive basis. Comprehensive sampling techniques were used to select sample of employees' and accidental (convenience) sampling techniques were used for customers the selected organization. Accidental samples are those that result when availability and willingness to respond are major factors in selecting respondents. That is the researcher samples those members that are available in that time and space when the data are collected (Yalew, 2009). Due to the wide geographical coverage and large population of the study, the scope of the research was limited only to 40 private organizations in eastern Ethiopia. The researcher used the standardized questionnaires taken from commonwealth of Virginia competency assessment tool, adopted and modified it to fit to the research understudy. The population for the study includes both employees and customers. A self-administered questionnaire closed ended forms to collect the relevant data from 400 customers and 200 employees of 40 private organizations. Two types of questionnaires (for employees and for customers) were used to collect the necessary data from the selected sample employees and customers. The questionnaire for employees was structured around six employees competence areas such as; business understanding, result orientation, customer service, team work, interpersonal communication and personal effectiveness among employees using five point likert scale. The questionnaire for customers was designed to collect data supplementary to the data collected from employees and data related to competency of employees that might not be directly answered by them. Data was analyzed using SPSS. Reliability is the consistency of a set of measurements or measuring instrument, often used to describe a test. Reliability is inversely related to a random error (Coakes & Steed, 2007). There are several different reliability coefficients. One of the most

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commonly used is called Cronbach's Alpha. Cronbach's Alpha is based on the average correlation of items within a test if the items are standardized. It has an important use as a measure of the reliability of a psychometric instrument. It was first named as alpha by Cronbach (1951), as he had intended to continue with further instruments. All the variables of competency indicators (business understanding, result focus, customer service, team work, interpersonal communication and personal effectiveness) and customer satisfaction were tested for their reliability. The Cronbach's alpha values for all the variables considered are greater than 0.6 and this indicates the items in each of the domains are well understood by the respondents. The items have measured what they were designed to measure and were reliable.

Result and Discussions

Private business organizations operates in a complex and dynamic business environment in which competency of employees is a critical success factor to deliver the expected quality service at all levels. The employees competency assessed using the basic competency variables such as; Business understanding, Results focus/orientation, Customers service, Team work/cooperation's, Interpersonal communication and Personal effectiveness. Under each competency, there are key indicators. In analyzing the result, the responses of the first three measurements never, rarely, and occasionally shows the competency parameters are considered as negative and on the other hand two measurements frequently and always are considered as a positive response to the questions. Descriptive statistics of the employees competence and customer satisfaction variables are reported in table 1. The mean ranges from 2.5447 to 3.1842. Comparison of the means suggests that the employees at the selected private organizations at the eastern Ethiopia are not competent enough to deliver the required service. In addition from the customer response majority of Customers of the selected Private organizations replied with a mean response of 2.69 and standard deviation of 0.856 showing that most customers did not get the required level of the service. This implies that large numbers of the customers are not satisfied with level of service provided to them by employees of selected private organizations in eastern Ethiopia.

Table 1 - Descriptive Statistics of Employee competency and customer satisfactions

parameter	N	Minimum	Maximum	Mean	Std. Deviation
Business understanding	200	1.25	4.50	2.7533	.64484
Result focus	200	1.40	4.00	2.5447	.70925
Customer service	200	1.20	4.40	2.6526	.87901
Team work	200	1.40	4.80	3.1842	1.05465
Interpersonal communication	200	1.61	4.37	3.0843	.76283
Personal effectiveness	200	1.67	4.33	2.8224	.67183
Customer satisfactions	400	1.80	3.70	2.6900	.85567

Source: Author, Computed from survey data

Table 2 illustrate the inter-correlations among competence obtained using Pearson correlation to determine whether the independent measures of the same concept. Generally the inter-correlations among the dimensions of employees competencies and customer satisfactions have demonstrated significantly positively correlated.

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Table 2 - Pearson's Correlation matrix

Employees competency	<i>Bu</i>	<i>Rf</i>	<i>Cs</i>	<i>Tw</i>	<i>Ic</i>	<i>Pe</i>	<i>Csat</i>
<i>Bu</i>	1						
<i>Rf</i>	.453**	1					
<i>Cs</i>	.435**	.668**	1				
<i>Tw</i>	.655**	.439**	.561**	1			
<i>Ic</i>	.568**	.656**	.675**	.856**	1		
<i>Pe</i>	.596**	.625**	.563**	.381**	.401**	1	
<i>Csat</i>	.875**	.765**	.764**	.867**	.635**	.664**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: Author, Computed from survey data

Note: where, *Bu*= Business understanding, *Rf* = result focus (orientation), *Cs*=customer service, *Tw* =teamwork, *Ic*=interpersonal communication, *Pe*=personal effectiveness, *Csat*=customer satisfaction

Multiple regression analysis were carried out to test the relations between the dimensions of employee competence and customer satisfaction. The results are summarized in table 3 Business understanding ($\beta=0.394$) result focus /orientation ($\beta=0.442$), customer service ($\beta=0.231$), teamwork ($\beta=.232$), interpersonal communication ($\beta=.222$) and personal effectiveness($\beta=0.424$). Thus study shows that there is a significant positive relationship between employees competency and customer satisfaction in selected private organization in eastern Ethiopia.

Table 3 - Regression analysis of employee competency and customer satisfaction

Variables	Customer satisfactions Standard beta
Business understanding	.394
result focus (orientation)	.442
customer service	.231
teamwork	.232
interpersonal communication	.222
personal effectiveness	.424

Note :N=200 * $p<.05$,

Source: Author, Computed from survey data

Conclusion

Employees of the selected organizations are ineffective and unable to respond to the ever-changing customers demands of quality services in the service industry. The service provided does not meet the needs and expectations of large number of customers due to lack of employees business understanding, results focus/orientation, customers service, team work/cooperation's, interpersonal communication and personal effectiveness competencies. This implies that most of employees are not competent enough to deliver the quality of service promised by their organizations. As a result, customers of selected private organization in eastern Ethiopia are not satisfied with employees customer services. Based on the findings of the research and the changing conditions of Ethiopian business environment, the following changes are required in handling the customers. Staffing the service delivery position with appropriately a set of skills, related knowledge and attributes that allow an individual to successfully perform a task or an activity within a specific function is the first method for ensuring competent employees to achieve the strategic objectives of quality service. The training departments of Ethiopian companies should be focused

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on changing the training curriculum which is going to bring the competent knowledge, skills as well behavioural and attitudinal changes required to meet the present day's service providing organizations. Customers' feedback is also an important input for the continuous improvement employees competency. Therefore, it is necessary to persistently collect the information from both the employees as well as from the customers to get the feedback about the skills and behaviours of the staff to practice in work about the service delivery and its system.

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EAST-WEST ECONOMIC CORRIDOR: A ROUTE OF ECONOMY AND FRIENDSHIP

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Abstract

East-West Economic Corridor (EWEC) has originated from the cooperation of the countries in the Great Mekong Basin Sub-Region which consists of China, Myanmar, Vietnam, Laos, Cambodia, and Thailand. The purpose of this route is to create economic opportunity expectedly to generate more income and reduce poverty for the countries in this region. The length of this road is 1,450 kilometers. 950 of the 1,450 kilometers is in Thailand from Mukdahan Province to Tak Province. It will be the route of international cooperation based on warm friendship and trust in both social and economic aspects. The promotion of business investment, travel and services, as well as human resource development will contribute to the development of the area. EWEC may cause the impact on this region in many ways: higher security risk along cross border, political problems, drugs, international crime, illegal labors, worker trading, infectious disease, including the destruction of natural resources.

Keywords: *Economic Corridor, Free Flow, Environmental Issues*

Economic corridors are an integrated system of roads, rails, and ports that connect GMS countries. They link centers of production, including manufacturing hubs, industrial clusters, and economic zones, as well as centers of demand, such as capitals and major cities. They act as gateways to the sub-region for regional and international trade.

East West Economic Corridor (EWEC) has originated from the cooperation of the countries in the Great Mekong Basin Sub-Region which consists of China, Myanmar, Vietnam, Laos, Cambodia, and Thailand. Those countries have agreed on the strategies for development of the Great Mekong area by improving its infrastructure: a road to facilitate the cross-border transportation: people, goods, and vehicles, with more flexible conditions among the member countries.

The East-West Economic Corridor (EWEC) runs from Da Nang Port in Viet Nam, through Sawannakhet Lao PDR, Thailand through many provinces: Mukdahan, Kalasin, KhonKaen, Phetchabun, Phitsanulok, and Tak, and to the Mawlamyine Port in Myanmar. It extends 1,450 kilometers as a continuous land route between the Indian Ocean (Andaman Sea) and the South China Sea. The construction of the road is sponsored by The Asia Development Bank (ADB).

The East West Economic Corridor links important commercial nodes in each member country: Mawlamyine-Myawaddy in Myanmar, Mae Sot-Phitsanulok -Khon Kaen-Kalasin -Mukdahan in Thailand, Savannakhet -Donsavanh in Lao PDR; and Lao Bao -Hue -Dong Ha-Da Nang in Viet Nam.

GMS Economic Corridor as show in Fig 1-2



Fig 1 - GMS Economic Corridor Source : <https://wonderfulpackagetravel.blogspot.com>



Fig 2 - GMS East West Economic Corridor Source : <http://www.adb.org/GMS/Economic-Corridor>

Objectives of East West Economic Corridor

The main objectives of the East West Economic Corridor are (ADB, 2005)

To eradicate poverty and reduce the development gap between The East West Economic Corridor areas and others in the Mekong basin; To fully utilize the cooperative advantages of the East West Economic Corridor areas in terms of labor and natural resources to contribute to the common development of the whole region; To turn these areas into a gateway for development for the Greater Mekong

Sub-region; Enhanced economic liberalization and facilitation cultural interaction to contribute to economic integration among ASEAN members also greater interaction between ASEAN and others countries outside the region.

Purpose of East West Economic Corridor

The purpose of this route is to create economic opportunity expectedly to generate more income and reduce poverty for the countries in this region. The project was completed in 2008. As a result, the countries in this region will get ready for the change. High benefit will be gained by the well-prepared countries while the negative impact will go to the unprepared.

What would Thailand get?

The length of this road is 1,450 kilometers. 950 of the 1,450 kilometers is in Thailand from Mukdahan Province to Tak Province. It will be the route of international cooperation based on warm friendship and trust in both social and economic aspects. The promotion of business investment, travel and services, as well as human resource development will contribute to the development of the area.

What benefit does the route deliver to Thailand?

The question means what advantages Thailand would get and how Thailand would get the maximum advantage from the route. Advantage for Thailand is that the cheaper products will be widely available because of the lower cost of transportation. The made-in-Thailand products can be distributed to Myanmar which will also to be more conveniently exported to India and Africa without going through Malacca Channel which may get dangerous and risky from pirates. Thailand would take this opportunity to improve its logistics system to get more income from international transportation.

The East West Economic Corridor is a very special economic area with merging the future Industry and the transportation network and all new logistics both by land, by boat and by air. This will lead to investment by the private sector in Thailand and abroad. The value is not less than \$ 50 billion. The target industries is in new cities and the tourism sector also transport network. This will elevate Eastern Thailand as a new economic hub for ASEAN and Asia, creating a future for Thai children. And help Thailand out of Middle Income Trap.

The route connecting Thailand – Laos-Vietnam as fig 3



Fig 3 - The route connecting Thailand – Laos-Vietnam Source : <http://gothailandgoasean.tourismthailand.org/>

What is the impact from the East-West Economic Corridor?

The East West Economic Corridor may cause the impact on this region in many ways higher security risk along cross border, political problems, drugs, international crime, illegal labors, worker trading, infectious disease, including the destruction of natural resources. The East West Economic Corridor may also create problems of free follow of labors, goods and services especially sexual service, which can be provided in the form of legal international business, free capital market, free follow of international investment, knowledge and technology, which needs an efficient knowledge management for information technology system.

The route will lead wealth and happiness to every province in Thailand where the East West Economic Corridor reaches. Provinces at the borders along the route will receive benefit if they have planned both active and passive strategies for the impact. In addition, there will be more intense competition. As a result, the business operation of the operator is more difficult. There are also major barriers to the development of the East West Economic Corridor such as lack of knowledge and understanding of SMEs entrepreneur also lack of interest in the East West Economic Corridor, transportation costs, especially high fuel costs. So for the development. The benefits to stakeholders all sectors should be adapted also to solve problems and obstacles for further development.

Today, are you ready for the impact from East-West Economic Corridor a route of economy and friendship?

Further Impacts

Tourism connectivity: Tourism constitutes a significant component of GDP in GMS countries. The most obvious and tangible benefits of tourism include income, foreign exchange earnings, tax revenue, and the creation of jobs. Tourism is involved with too much public capital social, cultural, and environmental. Benefits go into the pockets of a few people or groups while costs are borne by the general public. Even with community based tourism, incomes tends to be more unevenly distributed than with agricultural exchanges, as it requires investment which most of the poor could not afford Commercial use of culture by tourism may lead to modification and distortion or even lead to practices that show disrespect Environmental consequences: The challenges of environmental is the growth of big city Urbanization for Industrialization People from other regions migrate to big city such as central Vietnam given the opportunity to find jobs in emerging industries; Unskilled laborers migrate to other areas

Labor Migration in the East West Economic Corridor

The economic potential and social challenges of spontaneous migration from community to other countries in the East West Economic Corridor. Easy transportation to the East West Economic Corridor countries, fast and cheap official document processing at the border and the availability of jobs at the destination are identified as the potentials of labor migration. Not only the job but also the role of social networks in supporting this working process. It considers the social links with the origin and destination country and between the migrants and those who stay behind. Social networks are seen as providing protection and security for migrants at

their destination. However, migrant workers have to face numerous challenges during their migration, including difficulties in accessing social welfare in their destination country, being abused, exploited and becoming illegal workers due to the lack of legal documents. The migration to the East West Economic Corridor countries is a survival strategy for the poor in community

Impacts of the East West Economic Corridor on local livelihoods and forest

The East West Economic Corridor contains many forest-dependent villages, about 37% of the total area in Quang Tri province, Vietnam; about 34% of Kyaikmaraw in Myanmar and about 45% of total areas in Savannakhet province in Laos, with a significant number of people living below the poverty line.

A large proportion of the people in these villages are largely dependent on subsistence agricultural production, cattle raising and access to forest for wood and non-timber forest product collection. There are only a few households involved in small services and cash crop cultivation. The establishment of the East West Economic Corridor has brought some kinds of benefits to some regions and stakeholders. These include employment in services such as hotels and guesthouses, increase in trade and investment, tourism and agriculture. However, other stakeholders such as disadvantaged communities or those dependent on natural resources for their livelihoods have been affected. More importantly, the East West Economic Corridor activities have resulted in putting more pressure on the forest resources due to the rapid clearing of forests for the expansion of intensive cultivation of cash crops, illegal logging, and infrastructure development. (Bui Duc Tinh, 2010)

Impacts of East West Economic Corridor in Savannakhet, Laos

East West Economic Corridor impact on Laos, especially in Savannakhet as follows (<http://www.carecprogram.org>)

Increased connectivity and regional integration: 1.1 reduced travel time and cost of transportation thus increased competitiveness (Road 9 cum CBT/A), e.g. from 12 hours to about 3 hours; 1.2 Growth in transport sector : number of buses increased from 600 buses in 2000 to 1,600 in 2005, while number of transport operators has doubled during the same period; 1.3 Emergence of township and economic activities : New concrete houses, markets, guesthouses and restaurants, trade and services activities such as petrol stations, automobile repair shops and other micro enterprises, never before observed in these remote areas along the EWEC.

Fast economic growth: 2.1 GDP Growth at average 10.1% over 2001 -2005 Per capita GDP -\$371 in 2000 to \$425 in 2005 Since 2004, Savannakhet has become a budget surplus province Expanded job opportunities and income generation; 2.2 Greater movement of labor and increased jobs from investment projects Increased commercialized production , cross -border transfer of knowledge and cheap inputs resulting from better connectivity complementarily between the East West Economic Corridor rural road access cash crops, livestock, contract farming and export -oriented production From rice deficit to rice export . Fast growth in manufacturing sector since 2001.

Increase in cross border trade and Import export: Cross -border trade increased by 2.2 times from 2004 to 2005 Trade licensing increased from a mere thousand in 2001 to

about 7,000 units in 2005. The value of imports increased by 39 times during 2001-2005, from 31.8 million in 2001 to \$124 million in 2005. The value of export increased from \$63 million in 2001 to \$152 million in 2005. Establishment of Savan-Seno Special economic zone and Dansavanh -Lao Bao Free Trade Area. The use of Savannakhet Airport as a regional airport

Increase in investments: FDI flow to Savannakhet about \$250 million during 2000-2005 and FDI up to \$422 million in 2006. so that poverty reduction, especially in the remote and border areas

Improvements in social indicators: 5.1 On expenditures side betterment in the living conditions through reduced costs of transport better access to cheaper consumer goods and food stuff; 5.2 Improvements in access to economic and social services for remote and border areas; 5.3 Improvements in health care, reduced morbidity and mortality rates. Building of cluster hospital along the East West Economic Corridor; 5.4 Increase access to education, increased enrollment rate, especially basic and secondary education for girls and ethnic minorities; 5.5 Better control of HIV/AIDS and other communicable diseases through cross-border and regional cooperate

Localization and Globalization: Degradation of the environment directly impacts the livelihoods of local people, especially the poor. Their survival is based on knowledge which has been practiced and passed-down from generation to generation. The healthier the environment, the better the livelihoods and the happier the local people. Garbage rapidly follows the rapid development of the area. This is an undesirable option to the poor. In the new money-oriented society, natural resources are usually privatized by rich people.

Environmental Issues

The East West Economic Corridor, while it promises to promote economic development along the route, will also adversely affect critical ecosystems and areas valued for their high biodiversity by fragmenting habitat. Over the long-term, environmental degradation, if not addressed, will undermine the region's environmental security and long-term socioeconomic development. To address these problems, the ADB is promoting the creation of "Biodiversity conservation corridors. According to the ADB, these corridors will connect valuable habitat and permit species to naturally migrate between areas currently threatened with fragmentation. Major causes of fragmentation include habitat loss due to sustainable forms of resource exploitation: intensive agriculture, logging, and gold mining activities carried out in close collaboration with state-owned enterprises, SPDC military battalions, and armed cease-fire groups such.(ERI ,2003) Some areas, especially along the Salween River and its tributaries inside Burma, are also threatened with inundation from hydropower development. The construction of roads into these remote regions has also caused severe damage; roads lead to increased rates of soil erosion and facilitate hunting and wildlife trafficking. A series of high-level meetings involving the ADB and its partners are to be held this year, with the Action Plan for the creation of these corridors to begin implementation in January 2006. The "Western Forest Complex," which straddles the Thai-Burma Border, is of particular concern. (ADB,2005).

GMS East West Economic Corridor Transportation Infrastructure as show in Fig 4

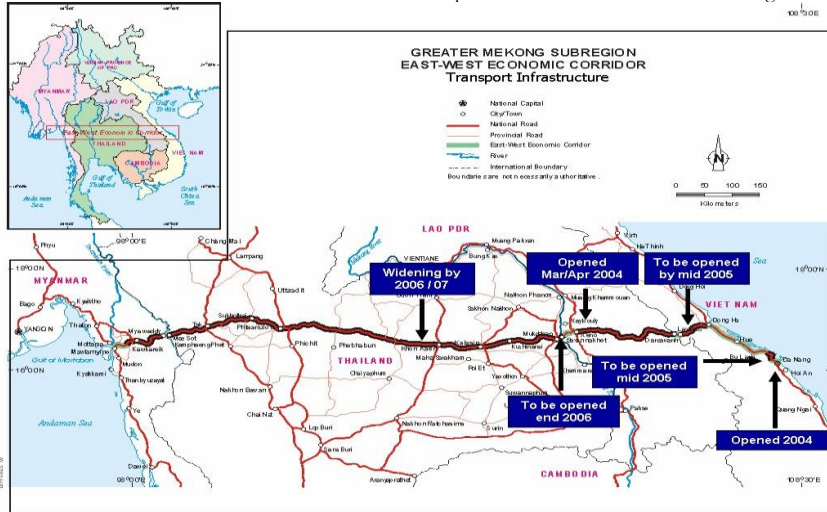


Fig 4 - GMS East-West Economic Corridor Transportation Infrastructure

Source: <http://www.osm-ne1.com/webboard/>

Development for the East West Economic Corridor. Development Issues:

While the major infrastructure components of the East West Economic Corridor have now been completed, and much progress has been made in facilitating trade and promoting the private and tourism sectors, the pace of transformation from a transport corridor to a full-fledged economic corridor has been slower than originally anticipated. Among the critical remaining issues are the following: cross-border investment liberalization policies, agribusiness development, financial schemes to support business operations along the corridor, infrastructural improvements in the gateway nodes, secondary roads to allow rural communities to access the main artery of the corridor, business development services for micro and small-sized businesses along the poorer areas of the corridor, coordination of tourism initiatives at both the national level and across the East West Economic Corridor countries, infrastructural services and road access to tourist destinations, and benchmarks to monitor the performance and progress in achieving the goals that have been established for the East West Economic Corridor EWEC.

Challenges

Weak transport and logistic services. Weak tourism infrastructure and inadequate tourist services, young industry for local people, community and pro-poor tourism, development of the EWEC tourism ring. Weak human resource skills and lack of entrepreneurial skills. Need to strengthen and streamline customs procedures, regulations and standards. Strengthening the implementation of CBTA

Recommendations: Require social and environmental impact assessments to be conducted by a qualified and neutral agency for all large-scale development projects connected to the East West Economic Corridor; Conduct all matters related to the development of the corridor in a transparent and open manner, which includes the

meaningful involvement of local people in the decision making process; Accede to the following international human rights treaties: the International covenant on economic, social and cultural rights; the convention against torture and other cruel, Inhuman or degrading treatment or punishment, and its optional protocol as well as the ILO conventions on forced labor; Policy-makers need to facilitate information access to the public: The East West Economic Corridor needs to open space for local people in the decision-making process; The East West Economic Corridor needs to conduct an Environmental Impact Assessment together with local people and publicize the outcome of the report; The East West Economic Corridor needs to be accountable for the environmental and social costs of this large-scale development project.

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BHUTAN'S CASE OF WAVING CUT-OFF POINT FOR CLASS X PASSED PROSPECTS FOR ADMISSION IN CLASS XI AND ITS MERITS: A POLICY PERSPECTIVE!

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Abstract

This article intends to share the perspectives of Bhutan's recent policy reform of waving off cut-off point for class X passed graduates for admission in class XI and its merits. Against the backdrop of concerns shared on declining quality of education, to bring about equitable access to secondary education, and transitional issues of school to job market, this policy change was introduced in 2019. This paper briefly outlines the background on the 'cutoff point', merits of extending a year of schooling, how it benefits girls education, the general implications on the growth of technical and vocational institutes if it's scope is not reviewed and scaled up. With cross references to international trends, highlights on how it will help building much needed human capital for the country.

Keywords: Policy, Education, Bhutan, Admission, Cut-off

Education, globally, is considered the cornerstone for any human and economic development. Human development in Bhutan's context, considering its geopolitical situation, is critical to address the current challenges and gear towards country's prosperity of realizing Gross National Happiness, particularly in view of Bhutan graduating from the list of Least Developed Countries (LDC) to middle income country from 2023. Quality education thus is an inevitable tool for any development both as a means to an end and end in itself. Thus, going by the current trends, education stakeholders share a genuine concern on education policy changes. Such as the recent case of doing away with the 'cutoff point' for grade X passed graduates to continue their education in grade XI beginning 2019 academic session, thereby enrolling all class X graduates in grade XI in both public and private schools on scholarships. This paper attempts to clarify the intent, purpose and the benefits of this initiative in the long run.

The cut-off point

Education system has been evolving ever since it first started with several changes to improve access, equity, efficiency to meet the national priorities, emerging challenges and at the same time to maintain the global standards. Such reforms are often made through policy changes and are handled efficiently by professionals at various levels. The case of doing away with the cutoff point in 2019 is not an exception. The concept of cutoff point came along with the increasing number of students at the terminal examinations which were earlier conducted at grade VI, VIII, and X against the number of seats in those schools that offers the next higher grade. The candidates who passed the examinations and have not met the admission cutoff in next higher grade are given 'pass for training certificates'¹ to give an option to join the technical and vocational education programmes to address the human resource and skills required, or welcomed

¹ 8th Quarterly Policy Guidelines and Instructions, 1992, Department of Education, Ministry of Social Services

to reappear the respective examinations during the subsequent years. Students who could not attain the cutoff point are also allowed to pursue their studies even through a number of private schools that offers higher secondary education. Thus, the concept of cutoff point is not entirely to screen students as most people assume about it or check the quality of education, but to give preference in public schools based on merit, and creating alternative choice and pathways based on individual competencies.

The benefits of additional year of schooling

There is no doubt that increasing the years of schooling has significant benefits. Firstly, from the human capital front, education is an investment of current resources in exchange for future returns. It maximizes the expected present value in the form of future returns. The study conducted in this area globally has estimated that the returns to a year of schooling are between 7% - 9% in UK (Harmon, Oosterbeek, & Walker, 2000), 12 % in Denmark (Bingley & Kristensen, 2014), 17% in Philippines (Patrinos & Al-Samarrai, 2016), 8-13 percent increase in hourly earnings in US (Card, 1999), and has shown a global average of about 10% (Patrinos, 2016). The returns to education however tend to vary based on the country, region, or level of schooling as presented in the figure-1. Generally, the Social and private returns are highest in low and middle income countries as shown in figure-2.

Table 1 - Average returns to schooling by region (%)

Region	Total	Male	Female
Sub-Saharan Africa	12.5	11.3	14.6
High income economies	10.0	9.5	11.1
Latin America & Caribbean	9.3	8.9	10.8
East Asia & Pacific	9.0	8.8	9.7
Europe & Central Asia	7.8	7.4	9.8
South Asia	7.2	6.3	9.2
Meddle East & North Africa	6.5	6.0	10.2
All economies	9.7	9.1	11.5

Note: The numbers represent the rate of return, as a percentage increase in earnings, to another year of schooling. It is a private rate of return, in the sense that the only costs controlled for are the opportunity costs of not working while in school.

Source: (Montenegro & Patrinos, 2014)

Table 2 - Returns to Investment in Education by Level, Latest Year, Averages by per capita Income Group (Percentage)

Per Capita Income Group	Mean Per Capita (US\$)	Social			Private		
		Primary	Secondary	Higher	Primary	Secondary	Higher
High Income (\$9,266 or more)	22,530	13.4	10.3	9.5	25.6	12.2	12.4
Low Income (\$755 or less)	363	21.3	15.7	11.2	25.8	19.9	26.0
Middle Income (\$9,625)	2,996	18.8	12.9	11.3	27.4	18.0	19.3
World	7,669	18.9	13.1	10.8	26.6	17.0	19.0

Source: (Psacharopoulos & Patrinos, 2012)

A similar study by Montenegro & Patrinos (2002) also indicates that while the returns are highest at the primary education level, there are significant returns even at secondary and higher secondary levels. The overall returns are higher for women as compared with men with 9.8% and 8.7% respectively as presented in figure-2.

Table 3 - Returns to Education by gender (%)

Educational Level	Men	Women
Primary	20.1	12.8
Secondary	13.9	18.4
Higher	11.0	10.8
Overall	8.7	9.8

In addition to the direct returns, there are also other non-monetary gains as a result of additional year of schooling that we should count on more given our development philosophy of Gross National Happiness. Studies globally supports that individuals gain additional knowledge and understanding, and subject skills in an established institutional environment with close guidance and supervision from the learned faculties in contrast to their free time in the hunt for employment opportunities. While in schools, the individuals also mature to gain the better view of the environment so that they are able to make better decisions about their career, health, marriage and parenting, and are less likely to engage in risky behaviors thereby reducing the criminal behaviors while scaling up the productivity (Kolesnikova, 2010). It also increases of the changes of individuals accessing higher education. This syncs with the vision and aspirations of student outcomes of strengthening the nine ‘students attributes’ as aspired in the Bhutan Education Blueprint 2014-2024 (Ministry of Education, 2014). In short, the experiences and skills acquired in school reverberate throughout individuals’ life.

How doing away with cutoff point benefits our context

As the intent of the cutoff is not to measure the quality of education or screen students out, doing away with it is a noble and bold initiative given the scale of resources required. Cutoff point itself is not good for many affected and unfortunate individuals who could not outperform the cutoff point in the last grade X examinations. Nonetheless, cutoff point also opened up an opportunity for low academically performing students with a certification to seek employment opportunities, or continue their education in private schools. Systems and mechanisms such as establishment of Technical Training Institutes (TTIs) and private schools has been created to support those students who could not secure the cutoff marks. As of 2018, there are six TTIs and 20 private schools that offers higher secondary education. Efforts has also been made to increase the intake in public education system² increasing the intake from 30% in 2001 to 40% followed by setting the minimum intake to 40% from 2008, that enabled system to absorb a high as 52% in 2014.

While the policy approach has been noble by creating education pathways in vocational trades where the country requires its skilled workforce more, it could not keep up with its standards to meet the market demands with technology fast setting in against the limited resources in these institutes. The only consequence was that technical and vocational trades could never live up to its name resulting in declining demand from school graduates. Going by the initial modality of training in such institutes for more than two year of diploma, the graduates would have the knowledge, skills and the age

² 20th Education Policy Guidelines and Instructions, 2001, Education Department, Ministry of Health and Education

to enter into labour market. With recent phenomena of graduates accessing the labor market directly after the basic education, in the weak or absence of school to work transition preparation, they didn't meet the minimum age of 18 as per the provisions in Labour and Employment Act of Bhutan 2007.

Thus, doing away of the 'cutoff point' is beneficial by many fold except that the government will have to bear the additional cost. Going by the trend, and several anecdotal cases, children from parents who are either economically disadvantaged, rural areas, uneducated, or have to walk long distances to primary schools generally perform weak in the high stake examinations conducted at higher grades. This initiative supports and helps those children to continue their higher secondary education who otherwise are edged out of the system not necessarily by performance in examination but by affordability in private schools. Going little deeper, this initiative also benefits girls students to continue their higher secondary education. Considering the trend of proportion of students pursuing higher secondary in private schools over the last 10 years by gender, about 4% to 12% more girls study in study in the private schools with their own financing as compared to boys although the gap is getting reduced significantly (Policy and Planning Division, Ministry of Education, 2018). Even in the case of 2018 class X passed, there are more number of girls who avail the scholarship, who otherwise will have to share the cost of their education. This this initiative helps to narrow the gap in a practical sense.

While the share of family's investment in their children's education is important for various reasons, it should not be at the cost of their family's affordability that might risk losing the family's existing status and survival if not build onto it. Families any way do share the cost of education in supporting the provision of teaching learning materials, uniforms, transportation, and children's participation in schools instead of assisting parents in doing work at home.

The message from the golden throne has clearly indicated that the future of our country lies in the hands of our youth. The government of today has prioritized in capitalizing on this, while other competing areas has made progressive achievements over the last decades which otherwise stands in claiming the larger share of scarce resource. Bhutan has over 24% of its population in schools around the country, investment in their education is one of the certain ways to have a multiplier effect to social wellbeing and country's economic development in the long run. The investment in education particular takes an almost over one and half decades to see a change, and reforms has to be strategic and supported appropriately. In any case of investment, there is a fair degree of risk attached to it. For the programme to succeed and to have a domino effect, it has to be supported by additional programmes, mechanisms and financing at various key stages including the support from parents, community, local government, and stakeholders. It also merits revisiting the curriculum content and its delivery, assessment mechanisms and feedback system in order for students to progress into next higher grade with a desired learning outcomes. This if not checked will develop systemic complacency and will ultimately deteriorate achieving students learning outcome as students' progress from one grade to another negating all the efforts and achievements

made so far, and impacting negatively on the quality of education in the foreseeable future.

Following the trends in countries where they achieved ‘economic miracles’, the countries transformed education system into a potentially significant instrument of development, and to sustain heavy investments, it is important to have consistent support of economic, demographic, political, and culture (Tilak, 2002). Given Bhutan’s current advantages, it is important to capitalize and build a human capital by investing in our children’s education to have a lasting benefit for the individual, family, community, and the nation at large. The investment such as this, is indeed one of the bold initiatives for the better future.

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made so far, and impacting negatively on the quality of education in the foreseeable future.

Following the trends in countries where they achieved ‘economic miracles’, the countries transformed education system into a potentially significant instrument of development, and to sustain heavy investments, it is important to have consistent support of economic, demographic, political, and culture (Tilak, 2002). Given Bhutan’s current advantages, it is important to capitalize and build a human capital by investing in our children’s education to have a lasting benefit for the individual, family, community, and the nation at large. The investment such as this, is indeed one of the bold initiatives for the better future.

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