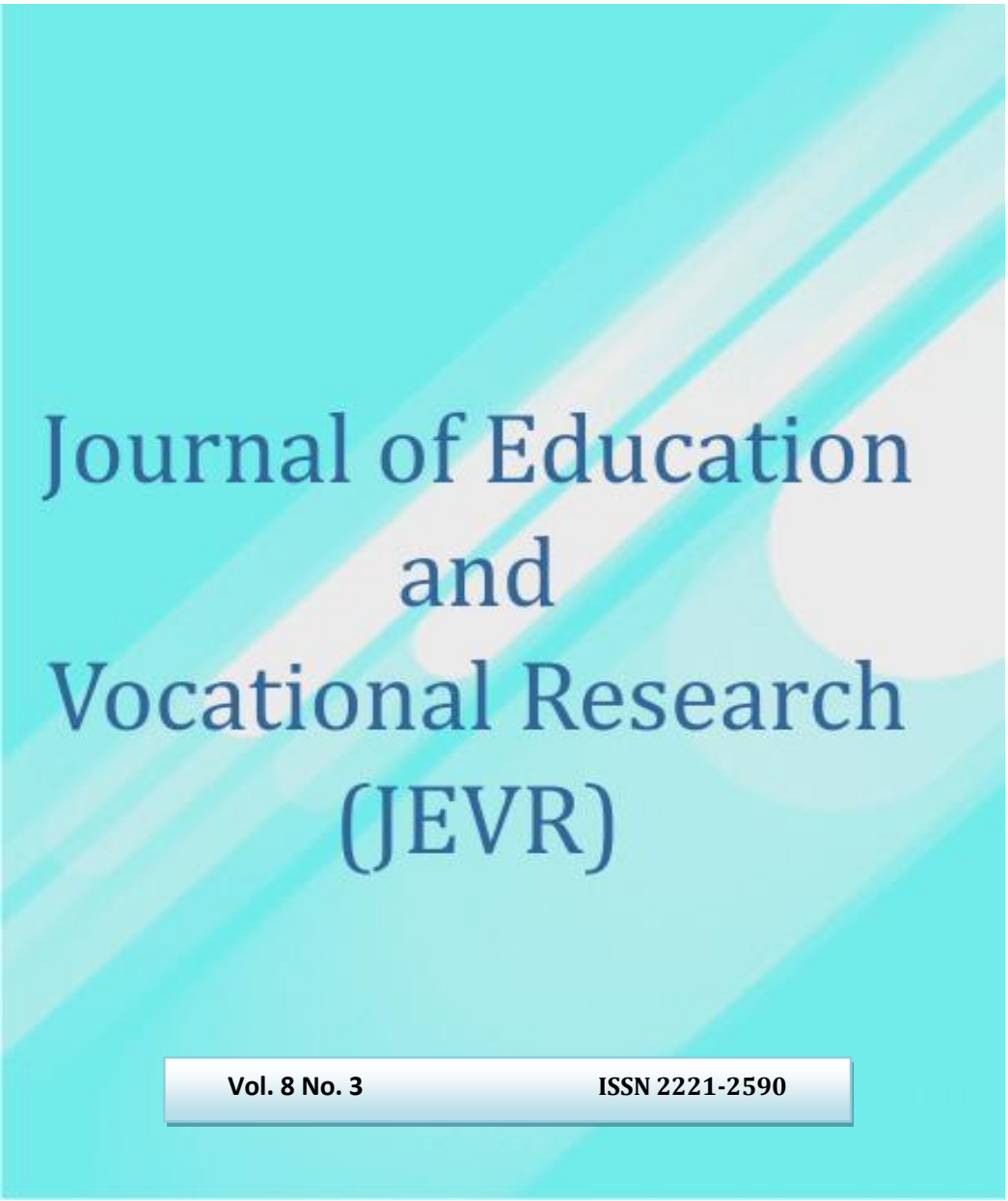


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**Editorial**

Journal of Education and Vocational Research (JEVR) provides avenue for quality research in the ever-changing fields of Education and Vocational Research and related disciplines. Work submitted for publication consideration should not be limited by any narrow conceptualisation of educaton and vocational research, but comprises interdisciplinary and multi-facet approaches to education and vocational theories and practices as well as general transformations in the fileds. Scope of the JEVR includes: subjects of educational technology, educational administration, educational planning, measurement and evaluation in education, developmental psychology, special education, distance learning, vocational education, technology-based learning, environmental education, business education, educational psychology, physical education, innovation, vocational training, knowledge management. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JEVR. It is JEVR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of JEVR comprises of papers of scholars from Iran, India, Ethiopia, Zimbabwe, Saudi Arabia and South Africa. Economic growth, from weak to strong patent legislation, technical vocational education training institute curriculum development, realigning vocational skills for employment & self employment of hearing- impaired youths, interaction between service quality & students' satisfaction, exploration of experiences and academic challenges of students at university are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity for the purpose. Current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

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## Table of Contents


| Description | Pages |
|---|---|
| Title | 1 |
| Editorial | 2 |
| Editorial Board | 3 |
| Table of Contents | 4 |
| Papers | 5 |
| Awarded with Economic Growth, from Weak to Strong Patent Legislation: Legal Study with Regard to China<br>Shaghayegh Haji Bagher Naeeni | 6 |
| Technical Vocational Education Training Institute Curriculum Development in Ethiopia<br>Lemecha Geleto | 16 |
| Realigning Vocational Skills for Employment and Self Employment of Hearing- Impaired Youths: The Case of Masvingo-Peri Urban<br>Chenjerai Muwaniki, Patricia Muvirimi | 29 |
| The Interaction between Service Quality and Students Satisfaction<br>Sheikh Aftab Ahmad | 37 |
| An Exploration of Experiences and Academic Challenges of African Female Student at University of Zululand, South Africa (UNIZULU)<br>Ankur Tewari | 43 |

# PAPERS

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# Awarded with Economic Growth, from Weak to Strong Patent Legislation: Legal Study with Regard to China

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**Abstract:** This paper provides a critical legal study on evaluation of patent system in China from the year1980, which is known as the beginning of Chinese modern intellectual property law including patent law till 2016 that China achieved third place in Patent Cooperation Treaty (PCT) internationally for the highest patent applications according to World Intellectual Property Organization (WIPO). Moreover, researcher will go through few important push factors for Chinese patent legislator who developed stronger Patent law to attract more national and international inventors for investing in Chinese market without hesitation of their patent rights being infringed due to weak legislation. In other words, how China realized that being in the era of globalization for improving economic growth, it should consider at least minimum international standards in its own patent legislation. Hence, the method used in this paper will be purely a doctrine method, because the researcher will be conducting the critical legal study on mentioned aspects, which involves collecting of data from primary and secondary sources. The process involved in this research is a collative process. However, still there is room for improvement in current Chinese patent system, which will be discussed in this paper. All in all, the researcher concluded that concept of globalization is undeniable in national as well as international market in order to have a reasonable economic growth for the same reason china had considered having stronger patent legislation in order to save its position in the market and also to increase its own rate of economic growth. On the other hand, the paper concludes by putting forward suggestions for modifying Chinese patent system.

**Keywords:** *China, patent legislation, patent right, globalization, Economic growth*

## Introduction

Formerly, china was not interested to establish strong Intellectual Property (IP) law, including patent framework and operational system. Since the concept and importance of it was not known and experienced by people and policy makers. Consequently there was not a concern for need of the change for the said law. Correspondingly, to begin with adopting strong IP legislation they had to discontinue any commercial activity that leads to infringement of any kind of IP rights of originator. In other words, their consent would be necessary in order to use their original creation, and considering china being a market that had economic growth for duplicated merchandises of the well known brands with cheaper price and sometimes poorer quality, it would not be such a welcoming idea to set end to all their activities by adopting strong IP including patent legislation. With the new situation in hand, need for accurate strategy to prevent any kind of economic crisis was essential. However, there were other important aspects as well, such as global warming or new disease, which needed research and new invention to put end to such issues, and it wouldn't be possible if there weren't any kind of rights given to the inventor or creator to develop a solution. Plus, other reason like considering need for deliberating concept of globalization in legislation's strategy in order to have healthier international trade and market. Besides, communication through different kind of medium such as Internet, it transformed the market to be more accessible for people in distance and also undeniable fact that countries need each other in different technology and knowledge in order to fill their gap and survive different crisis. Also, it can result to having a better economy as well. China also with considering all possible aspects begun to welcome stronger IP system including patent legislation even if it was really challengeable for her, but yet Chinese policymakers understood with accurate transformation toward better IP (patent) legislation they could not only develop solution to their needs but also to achieve remarkable economic growth. Because, with their tendency of reverse engineering they already educated themselves from other countries technology and knowledge, there were great time for them to establish their part in the market and protect their creation as well as put the stop to fear of the other countries to invest and bring their knowledge and expertise to china without worrying of their right to be infringed. In other worlds, it was time to be frontrunner in patent system. China started to join intentional conventions and treaties in order to lay down accepted universal patent standard and amended her patent Act in order to bring harmony in her domestic related patent law.

## 2. Literature Review

- Beginning with this research and going back through patent history and where it is originated V k Ahuja, Law Relating to Intellectual Property Rights and Thomson Reuters, The history of patent (2017) points out important aspects about history of patent around world.
- Moreover, with regard to transformation made by Chinese government and legislator on Patent system, WIPO Magazine, China's IP Journey and DONGMIN CHEN, SHILIN ZHENG, and LEI GUO, Peking University, The Impact of Science and Technology Policies on Rapid Economic Development in China stated the agendas of china with regard to this matters and how all these discussions started and effect of them on Chinese economic growth.
- Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), The Global Innovation Index 2017: Innovation Feeding the World (tenth edition)and World Intellectual Property Report (WIPO), Breakthrough innovation and economic growth (Economics and statistics series) 2015and Federal Ministry of Education and Research, China Strategy 2015–2020, deals with global investment growth which gives interesting information with regard to place of China in investment growth in 2017 and how China is rapidly growing. Although, she is facing some issues in this path and process. On the other hand, movements for better IP legislating in order to have a better economic Growth.
- Huaiwen He & Ping Zhang, Impact of the Intellectual Property System on Economic Growth Fact, Finding Surveys and Analysis in the Asian Region (Country Report – China) call attention to evolution of patent system. Which, include patent amendments and modification in order to reach to perfection.
- World intellectual property organization (WIPO), who filed the most PCT patent applications in 2016? And World intellectual property organization (WIPO), International Patent Filings Set New Record in 2011 last but not the least, World intellectual property organization (WIPO), International Patent Filings Set New Record in 2011stated how China keeping up with international patent standards and becoming member to different treaties and conventions and therefore China is in road to becoming frontrunner in patent.
- V k Ahuja, Law Relating to Intellectual Property Rights also in short laid down different patent convention and treaties along with their agendas and their enforcement.
- World intellectual property organization (WIPO), Advisory Committee on Enforcement (Eleventh Session) and Shenging Yang, Patent Enforcement in China, these papers through light on IP protection and enforcement in China.
- SIPO Annual Report 2016 (patent application and exanimation), it is a very precise report along with tables for demonstration of number of applications with respect to foreign and domestic inventor along with China patent status in 2016.
- World intellectual property organization (WIPO), China: IP Laws and Treaties, provide list of all Chinese IP related Acts, conventions and treaties which is really helpful to be updated about patent evaluation in China.

## 3. Methodology

The research methodology of the paper will be purely doctrinal method, because the researcher will be conducting the critical legal study on awarded with economic growth, from weak to strong patent legislation: Legal study in regard to China. This research will follow a collative process. A primary source it includes study of case material collected from various books. In secondary sources it includes websites, Internet articles.

## 4. Results

**Patent Originated:** It should be taken into consideration that throughout ancient area, there was some kind of award for creator or inventor. Which, later on all came under one umbrella known as intellectual property law and it comes in different forms, however scope of this paper will be only limited to patent and its effect on economic growth."Patent" derived from the Latin word "literate patents" which means open letter. And the reason for choosing this name was because in medieval time, emperors used to give protection confer rights

and privileges through the letter which used to be provided to the inventor with royal seal which was proof of those right (Ahuja, 2012). Although around the world there were different ways to pay their respect to inventor. Moreover, it is accepted that the first informal patent system was developed in renaissance Italy. Additionally, 'Émigré vention' was glass- blowers who introduced patent system to rest of Europe with the purpose of protecting their skill versus the other local worker. First official patent record belongs to John of uthynom for 20 years monopoly for a process with regard to glass making in 1499. With regard to North America, they followed the familiar system but they limited monopolies and in 1788 they did ratify Article1, Section 8:
*'The Congress shall have power . . . to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writing and discoveries'*.

Considering the above examples of patent system evolution around the world (Thomson Reuters, 2017). There were many reasons to draft and codified patent legislation and perhaps one of the reasons could be how these inventions could help countries to develop and have direct effect on economic growth. In other word, when a country gives proper protections and right to inventor, eventually there will be more encouragement and motivation to develop new idea, which can lead to improvement in field of the invention and related industry of it. Certainly, that will result to having demand in market because mostly main purpose of invention is to fulfill the specific need of people that can be in form of goods or services. Therefore, there will be a place in market for that product nationally or sometimes internationally as well. In process of idea turning to product for specific need and been sell in national or international markets; there will be different procedures involved to reach to desirable outcome which can be result to economic growth because of money exchange engage in this process. China is a great example of developing her intellectual property law including patent for becoming stronger, which resulted to mesmerizing economic growth.

**Weak to strong patent legislation:** With considering the above-mentioned aspects there was needed for Chinese legislators to outline stronger Intellectual Property (IP) Law including patent. Although, it wasn't a one-day progress, there was a requirement to understand demands of the country with regard to this matter. On the other hand, being one of the main players in the international market the concept of globalization was undeniable. Therefore, this transformation needed smart movement to adopt international standard in domestic law. It wasn't an easy process and still there is a room for improvement for stronger patent system. However, this evaluation was and is fascinating, which will be discussed in this paper.

**Chinese domestic patent system:** China started the movement from her domestic law by laying down Patent Act and amending it according to issues arising to create suitable patent legislation. Modern patent legislation in China was asserted on 12 March1984, which came to the force on 1 April 1985. However, in order to make the Act more practical and in harmony with international patent standards, there were been few amendments to the Act.

A. The first amendment was On 1992, following are important modification made by it:
   - There was an alternation with respect to the term of patent protection. For instance with regard to invention patents term of protection extended from 15 to 20 years and also duration of protection extended for industrial design patent from 5 to 10 years.
   - Furthermore, scope of patent extended and included Pharmaceuticals, food and drinks and chemical product. Also approved some other quantity to support patent protection.

B. The next amendment was in Sept 2000,
   - It removed the provisions with regard to preventing state owner enterprises from trading their patent in technology market,
   - They initiated new provisions aimed to make it more fulfilling for employee to innovates,
   - On the other hand, some of the provisions were not in harmony with Trade Related aspect on Intellectual Property rights (TRIPS) agreement, for instance changing and increasing term of protection for patent to offering for sale patented products.

C. Third Chinese patent amendment took place on 2008. The main changes into the Act were:
   - Improving the approach of patentability by changing the conditions from relative to absolute novelty that is one of the elements (novelty, inventiveness and industrial applicability) of patentability in china.

- Moreover, providing regulations on the protection of genetic resources and also improving industrial design systems;
- And improving confidentiality examination procedure for application to a foreign country.
- Canceling the designation of foreign related patent agencies and cumulative the responsibility of the State Intellectual Property Office (SIPO) for the circulation of patent information also awarding right holders of industrial design with the right to offer to sell,
- Introducing pre-litigation preservation measures,
- And including the cost to the right holder incurred for stopping the infringing act to the calculation of damage compensation;
- Codifying the prior art defense;
- Allowing parallel imports;
- Providing exceptions for drug and medical apparatus experimentation;
- And improving the compulsory license system.

D. The fourth amendment as State Intellectual Property Office (SIPO) mentions it supposed to come to force on 1 April 2017.

- In this amendment a provision was added with intention of protecting business model in case, which there is a technical feature involved apart from the description of the business rule and method.

It opens the door for protecting a business method under the patent law.

- Moreover, several amendments are introduced concerning patent applications for an invention relating to computer programs with clarifying difference of computer program from media plus a program as a component part also clarify that a claimed directed to a device may include a program as a component part. Furthermore, the term "function module" is replaced by "program module" for a better reflec**t**. The technical nature and differentiate from the term "functional definition"

It is shown that SIPO opens to protecting computer-implemented inventions under the patent law.

- Provisions with respect to post-filing data got amendment, under new provisions. It is specified that the examiner shall have to examine the experimental data submitted after the filling date, although the technical effect indicated by the experimental data shall be obtained based on disclosure contained in the preliminary description and claims, from the viewpoint of a person skilled in the Act.

It seems that SIPO has become more tolerant to the application with respect to the invalidation procedure,

- The new amendment is more relaxed on patent document, mentioned that it is acceptable to incorporate one or more technical features declaimed in other claim into a claim so as to limit the protection scope and that is allowed to correct obvious error in the claim. With regard to new invalidation grounds and new evidence, amendment laid down new ground concerning the claim that have been emended by incorporating technical features recited in other claim or by correcting obvious errors, shall be limited to responding to such contents.
- Moreover, the provisions with regard to additional evidence with specified time limit in response to amended claim by way of combination may present by petitions have been removed from the act.

It leads to a more advantageous position in a patent invalidation procedure for patentees.

- In this amendment, the opportunity given to the public to have broader scope with respect to contents accessibility. In other words, anyone may consult and photocopy notifications, search reports and decision issued during the substantive examination procedure for a patent application under examination as well as the priority document for a patent.
- Last but not the least, the examination guideline is amended and in harmony with the new civil procedure law, identifying that the patent office shall suspend relevant procedures for the period indicated by a civil order or notification on assistance in the execution issued by a people court in relation to property preservation.

All in all this amendment notes that SIPO be more friendly to applicants and provide better services for the public.

Above-mentioned points were some important modifications made by legislators although fourth amendment is not yet actively enforced.

**International Chinese patent system scenario:** In case of statute like IP law, which is more used for collaboration of countries with regard to trade and transferring knowledge and technology, it is necessary to craft or amend law according to accepted international regulations by adopting modifications in current domestic law to prevent any future conflict in legal system between parties from different countries. Perhaps, the reason is in our epoch, the concept of globalization is undeniable. Globalization is nothing but the process of collaboration and integration amongst the governments, companies and people of different countries, which is motivated by international trade and investment and assisted by information technology. The said procedure has consequences on the environment, culture, political systems and economic growth and wealth. It is apparent that considering the purpose of IP law, there are common aims between globalization and IP law such as collaboration among countries for trade and investment with exchange of technology and knowledge which can be also in form of goods or services. In other words, IP right including patent challenge people to create goods and services or develop solution to different problems which is novel and applicable and it can lead to increase trade for the invention's country or even the transfer of technology can help other countries to overcome its problem which is facing for long time but did not discover any solution for it. This case can be mostly seen in medical issues. As it is mentioned earlier, if there is no appropriate patent protection there will not be much companies attracted to invest because of having fear for possibility of their invention been infringed.

Therefore, china realized the said issue and joined different international organizations, agreements, conventions and treaties and perhaps it was a big step taken by China for accepting the power and importance of the need for globalization and be more welcoming towards international patent standards. Following are different international organizations, agreements, conventions and treaties that china became member of:

- China finally became 143rd member of the World Trade Organization (WTO) on 11 December 2001 after 15 years of exhaustive negotiations.
- And for fulfilling the requirement of WTO joined Trade Related aspect on Intellectual Property rights commonly known as TRIPS agreement. According to TRIPS agreement minimum standard laid down in it should be followed and applied by member countries. Therefore, as it mentioned earlier in order to create harmonize between municipal patent laws with TRIPS agreement there were amendments made in Chinese patent system.
- Subsequent, china became member of World Intellectual Property Organization (WIPO) and it came to the force on 3rdJune 1980. The main objects of WIPO is to promote the protection of Intellectual property (IP) around the world and also with the help of different treaties under its control, administer the member countries and prevent any kind of IP legal conflict between them. In other word, try to reduce and prevent any kind of barrier for having better interaction amongst members with regard to IP related issues. Considering these aims china in order to have an easier interaction with other member countries while IP matters are involved by joining WIPO make it much easier for domestic and foreign inventors to interact with each other.
- China joined Paris Convention for the protection of industrial design and it came to force on 19th March 1985. Paris convention in addition to common rule which include patent offer the other basic rights known as the right to national treatment which is nothing but make it compulsory for member countries to grant same protection to national of other contracting states as it grant to its own national. Furthermore, right of priority was introduced which means in case of patent filling the priority given according to date of first application filed by the person in any member countries according to procedure and therefore his/her application will have a primacy over the other application with regard to same invention. With considering big argument with respect to doubt and risk of foreign inventor to invest their market on the base is of their unique innovation without worrying their patent rights been infringed, china by joining the said convention made it more easier for other nations to consider Chinese market without worrying and knowing that they will get same treatment as Chinese citizens also for Chinese and also if they register their application in other nations it will have a priority over other applications even by any mean someone else in china try for it.
- China joined Patent Cooperation Treaty (PCT) and became bound by it on 1st Jan 1994. PCT is an exceptional agreement under the Paris Convention. PCT gives a chance to inventor by filling one set of form and related fees at once to national patent office of where they are from or resident or with

international bureau of WIPO in Geneva, their application being considered in other member countries as well. However, the PCT regulate the formal requirements that any international application must comply according to them.

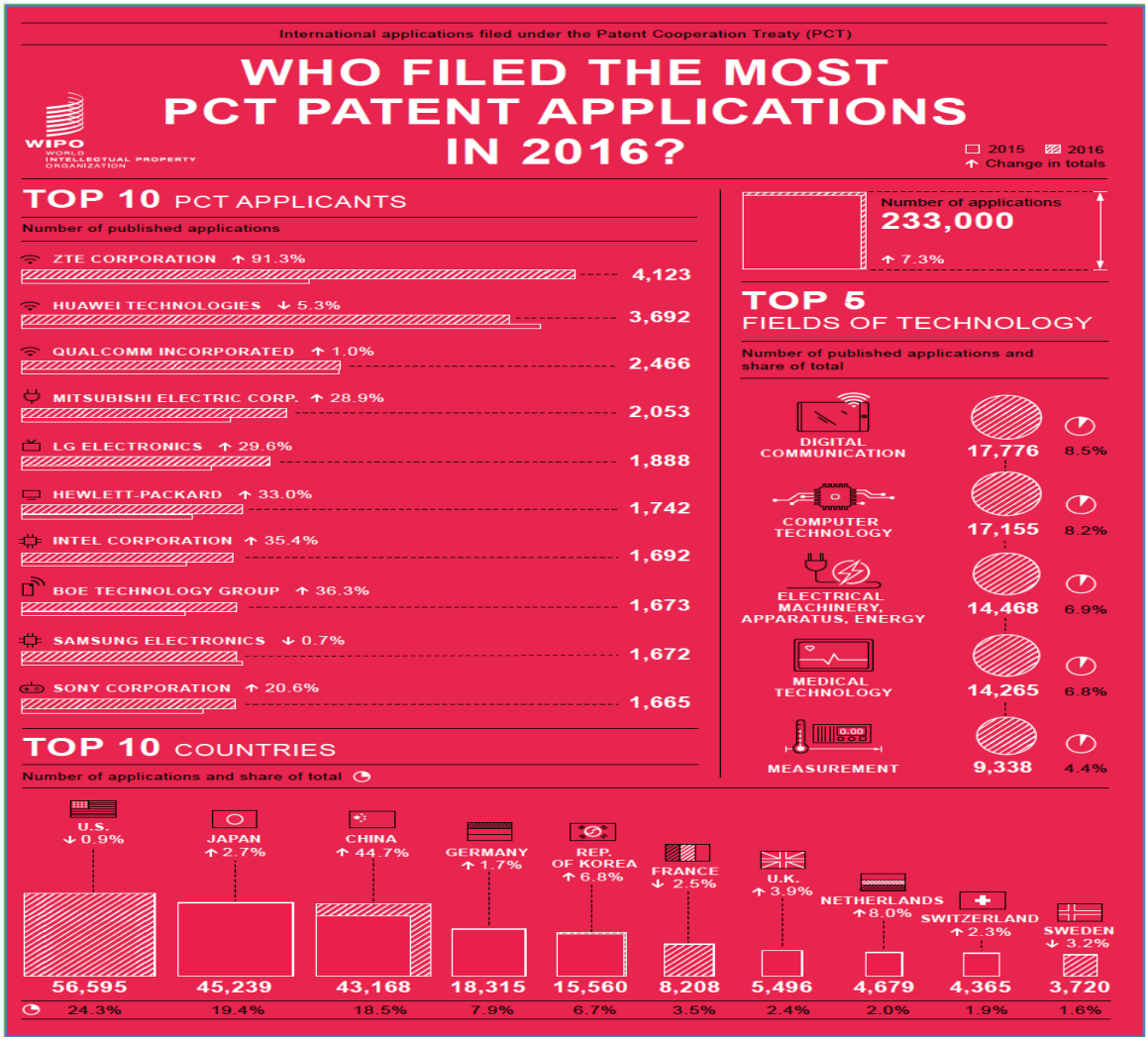
- China became a member of Strasbourg agreement concerning the international patent classification, which is commonly known as IPC agreement, and it came to force on 19th Jan 1997. This agreement classified technology into 8 sections with around 67000-sub divisions. Every sub-division has a symbol consisting of Arabic numerical and letters of the Latin alphabet. Patent document has appropriate IPC symbol and national or regional industrial property offices that publish the patent document fix them. The important object is that the IPC is continuously revised and new edition is published every 5 years and the other significant of this agreement is that PCT uses the IPC classification therefore china also joined IPC to bring harmony in their international patent system and make it more user friendly in case of patent search and registration.
- China joined Budapest Treaty on international recognition of the deposit of microorganisms for the purpose of patent procedure and came into force on 19th Sep 1996. It deals with inventions that involve microorganism or the use of microorganism. Since there is not possible to in writing to disclosure of invention for patent procedure registration. Therefore, only it will be possible and effected by deposit of same microorganism with special institution. The Budapest Treaty make it sufficient for the purpose of patent procedure just by depositing sample with any 'international depositary authority' before the national patent office of all of contracting countries instead of depositing microorganisms sample in each country. China with joining the said treaty makes it possible for inventor who needed a patent protection through submitting microorganisms sample for completing their patent procedure and open the door for encouraging foreign and national inventors to create more and consider Chinese market with knowing that there can be possibility of protection according to international standards.

**Chinese patent enforcement:** There can always be a great law but it will not be meaningful if there is no proper enforcement for it. China domestic patent legislation went through different modification so that, it became harmonized with international standards and also to be more appropriate for Chinese inventors to follow it. Undoubtedly, Chinese patent legislation proceeds to have interesting transformation towards becoming strong. On the other hand, with regard to enforcement of patent there is still a room for improvement and make her hard work on Act count better. With regard to issues arising from infringement of patent under the Chinese patent system in addition resolving matter through arbitration or mediation. In cases that parties do not agree with these methods or do not get a desirable result after these procedures, then two ways are offered by Patent Act, one is judicial and the other is administrative. The standing committee of national people of congress in August 2014, made decision to establish its special IP tribunal in Beijing intermediate court, high court and supreme court of China. At same time court in different level that now they are around 410 tribunals by the end of 2013 there were 87 intermediate courts to adjudicate fist instance patent cases. And 7 basic courts for utility model patent and design patent cases. In other word, there were special court established in Shanghai and Guangzhou like Beijing. The three IP courts are equivalent to an Intermediate People's Court. They will act as an appellate court for civil or administrative judgments or decisions made by a lower court of first instance in the Beijing, Shanghai or Guangdong jurisdictions. In case that IP court acts as a first instance court, the IP tribunals of the High People's Court in said dominions will have appellate jurisdiction. Further appeals must be brought to the Supreme People's Court. The first 3 years, the IP court shall adjudicate cases from all area including patent within the province on municipality of the area.

**Economic growth and evolution through patent law in china:** China economic in recent decades was through interesting turn, which is more enthusiastically that of any country in the world. There are so many different aspects that leaded to this phenomenon. However, in this paper patent as an influence will be discussed. As it is mentioned earlier, combination of considerable production capacity and low production cost lead china to become the world-manufacturing powerhouse in year 1990. Nevertheless, China transitioned from a developing country to an emerging economy and also in some respects we can consider her as an industrial nation. Since, there was accepting by Chinese government that there should be more importance given to 'innovation', in other word, they declared target from moving from 'made in china" to 'invented and designed in china'. The upgrading of innovation system could be achieved by means of

structural reforms and the forming of international partnerships and large financial investment in education, technology and innovation. And research policy set put by Chinese government which require plan such as the national medium and long term agenda for science and technology development (2006-2020) and the 12th five years pan (2011-2015). With having objective of increasing research and development expenditure to a least of 2.5 percent of Gross Domestic Product (GDP) per year in the period up to 2020. Which means by the 2020, just 30 percent of the foreign technology will be needed in china; it means Chinese scientists should be reaching within top five in the world with regard to patents.

The aim of china from 'innovation initiative' is to establish itself as a province for the development and production of high technology products and to overcome technology gap and became technology frontrunner. China for achieving all these agendas needed strong IP legislation including patent. As it stated earlier that how Chinese patent system nationally and internationally went to transformation to be harmonized with accepted patent standard system by world so that it gives the opportunity and create encouragement for national and international inventor to arise with new creations and solutions to bring development in technology and science which leads to economic development. As a result of this movement from weak to strong patent legislation, one can witness from 1985 which first patent law came to force number of patent application changed dramatically by end of 1990. In 2014 the number of application raised to 928000 out of which 127000 were from foreign applicants and around one in four got registered and accepted. Also one from three of them was for foreign applicants, in other word 70548 out of 233288. With regard to PCT, WIPO under its report placed china in 3rd place for maximum patent application in 2016.




Source: WIPO(http://www.wipo.int/export/sites/www/ipstats/en/docs/infographic_pct_2016.pdf)

Table 1 Top 10 Domestic Enterprises Filing Invention Patent Applications in 2016

| No. | Name of Applicant | Number of Applications |
|---|---|---|
| 1 | Huawei Technologies Co., Ltd. | 4906 |
| 2 | China Petroleum & Chemical Corporation | 4405 |
| 3 | LeTV Holdings Co., Ltd. | 4197 |
| 4 | ZTE Corporation | 3941 |
| 5 | Guangdong OPPO Mobile Telecommunications Co.,Ltd. | 3778 |
| 6 | BOE Technology Group Co., Ltd. | 3569 |
| 7 | Gree Electric Appliances Inc. of Zhuhai | 3299 |
| 8 | Beijing Xiaomi Mobile Software Co., Ltd. | 3280 |
| 9 | Nubia Technology | 2912 |
| 10 | State Grid Corporation of China | 2784 |

Source: 2016 SIPO annual report(patent application and exanimation),

Comparing domestic enterprise that filing invention patent with PCT application in 2016, one can realize companies like Huawei Technology co. Ltd. Stand in second place in PCT by 3692 applications and first place in domestic enterprise table 4906 applications.ZTE Corporation hold first place in PCT by 4123 applications and 4th place in domestic enterprise by 3941 applications. Moreover, BOE Technology Group Co., Ltd. Hold eight place in PCT by having 1673 applications and 6th place in domestic enterprise by 3569.These are examples that how process of weak to strong patent legislations, encouraged inventor to create and apply for patent application not only national but internationally as well by given opportunity to companies which will automatically lead to having more shares in market with protecting their unique patent and attracting more consumers that will have effect on economic growth.

Table 2 Top 10 Foreign Enterprises Filing Invention Patent Applications in 2016

| No. | Country of Registration | Name of Applicant | Number of Applications |
|---|---|---|---|
| 1 | Cayman Islands | Alibaba Group Holding Limited | 2974 |
| 2 | Korea | Samsung Electronics Corporation | 2396 |
| 3 | USA | Qualcomm Incorporated | 1936 |
| 4 | Japan | Toyota Motor Corporation | 1831 |
| 5 | Germany | Robert Bosch GmbH | 1524 |
| 6 | Korea | Hyundai Motor Group Ltd. | 1347 |
| 7 | USA | General Electric Company | 1295 |
| 8 | Korea | LG Electronics Inc. | 1198 |
| 9 | Japan | Mitsubishi Electric Corporation | 1164 |
| 10 | USA | Ford Global Technologies, LLC | 1082 |

Source: 2016 SIPO annual report(patent application and exanimation)

According to table 2 with respect to top 10 Foreign Enterprises filling invention patent application in 2016 with their best companies in countries such as Cyman Island, Korea, U.S.A, Germany. This all are movement

made by the Chinese government and policy makers with regard to patent with considering the need for globalization and effect of having strong patent legislation in order to have economic growth.

## 5. Conclusion

All in all, China patent evaluation from weak to strong legislation is one of the most fascinating movements that history has been witnessing and it is undoubtful that soon china will be frontrunner with regard to patent in the world with having specific and clear agenda along with precise strategy for improvement of patent system in years to come. On the other hand, realization being made by Chinese people and policy makers that concept of globalization is undeniable and it is a need for countries to be associated in order to fulfill their gap and together survive economic crisis or to have a better economic growth. It is always known to legislator that law is far from technology and to make both meet each other at the same time it is a quite a hard work and sometimes it is impossible. With regard to IP law including patent it is really sensible. The reason is that it should cover all aspects of the inventions to promise best protection to the inventors. Therefore, there is need for amendment of patent Act time to time according to the need of the situation and harmonizing with international standards. Perhaps by just laying down provisions that are not specific and open to interpret according to situation will not be enough. Considering the complex nature of science and technology there is a need to understand them and with bearing in mind the description of it, propose appropriate provisions. It is acknowledged that china is in a path to become leader in patent internationally with her patent application arising in PCT and also seeing the foreign inventor registering in China and choosing Chinese market to invest for their invention.

### Suggestions

- With regard to 4th amendment that was supposed to come into force on 1st April 2017, enough action must be taken with considering the important and necessary modifications sheltered by it and also it can smooth the patent procedure and make it more approachable.
- With respect to IP courts as it is mentioned only in first 3 years, it should judge the cases from all areas within the region or metropolis regions. There is a modification needed to deal with the after the said 3 years period and also set light on cases which are from other provinces.
- With considering high amount of filled applications and number of patent registration arising, it is clear that the issue in patent also will arise accordingly and for making the year of patent protection more valuable for inventor, it is necessary to establish more court to deals with these matter for insuring the more speedy trial and satisfaction for the patentee.

It is said that the road of achievement is always under construction. We have to keep working. I hope these suggestions would prove beneficial on the road of achievement of better patent protection for having better economic growth in china.

## References

Ahuja, V. k. (2012). Law Relating to Intellectual Property Rights, reprint 2012-Websites

Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), The Global Innovation Index 2017: Innovation Feeding the World (tenth Edition), Available at: http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf

DONGMIN CHEN, SHILIN ZHENG, and LEI GUO, Peking University, The Impact of Science and Technology Policies on Rapid Economic Development in China, Available at: http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2015-chapter6.pdf

Federal Ministry of Education and Research, China Strategy 2015–2020 Executive Summary (Strategic Framework for Cooperation with China in Research, Science and Education) Available at: https://www.bmbf.de/pub/China_Strategy_Kurzfassung_eng.pdf

For the Categories and Scoring Method to calculate Ginarte-Park Index of Patent, See, "Chapter 2: Index of Patent Rights" in the Economic Freedom of the World: 2002 Annual Report.

Huaiwen He & Ping Zhang, Impact of the Intellectual Property System on Economic Growth Fact, Finding Surveys and Analysis in the Asian Region (Country Report – China) Available at: http://www.wipo.int/export/sites/www/aboutip/en/studies/pdf/wipo_unu_07_china.pdf

National Bureau of Statistics of China. 2013a. China Statistical Yearbook 2013. Beijing: China Statistics Press. Available at: http://www.stats.gov.cn/tjsj/ndsj/2013/indexeh.htm

Shenging Yang, Patent Enforcement in China, *Landslide* Volume 4, Number 2, November/December 2011. Available at: https://www.americanbar.org/content/dam/aba/publications/landslide/landslide_november_2011/yang_landslide_novedec_2011.authcheckdam.pdf

SIPO Annual Report (patent application and exanimation), 2016. Available at: http://english.sipo.gov.cn/laws/annualreports/2016/201707/P020170718522989362844.pdf

Thomson Reuters, The history of patent (2017), Available at:http://ipscience.thomsonreuters.com/support/patents/patinf/patentfaqs/history

WIPO Magazine, China's IP Journey, Available at:http://www.wipo.int/wipo_magazine/en/2010/06/article_0010.html (December2010)

World Intellectual Property Report (WIPO), Breakthrough innovation and Economic growth (Economics and statistics series) 2015 , Available at:http://www.wipo.int/edocs/pubdocs/en/wipo_pub_944_2015.pdf

World intellectual property organization (WIPO), who filed the most PCT patent applications in 2016? Available at:http://www.wipo.int/export/sites/www/ipstats/en/docs/infographic_pct_2016.pdf

World intellectual property organization (WIPO), International Patent Filings Set New Record in 2011 Geneva, March 5, 2012 (PR/2012/703) Available at:http://www.wipo.int/pressroom/en/articles/2012/article_0001.html

World intellectual property organization (WIPO), US and China Drive International Patent Filing Growth in Record-Setting Year (Geneva, March 13,2014) Available at:http://www.wipo.int/pressroom/en/articles/2014/article_0002.html

World intellectual property organization (WIPO), Advisory Committee on Enforcement (Eleventh Session) Geneva, September 5 to 7, 2016. Available at:http://www.wipo.int/edocs/mdocs/enforcement/en/wipo_ace_11/wipo_ace_11_6.pdf

World intellectual property organization (WIPO), China: IP Laws and Treaties Available at:http://www.wipo.int/wipolex/en/profile.jsp?code=cn.

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# Technical Vocational Education Training Institute Curriculum Development in Ethiopia

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**Abstract:** Ethiopian TVET curriculum development process follows similar procedures with different competency based TVET curriculum development processes in some countries. Ethiopia mainly adopted its current TVET curriculum experiences from countries such as Australia and Philippines. Depending on the trends of these countries, the new Ethiopian TVET strategy has decentralized the preparation of curricular materials to the institutions that deliver training. The problem may limit the current competency based TVET curriculum in Ethiopia is lack of knowledge and experience to develop the curriculum at the local level in this decentralized responsibility to develop the curriculum at TVET institutions. In addition to the problem of decentralization, the continuous change made in the occupational standards is another challenge in the effective implementation of the reformed TVET approach. While TVET institutions have set themselves and started to provide training in certain occupational standards disseminated, the Ministry of Education in the mean time updates or replaces those occupational standards with the new ones. This has created resource wastage and grievance at institutions, management, instructors and students.

**Keywords:** *Competency; occupational standards; decentralized TVET curriculum; competency based curriculum, recognition of prior learning*

## 1. Introduction

The role of TVET in human resource development and the consequent growth and prosperity of society is an established fact. This is because TVET furnishes skills required to improve productivity, raise income levels and improve access to employment opportunities for people. It does this by playing three major roles: meeting the human power needs of society; raising the employment opportunity of citizens thereby improving their livelihood; and motivating citizens for further education and training (Schokland Program on TVET, 2012). They also define TVET as education and training activity that is mainly provided to lead participants to acquire skills, knowledge, and understanding necessary for employment in a particular occupation or group of occupations. Rauner and Maclean (2008) also stated that vocational education is considered a key factor for improving or maintaining the competitiveness of enterprises and national economies. Historically, TVET had long existed as indigenous practices such as work of artisans, blacksmiths, potters, weavers, etc. in Ethiopia. Due to the bad attitudes towards these skills by the society, TVET got less attention and slow development in Ethiopian education history. For instance, Teklehaimanot (2002, as cited in Learn4Work, Schokland Program on TVET, 2012) stated that the extent of misconception and prejudice goes to the worst level whereby artisans and blacksmiths have been considered not only as low caste people but as sinners in the social life of the society as well. Even in the modern times, as a result of this misconception of TVET by society and categorization of TVET learners as low achievers by society, TVET enrolment in Ethiopia existed among the lowest in sub-Saharan African countries (King, 1985, as cited in Schokland Program on TVET, 2012). However, as of not more than three decades, Ethiopia made a big effort in changing this history of misconception toward TVET. Particularly, the year 1994 can be taken as the turning point in this regard. This was the time whereby the newly assumed Transitional Government of Ethiopia (TGE), which replaced the Derg regime, has introduced the Education and Training Policy in 1994 that gave a due emphasis for TVET and the involvement of the private sector in TVET delivery in particular and the need for overall partnership in general (TGE, 1994, as cited in Learn4Work, Schokland Program on TVET, 2012).

Regarding TVET curriculum, prior to 1994 and even between 1994 and 2006, before the launch of New TVET Strategy, TVET had been curriculum based and input based. According to the interview with TVET agency officers (Hulualem, Mosisa, and Fitsum) and the brochure of the TVET agency, the pre-2006 TVET curriculum was characterized as 1) the occupations are determined by ministry of education, not by industry or labor market; 2) the training was depended on the curriculum, not on occupational standards; 3) the assessment of the quality of the training was depended on the completion of curriculum contents that was prepared by the

Federal TVET agency rather than by the criteria set depending on the occupational standards derived from the existing industry; 4) the assessment mechanism depended only on teacher made training exams, not by the exams that are depended on the achievement of the competencies derived from the occupational standards and prepared by the experts that work in the industry concerned; 5) assessment was the direct assessment depended on teacher made formal training exam rather than considering the prior skills the trainees may have acquired informally outside the formal training; 6) The competence of the trainee was judged depending on the completion of the training year and the length of the time spent on training not depended on the performance of the trainee at work that is measured by center of competence assessment; 7) the occupations/programs that were delivered to 10+1 to 10+3 included only those who completed grade 10 and had adequate national exam results; they didn't consider those who dropped out of school prior to grade 10. The new TVET strategy chooses from the level 1 competencies and gives short training for those who drop out of school at the different grade levels; 8) the old trend trains and gives certificate only; the end of the work of the new training is up to enabling the trainees to pass the center of [1]competence exam and harmonizing them with work; 9) the former recognizes competence by the school completion certificate; there was no center of competence assessment outside the training institute; 10) unlike the former, the latter didn't limit its training to formal training rather it invites and participates governmental and non-governmental organizations in the process of training trainees informally and non-formally; 11) previously, there was no habit of supporting and encouraging small micro-enterprise organizations, but currently, the major emphasis is given to supporting and developing these organizations. Objectives of this paper are to:

- Describe Competency Based Curriculum Development and its process in Ethiopian TVET;
- Discuss the application of modularization in terms of the world and in terms of Ethiopian TVET and
- Examine Ethiopian TVET against the Theory and Practice of Competency Based Curriculum

## 2. Literature Review

**Competency Based Curriculum Development:** The use of the competence concept has old roots in the theory and practice of curriculum field that can be traced back to the competency movement started in the United States in 1960s-1970s and spread worldwide. Some studies, identify even earlier links of the concept to the development of mastery learning models in the U.S. during the 1920s and suggest that the competence based approaches were concerned with formative vocational education and training, and reflected instructional design informed by psychology: namely, the work of Skinner, hence the association with behaviorism (Kate, 2014, cited by soare, 2015). This way, Soare said, the word competency began to be used in association with this model of instruction and learning, and a number of concepts associated with modern competency based learning (CBL) came out together with the epistemological shift from input to outcomes. Wesselink et al. (2010) also states that the origin of the idea of working with competencies in educational contexts lies in the US. They say that in the 1960s it was labeled 'performance-based teacher education' and characterized by its detailed analyses of the behavioral aspects of professional tasks. Barnett (1994, cited in Wesselink et al., 2010) concluded that competencies described in this more behaviouristic way cannot provide guidelines for a curriculum because of the level of detail. As a result, CBE did not become a success in the US because of this emphasis on detail. Today, in Europe, a more holistic approach to competence is being used (Eraut 1994, Biemans et al., 2004, cited in Wesselink et al., 2010): a competence is always seen in the context in which it will be used and includes a functional component, a personal or behavioral component, a cognitive component, and an ethical component (Cheetham and Chivers 1996, cited in Wesselink et al., 2010).

Parry (1998, cited in Soare, 2015) defines the competence as a cluster of related knowledge, attitudes and [2]skills that fulfill several criteria: a) affects a major part of one's job, b) correlates with performance on the job, c) can be measured against accepted standards, and d) can be improved via training development. The other definer defined competency as "a knowledge, skill, or attitude that enables one to effectively perform the activities of a given occupation or function to the standards expected in employment" (International Board of Standards for Training and Performance Instruction, 2005, cited in Chyung, Stepich & Cox, 2006). Generally, these authors stated competency includes both means and an end. The means are knowledge,

skills, or abilities and the end is to effectively perform the activities of a given occupation or function to the standards expected in employment. They also assert that the term competency loses its true meaning if the end is ignored. In addition, Rauner and Maclean (2008) stated that the concept of competence is used in two different ways: first, as a capacity or ability, and second, as a province of responsibility or field of authority – for example, the authority to make decisions. The first usage corresponds to the concept of "competence" or "competences" used the field of vocational education: here, an individual is considered "competent" when possessing the ability to do something specific.

The 'competence-based approach' or 'competence-based education and training' (CBET) can only be understood as a curriculum strategy which aims at an encoding of intended abilities and facilitating dispositions. Attempts are then made to achieve these codified elements of learning as goals of work- related, experience-related, and school learning processes and, if applicable, the elements are then evaluated and certified as the results of such processes. In the final analysis, they are standards which, as individual curricular elements and predetermined outcomes, are derived from existing occupational profiles and assigned to various (primary) units of learning (units, modules) which, in turn, are to be related to complex operational functions and tasks. The responsibility for the success of the learning process lies predominantly with the learner, and the learning process itself is subordinate to the successful learning outcome. For the educational standards, the content-related specifications are, at the most, only of secondary importance (Rauner and Maclean, 2008). Grant et al. (1979, as cited in Soare,2015) define competency based education as a form of education that derives the curriculum from an analysis of a prospective or actual role in contemporary society and that attempts to certify student progress on the basis of demonstrated performance in some or all aspects of that role. These authors, (Rauner and Maclean, 2008), discussed the two supranational level perspectives developed in the North American and European context as traditionally proved to be of special significance for designing the learning process.

**North American Perspectives:** Rauner and Maclean (2008) stated that a major theme of debates on the international scale has to do with the changed demands on employees in the context of a globalized, comprehensive labor market which involves increased risks of friction due to intensified adaptation problems and, as a consequence, can produce considerable mismatches on the labor market. In this sense, the authors say that the issue of knowledge distribution, as directed by the educational and training process, is also fore grounded internationally. These authors discussed the curricular solution for this international risk of friction here under. They stated that the O*NET content model designed by Mumford and Peterson in 1999 is perceived as a multi-perspective approach which is to provide the following qualification-related information (cf. Buch /Frieling, 2004, cited in Rauner and Maclean, 2008): Experience Requirements (Training); Worker Requirements (Basic Skills, Education, Cross-Functional Skills); Worker Characteristics (Abilities, Occupational Interests, Work Values, Work Styles); Occupational Characteristics ( Labor Market Information); Occupation-Specific Requirements (Work-related Knowledge, Skills, Tools, Equipment); Occupational Requirements (Generalized Work Activities, Organizational Context)

According to Rauner and Maclean (2008), another internationally influential approach to developing vocational curricula has become known by the label "DACUM" (Developing A Curriculum). The DACUM approach is intended to facilitate the analysis and description of needs and skill profiles. According to its express self-image, the following three "logical premises" are taken into consideration in this approach :(1) Expert workers are more capable of describing and defining their job reliably than anyone else. In so far, as they do their job in the context of normal employment, they can be called "expert workers"; (2) the most effective way to describe a job is to define areas of responsibility and the tasks and individual steps involved. But the worker behaviors accessible and the knowledge of such behaviors do not suffice. Expert workers are able to explain their knowledge and skills, i.e., to train others to be experts; the knowledge, skills, abilities, and attitudes required for the work are now regarded as variables ("enablers") of work successfully carried out. These authors also indicated that they, the three above listed, are so significant that considerable care is taken to appropriately identify them. They also show brief procedures of DACUM (Developing a Curriculum). They said, firstly, a group of five to twelve occupational practitioners forms the decisive source of information for the analysis of work processes. In two to three-day meetings under the guidance of a DACUM facilitator, this group develops a needs analysis or a DACUM chart listing tasks, general knowledge, abilities/skills, behaviors, tools, equipment, materials, as well as future developments. These lists represent the empirical

basis for "competency-based education (CBE)" and for the "instructional development" based on CBE. The development of the profile is furthered by moderation techniques which take recourse to meta-planning techniques such as brainstorming, clustering, comparing, evaluating, etc. An open experiential exchange between the occupational practitioners is ensured by the facilitators, who take care that the major categories of analysis are used precisely and unambiguously.

**European Perspectives and Approaches: the Concept and Development of Modularization:** The authors state that in light of the European attempts at establishing control mechanisms of curricula during the last quarter of a century, it is obvious that all of these attempts were not aimed at designing students' educational careers in the traditional institutions of the (public) educational system, but, instead, were focused on external processes of knowledge production. Among such attempts, the following are especially noteworthy: i) the (formal) demand for lifelong learning, brought forward by the OECD and UNESCO during the 1970s and especially influential in Europe; ii) the emphasis on self-responsibility in the demand for a self-organized and self-regulated learning process in widely divergent general and specific contexts; iii) the frequently emphasized necessity of e-learning for more effective use of learning time and minimizing costs. In order to ensure freedom of movement within the European education and labor markets and the comparability of processes of knowledge production, these authors assert that debates on aspects of control mechanisms have centered on issues of standardization in their treatment of traditional educational institutions. Such debates have resulted in the (further) development of the following structures: a harmonization of degrees and the establishment of a credit system. At a formal level, the authors illustrate that, these control mechanisms facilitate interconnections between the following goals in VET: transparency, comparability, permeability, support for mobility, reevaluation of informal learning processes, individualization and rationalization of courses of study, creation of a basis of trust between educational providers and their clientele at home and abroad, and quality control.

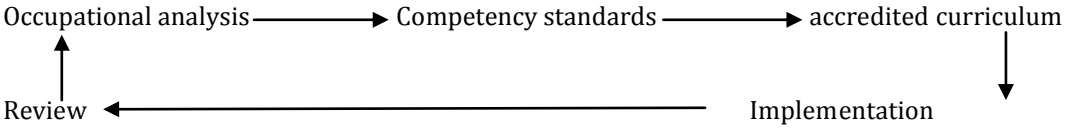
Within the European context, curricular control mechanisms are put into practice in two main ways: pertaining to organizational and structural aspects, and, to a certain extent, content-related curricular control mechanisms: The structural control mechanisms focus on modularizations in nonacademic and, more recently, also in academic institutions of education and further education. The term modularization refers to widely divergent models of opening up courses of study and making them more flexible with respect to organizational, temporal, and content-related structures. These authors state that an example of modularized vocational education has been implemented in Great Britain with the system of National Vocational Qualification (NVQ). NVQ provides for the individual compilation of various partial certificates in a 'qualification portfolio' and facilitates access to employment already on the basis of partial certification. In the modularization model used in Denmark and the Netherlands, the degree also functions as the sum of the partial certificates obtained. But these are mandatory components assigned specifically to certain courses of training, and, in this sense, these models are more moderate variants of modularization. In structuring curricula by way of modularization, the main emphasis is on combining fundamental and supplementary building blocks of education and training and, thus, on their variability and flexibility with reference to temporal and content-related aspects. The basic variants of modularization currently under debate encompass the following three perspectives: the supplementation model develops from temporal sequencing; the fragmentation model develops from the combination of agency and certification; the differentiation model is more strongly oriented towards curricular considerations.

The variability of the control mechanisms is based on various traditions concerning curriculum development and its theoretical basis. German curriculum development in VET is based on a didactic curricular understanding which is fundamentally characterized by the selection and organization of subject-specific content and areas of learning. To put this way, whether learners are able to develop the required dispositions depends on the adequate selection and logical organization of content in the curriculum. Thus, this curricular perspective is both input and output-oriented. In contrast, the international approaches favor an explicit output orientation with their focus on the identification and certification of application-oriented abilities. Rauner and Maclean (2008) pointed out that with regard to the competencies to be developed, stress should be placed on the specific characteristics of the German concept of Kompetenz, which is noteworthy because of its goal-related perspective on the processes involved in VET, a perspective that aims at ability and competence for action in the sense of a specialized competence. At the same time, this ability to act and

evaluate with reference to specific subject matter is indissolubly linked to a distinctive form of self-directedness and to a competence in societal and political issues. Competence development understood in this way aims at enlightenment and emancipation through the process of education. In contrast, they stated, the concept of competence in the international context is directed toward the simple characterization of desired behaviors and activities.

**Curriculum Development Process in TVET:** The next to DACUM, popular competency based curriculum development is the Systematic Curriculum and Instructional Development (SCID). Norton (1992) states that to provide structure for developing curriculum for Competency Based Education (CBE), an effective and efficient model, Systematic Curriculum and Instructional Development (SCID), has been devised. SCID has five phases: analysis, design, development, implementation, and evaluation. Each of 23 components involves several steps, some optional. Phase 1 may involve needs analysis, job analysis, task verification, and task analysis. In Phase 2, task performance information collected during analysis is used to specify the job skills, knowledge, and attitudes the program will develop in the learner. During this phase, decisions are made regarding the appropriate training settings, entry-level qualifications, and the sequencing of learning objectives. Phase 2 concludes with the preparation of a training plan. Phase 3 results in the production, review, and revision of instructional materials. Implementation (i.e., step 4) involves putting the education or training program into operation. After pretesting, the training is conducted as planned and learner performance is evaluated with progress and posttests. Phase 5 gathers data on the overall instructional process, program outcomes, student follow-up data, worker productivity data, and cost-effectiveness data, to conduct a summative evaluation. Here under, Laird and Stevenson (1993) showed the simplified approach to competency based curriculum development in Australia. Ethiopian competency based curriculum also follows this process.

**Figure 1: Simplified approach to competency based curriculum development in Australia by Laird and Stevenson (1993)**




**Recognition of prior learning in TVET:** Industry indicated a desire to offer recognition of prior learning to identify skill gaps and to avoid unnecessary training through recognition of current skills gained via on-the-job training (Bowman et al., 2003). For instance, in a study conducted by Bowman et.al (2003), students said they applied for recognition of prior learning because they have some work experience and did not want to repeat their training, as well as wanting to fast-track through a qualification, thereby saving time and entering the workforce sooner. Knight (2005) also states that Recognition of Prior Learning (RPL) provides formal recognition for vocational knowledge or skills gained on-the-job or as a result of other informal or unstructured learning experiences. He says that RPL, if granted, can count towards completion of recognized vocational qualifications. O.S.K, Ramdass, and Santokhee (2012) added that RPL is primarily concerned with the type of learning, that is, learning which is achieved outside the mainstream education and training, and it aims to validate and give credit for achievements acquired outside the classroom. A similar trend is being followed in Ethiopian TVET system that students who acquired skills informally outside formal training can take Center of Competence exam and be certified.

## 3. Current Reformed Competency Based TVET Curriculum Development Procedures in Ethiopia

**Curriculum Development Process: Modularization***:* In the European context, modularization is one of the methods of controlling curriculum (structural control mechanism). Thus, the term modularization refers to widely divergent models of opening up courses of study and making them more flexible with respect to organizational, temporal, and content-related structures (cf. FROMMBERGER, 1999, as cited in Rauner and Maclean, 2008). They illustrate that in structuring curricula by way of modularization, the main emphasis is on combining fundamental and supplementary building blocks of education and training and, thus, on their

variability and flexibility with reference to temporal and content-related aspects. They give examples from two countries:

*An example of modularized vocational education has been implemented in Great Britain with the system of National Vocational Qualification (NVQ). NVQ provides for the individual compilation of various partial certificates in a 'qualification portfolio' and facilitates access to employment already on the basis of partial certification. In the modularization model used in Denmark and the Netherlands, the degree also functions as the sum of the partial certificates obtained. But these are mandatory components assigned specifically to certain courses of training, and, in this sense, these models are more moderate variants of modularization.*

Dereje (2013) also states that modularization provides a means of reorganizing the curriculum to provide increased opportunities for a wider student population. A modular curriculum could provide the chance for students to enroll at the time that most suited their needs. A key feature of modularization is the flexibility it offers, allowing students more choice of subject combinations and wider access to the curriculum. The definition and the application of modularization in Ethiopian TVET have been described as follows in the *National Technical & Vocational Education and Training Strategy* (MOE, 2008, p. 29).In this first paragraph, it is discussed how modularization fits the competency approach in TVET. It is stated that TVET programs will be organized in a modular fashion to meet the requirements as defined in the occupational standards. In this way, each module or combination of modules describes an employable set of competences. Successful completion of each training module shall be dependent on assessment and certification in conjunction with the assessment specifications stipulated in the occupational standards. The modularization of TVET is a central mechanism of making TVET delivery flexible and providing for flexible entry and exit points. The second paragraph gives even more additional clear description including how certification is done and its flexibility, as it is done at international context. It illustrates that different TVET modules can be combined into long-term programs representing the entire teaching, training, and learning necessary to achieve an occupational qualification. Through this modularization, a trainee may, for personal reasons, exit a long-term program prematurely while having acquired competencies that would allow her/him to successfully perform certain jobs in the labor market. S/he may re-enter the TVET program at a later stage, continue with the missing modules and thus complete her/his qualification.

It says that individual modules or a number of modules may also be delivered in short programs. In this case, trainees either acquire an important set of competencies (equivalent to a partial qualification) valuable in the labor market and/or achieve the first steps of a potentially longer TVET career that may eventually lead to a comprehensive occupational competence. In the course of their individual career, trainees may attend different TVET modules over time, if necessary by different providers, to finally master a comprehensive competence. Generally, when we compare this description of modularization with European trend, we can observe more similarities such as its flexibility with respect to delivery (trainees can quit training when they finish a module having certified for that level and can continue the next higher level next time), certification (partial certification can be done), and how competencies are organized (structuring as it is described in European sense of modularization).

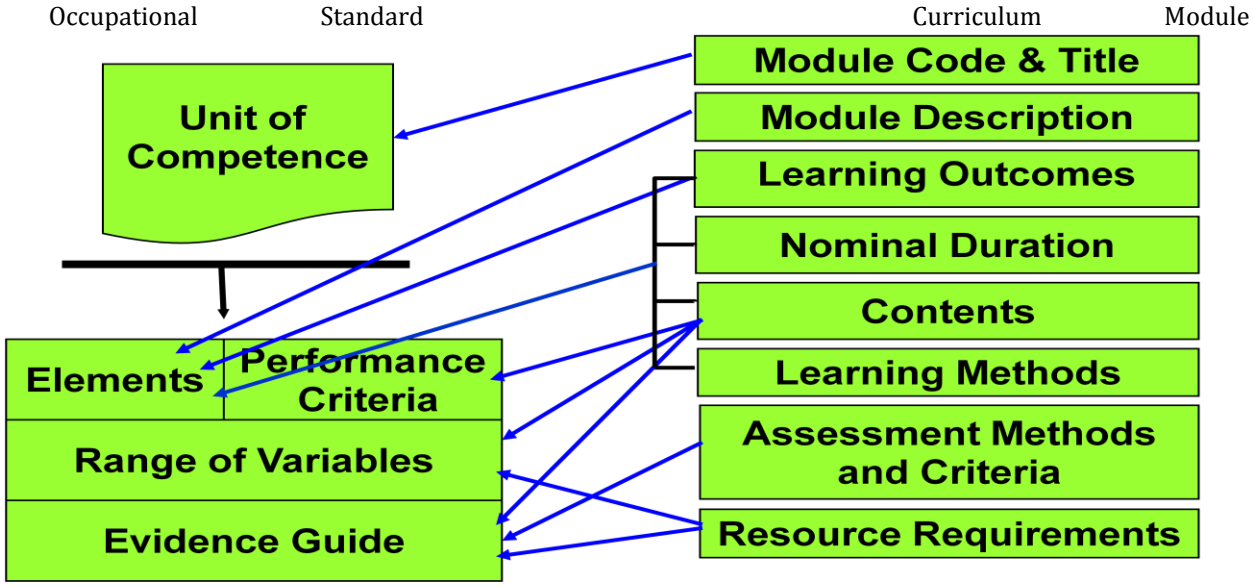
**Description of the participating groups in curriculum development:** According to my interview with agency officers (Hulualem, Mosisa, and Fitsum), the direct participants in TVET curriculum development are industry experts who have know-how about each occupation, employers who can serve as main sources of labor demand analysis, regional TVET authorities and TVET providers, and teachers.

**Setting occupational standards and competencies and its relationship with curriculum:** In this section, the processes of setting occupational standards according to MoE (2011) are summarized. The Occupational Standard serves the function of the national standard that details the occupational requirements in terms of competencies. It describes the competencies that an individual must possess to be able to perform and be productive in the world of work. The competencies are expressed in discrete units of competence that define the particular scope of work resulting in a product, service or decision (MOE, 2011).According to MoE (2011), in the development of the Occupational Standards (OS), representatives of industry experts and practitioners are gathered together to identify the competencies that the expert workers need to possess to be able to perform and be productive in the workplace. Once all these competencies are identified and defined, the OS is packaged and matched with the National TVET Qualification Framework (NTQF). This is to determine the

level of qualification as described in the framework. The NTQF illustrates the scope, compositions, and degree of responsibility a qualified person can assume in the workplace. According to MoE the objective of TVET delivery is to qualify people according to the occupational requirements by facilitating a learning process geared toward attaining the set of competencies defined in the respective Occupational Standard.

In addition, it stated that translating Occupational Standards into suitable TVET programs is the challenge of TVET delivery. Within this process, curricula as well as training, teaching, and learning materials have to be transformed into an outcome based enabling elements to adequately reflect the expected outcomes as defined in the OS.

**Figure 2: A relationship Between Occupational Standard and Curriculum Module**




(Source: *Ministry of Education, 2011. TVET Curriculum Development)*

Occupational standards define the competencies of a worker according to requirements in the labor market. As outlined above, occupational standards comprehensively describe the competence a person has to achieve in order to be considered "qualified" in a certain field. Competence includes the entire range of skills, knowledge, and attitudes necessary to perform a specific job. Occupational standards are developed for all occupational fields at all relevant qualification levels attainable within the TVET system. Each occupational standard can be broken down into units that describe a set of "employable" competencies. Occupational standards are described in the same, nationally approved, format and are publicly available. This enhances transparency about occupational qualifications among employers, trainees, and TVET providers. Responsibility for organizing, facilitating and endorsing occupational standards rests with the Federal TVET Agency. However, as occupational standards reflect the competence requirements of the world of work, stakeholders from the world of work particularly employers are the major actors in the development of the standards, as they are in the developed and emerging countries. The TVET Agency, therefore, forms expert panels for standard setting, comprised mainly of experts with a profound knowledge of workplace requirements.

Appropriate internationally recognized occupational standards are checked for compatibility with the participation of the industry and verified to be in conformity with the national vision. Then it is approved as the National Occupational Standard by the Federal TVET Agency. Consensus is obtained on the modality of identifying the pertinent standard setting from the internationally recognized ones. The Federal TVET Agency prescribes the procedures to be followed for standard setting and publishing them. Occupational standards must be based on the needs of the labor market. Therefore, the identification and clustering of occupations – for which occupational standards are developed – are made with reference to the needs of the national labor market demand. A labor market analysis is instrumental in identifying the need for new occupations as well

as indicating the need for revision and adaptation of existing national standards once technological and/or economic developments bring about changes to the qualification needs. Identification and clustering of occupations are made in close cooperation with the Ministry of Labor and Social Affairs and the Civil Service Agency as well as other concerned bodies to ensure that the TVET occupational standards take into account the defined occupational titles from the National Occupational Classification System. OS should be internationally compatible.

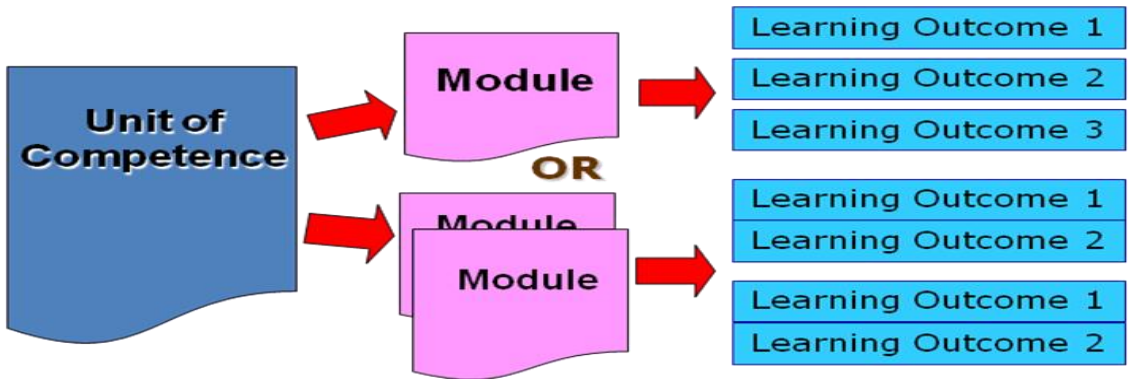
**4. Guiding Principles in Curriculum Development**

MoE (2011) also stated that the development of TVET curriculum is guided by the following principles. These principles standardize not only the development but also the format and content of the curriculum throughout the country –

- Curriculum development is driven by the OS thus needs to start with the systematic analysis of OS.
- Curricula have the character of "enablers" on the delivery level. They aim at providing a systematic and consistent framework, without necessarily being too rigid and detailed.
- Curricula need to reflect the specific context and conditions of occupational learning. Accordingly, the respective relevant aspect of training delivery such as disparate target groups and their characteristics, mode of delivery, regional/local conditions and availability of training resources have to be taken into account.
- It is highly recommendable to follow the principle of modularization when developing TVET-Curricula. This means structuring the TVET-Program into a set of related Learning Modules.
- Curricula should reflect learning, then, assessment and progression or practice and reassessment until competent. This means the learning situation presents the learner with work which must be performed and assesses the learner in the performance of that work.
- A different group of developers may come up with different curriculum structure but what is essential is that the outcomes of the training and assessment of the total course are constant with the occupational standard or OS.
- Curricula need to be revised periodically. Since occupations and their specific characteristics change over the time and Occupational Standards will be reviewed and adapted accordingly within the process of OS-revision. Curricula need also to be revised in order to continuously reflect "up to date" occupational requirements.

**Organization of TVET Curricula:** In this section, the organization of TVET curricula as it is described by MoE (2011) is briefly summarized. It is stated that the basis for TVET Program design is the OS in general and the Unit of Competence in particular. It should not be assumed that one unit of competence will lead to one learning module. The number of learning modules depends on the breadth and depth of the unit of competence. The decision is made after a thorough study of the occupational standard and its units of competence. The learning module or modules (if there are several) of a unit of competence should be self-contained. It should already contain the contextual (knowledge-based), skills (performance-based) and attitudes (behavioral-based) requirement of the unit of competence.

**Figure 3: Organization of Model TVET Curricula**




(Source: *Ministry of Education, 2011. TVET Curriculum Development)*

**Components of TVET Curricula:** MoE (2011) also stated that when developing Curriculum within the context of outcome based TVET delivery and the National Ethiopian TVET System, it covers the following two main components - TVET-Program Design and Learning Modules. The TVET-Program design outlines the general overview of the main relevant parameters of the specific TVET Program and how they are generally structured to meet the learning outcomes derived from the OS. Within the context of modularized curricula, Learning Modules are core elements of each TVET Program. They specifically describe how a set of defined occupational competence derived from the Occupational Standard will be adequately addressed in the context of TVET delivery.

**A1. TVET Program Design**

It is also stated that the basis for the TVET program design is the combination of Units of Competence from one particular OS. A decision needs to be made about the structuring of these units of competence. The program design needs to consider the following important issues –

- The sequencing of modules should reinforce learning experiences, by building on competencies previously acquired.
- The number of modules should be based on the breadth and depth of each unit of competence.
- As learners progress through the program there may be points at which they could leave with recognized outcomes leading to possible employment opportunities or re-enter the program at a later stage to continue their training. The following are the components of the program –

**TVET Program Title**: gives a clear indication of the main focus of the TVET Program; it corresponds with the Occupational Standard and the National TVET Qualifications Framework (NTQF); and expressed in a function-based title – Example: "Metal Fabrication and Assembly (Level IV)".

**TVET Program Description:** contains information regarding – what occupation, in what industry sector and field – learners participating in the program will be qualified. Thus, it shows the relevance the TVET Program has for the employment sector. In addition, it should also provide a brief outline covering the main aspects and characteristics of the TVET Program in terms of scope, coverage, and delimitation.

**TVET Program Learning Outcomes:** They briefly describe the overall intention of the program and the intended results of learning. They reflect the expected performance outcomes as defined in the respective OS. In this sense, learning outcomes are the set of required occupational competencies (units of competence) listed to show the coverage of the program.

**Duration of the TVET Program:** It is the total length of the TVET Program. The benchmark with regard to duration is the total amount of nominal learning time necessary to cover all the defined program learning modules, institutional assessment (summative evaluation) that will be undertaken by the trainees and the time needed for industry immersion.

**Qualification Level and Certification:** It explains the corresponding institutional certificate(s) the individual will receive upon satisfying certain internal requirements. TVET program that offers a number of defined entry and exit points have to grant trainees an education based qualification, either nested or laddered certificate of completion or competence,

**Target Groups:** They define the specific group of individuals that is catered by the program. Target Groups and related frame conditions have a major impact on TVET Program design, affecting all major aspects ranging from duration to concept and mode of delivery. Since the specific frame conditions with regard to disparate target groups can differ substantially, a clear definition of the target groups and sound analysis of related specific frame conditions is, therefore, an important pre-requisite with regard to successful TVET-Delivery.

**Entry Requirements:** They define the pre-requisites of the attendant of the TVET-Program. Recognition of prior learning is an important aspect to be covered. Entry requirements in the sense of pre-requisites for entering a certain TVET Program should be formulated as competencies (which do not necessarily have to be acquired through certain formal types of education and training). Prerequisites such as age, physical condition etc., if necessary should be formulated based on the occupational requirements.

**Mode of Delivery:** It describes the strategy that will be used in the delivery of the TVET Program. Mode of delivery deals with the issue of appropriate methodological and organizational approach to the learning process. Appropriateness will depend on the context of the unit of competence and program as a whole.

**TVET Program Structure:** It provides the overview and outline of the program in terms of contents (modules) and their sequencing (when and how long) in the process of implementation. The practicable way

of presenting the contents and sequence is by tabular form. Sequencing structure is the logical progression and scheduling of modules and subjects. Typical considerations with regard to sequencing are from simple to complex; from general to specific; or from easy to difficult. Respective exit and entry points are also indicated. These exit and entry points are indicated after the module have been completed or on the basis of competence acquired

**Table 1: A Portion of TVET Program Structure**

| Unit of Competence | Module Code & Title | Learning Outcomes | Duration (In Hrs) |
|---|---|---|---|
| CON BIO1 01 1110 Read and Interpret Plans, Maps, and Specifications | CON BIO1 M01 0310 Reading and Interpreting Plans, Maps, and Specifications | Identify types of drawings<br>Check changes to drawing<br>Locate and identify key features on a site plan<br>Read and interpret job specifications | 80 |
| CON BIO1 02 1110 Carry-out Measurements and Calculations | CON BIO1 M02 0310 Carrying-out Measurements and Calculations | Plan and prepare<br>Perform measurements<br>Perform calculations<br>Estimate approximate quantities | 40 |

(Source: *Ministry of Education, 2011. TVET Curriculum Development)*

**Institutional Assessment:** It illustrates the methods, arrangement, and scheduling of trainees assessment. It includes answer to the major questions "how?", "when?" and "where?" Applicable assessment modalities and structures are laid down in the Evidence guide of the Unit of Competence of the OS. Moreover, trainee's evaluation should use both - the formative and summative evaluation - to determine the extent to which learning outcomes are achieved. Formative evaluation normally takes place during training while summative evaluation is carried out at the end of a particular period of learning, e.g. Learning Modules.

**Trainer's/Facilitator's Profile:** It specifies the minimum essential qualification, experience, and competencies as well as specialized qualifications required with a view to implementation of the TVET-Program. It should be in compliance with the Total Quality Management System and respective accreditation criteria.

**Resource Requirements:** They are the materials, tools and equipment and other facilities essential to the delivery of the TVET Program. It is a complete list of Training- Teaching- and Learning-Materials (TTLM) to support occupational learning processes and thus helping to achieve the desired learning outcomes (LO).Tools and equipment used for learning purposes are also considered as resource requirements. They are defined according to training or learning requirements derived from the Range of Variables of the Occupational Standard (OS)

**A2. Learning Module Design**

**Reference to TVET-Program:** This section should state the title of the TVET Program the learning module was developed for and the unit of competence being addressed.

**Module Title:** The title chosen for the module will have some influence on how the module is perceived in the training sector. It should convey a clear message of what the module entails. Mostly, the title of the Unit of Competence is adapted as the title of the Module if the correspondence is one to one. The action word or verb in the title of the unit is written in the gerund form (ending in "ing").

**Module Code:** The module code is an identifier which uniquely identifies a module within a training organization. Each training provider is required to allocate a unique module code to each module in which a learner may enroll. TVET providers are encouraged to adopt the national code key to facilitate comparability of information.

**Nominal Duration:** In determining the nominal hours it is required to judge the amount of anticipated hours a learner holding the prescribed entry competencies will spend, on average, to achieve the specified learning outcomes including practice to master all the learning outcomes of the module.

**Module Description:** Briefly describes the overall intentions of the module with emphasis on learning outcomes. Each module is linked to the standards and made sure to give a clear picture of what the trainee should be able to do after completing the module.

**Learning Outcomes:** These are clear statements of what the learners are expected to achieve upon completion of the module. A careful examination of the relevant unit of competence -the module is designed from- will ensure that the learning outcomes are appropriate. They are stated in behavioral terms that can be observed and measured. Each learning outcome is described separately beginning with an action word followed by a modifier and object. Generally, the elements of the unit of competence also serve as the learning outcome of the module. Hence it is better to just copy them to serve as the learning outcomes of the learning module.

**Module Contents:** This section identifies the broad areas of content or underpinning knowledge, skills, and attitudes required to achieve the learning outcomes. Only content which directly relates to the learning outcomes should be added. References have to be made to the Performance Criteria, Critical Aspects of Competence and the Required Knowledge, Attitudes and Skills section within the Units of Competence.

**Learning Methods:** As part of the Program quality assurance process it is required to provide evidence that the Program has the capacity to offer flexible learning opportunities. The training program has to be based on a mix of flexible training approaches that are structured for outcome based learning. At the program level, decisions can be made about the general modes of delivery for the program as a whole. On the other hand, decisions about learning tactics can be left open to be closely examined at the module level. There may be overall strategies for delivery with variations for certain modules.

**Assessment Methods and Criteria:** This portion of the learning module lists the methods used to gather evidence of sufficient quantity and quality to make a sound judgment about a learner's competence. These are methods that can be used in assessing the learning outcomes or what have been achieved and what the learners can do after certain learning process. It is stated that, where possible, it is encouraged to use a holistic assessment approach. A holistic approach to competence assessment is one in which competence is seen as the ability to draw in and integrate a variety of knowledge, skills, and attitudes within a realistic work context. There is an extensive range of assessment methods available to obtain evidence necessary to assess learner performance.

**Resource Requirements:** this section provides details about resources for the delivery of the module. Module specific learning resources, tools, and equipment, as well as consumables, supplies, and materials, are listed here.

**Practical Steps in the Development of Outcome Based Curriculum:** In this part, general steps followed in outcome based curriculum are briefly described.

***Step 1*)** Analyze the occupational standard and its units of competence

- Review the units of the OS and determine if each unit, when applied in a work situation, can stand alone. If this is the case the unit can be made as one learning module. However, if the unit needs another unit, this can be made a pre-requisite of that unit.
- For those units with elements that are extensive and can be clustered into two or three major activities (complete in itself and have a clear picture of what the learner should be able to do) can be made into two or three modules.

***Step 2***) Determine the program learning outcomes

- The program learning outcomes are the title of the units of competence of the OS

***Step 3***) Determine and identify the different module titles

- The unit title with one-to-one correspondence can be used also as module title, just add 'ing' in the action word e.g. conduct becomes conducting.
- For "more modules-to-one unit", the outcome can be used as the title of the module.

***Step 4***) Accomplish the template for Learning Module

***Step 5***) Define the qualification level and certification

- This should match the OS and NTQF qualification

***Step 6***) Describe the target group and their entry requirements

***Step 7***) Decide on the mode of delivery

***Step 8)*** Design the program structure

***Step 9***) Describe the context under which the institutional assessment will take place
***Step 10)*** Define the trainer's / facilitator's profile
***Step 11)*** List, as an annex, the resource requirements of the program using the suggested tabular format.
***Step 12***) Consolidate the learning modules and package the program

**5. Examination of Ethiopian TVET against the Theory and Practice of Competency Based Curriculum**

As we can see from different kinds of literature we have discussed in the literature review, Ethiopian TVET curriculum development process follows almost similar procedures with different competency based TVET curriculum development processes in another world. However, we can say that it follows the similar process as that of Australia. Because as we can see from figure 1 above, Australian TVET curriculum development starts from occupational analysis while Ethiopia's also starts with occupational analysis. Schokland Program (2012) confirms this similarity while it states that, after adopting best experiences from countries such as Australia and the Philippines, the new TVET strategy has decentralized the preparation of curricular materials to institutions that deliver training. In America, as we can see from DOCUM, it starts from detail labor market analysis. In addition, Candy and Harris (1990) illustrated that from an analysis of the literature (see, for example, Blank, 1982; DEET, 1988; DOLAC, 1988; Hobart and Harris, 1980, OSU, 1986; Thompson, 1985), TVET curriculum features may be summarized as follows: (i) the pre-specification of individual competencies to be attained; (ii) the modularization of the curriculum, with each component building on the cumulative attainment of the preceding modules; (iii) individualization of instruction, so that learners are free to progress at their own rate; and (iv) identification of precise standards of performance to be achieved and demonstrated by learners before progressing. These authors also state that however, notwithstanding criticisms, CBVE has attracted a lot of positive support, and a number of advantages are claimed by its advocates. These include: (i) the existence of public criteria for success by students, which leads to less subjectivity in marking; (ii) because learners 'teach themselves', there is more time for staff to spend with students experiencing difficulties; (iii) the self-paced nature of the approach allows opportunities for higher ability students to undertake extension work; (iv) better use is made of hardware and workshop equipment because of staggered progress; (v) the CBVE approach is more motivating than conventional teaching strategies because learners exercise more discretion over pacing, sequence, and mode of learning; and (vi) learning outcomes are more enduring because of the requirement for demonstrated 'mastery' before progressing to more advanced skill levels.

Taking into consideration the practical advantage of competency based TVET curriculum, Ethiopia has been applying it for years. According to my understanding from my readings, the main important problem may limit the competency based TVET curriculum in Ethiopia may be a lack of knowledge and experience to develop a curriculum at the local level in this decentralized responsibility to develop curriculum at TVET institutions level. Regarding this idea, Schokland Program (2012) states that due to lack of both professional and methodological capabilities among the training institutions, the task of preparing curricular materials is yet shouldered by the regional TVET agencies. This practice of support is told to continue until training institutions have the capability or competence to develop appropriate curricula. The preparation of curriculum development guides, model curricula and the like will continue to maintain the required quality of TVET delivery. One can conclude that the decentralization process of curricular materials preparation did not yet address the intended objectives. On the other hand, Schokland Program also identified that in addition to the problem of decentralization, the continuous change made in the required occupational standards is another challenge in the effective implementation of the reformed TVET approach. While training institutions have set themselves and started to provide training in certain occupational standards disseminated, the MoE in the mean time updates and/or replaces those occupational standards with new ones. This has created confusion, resource wastage and grievance among the training institutions, the management, the instructors as well as the students. The preparation of curricular materials is also highly affected by such inconsistencies at the OS level because it requires repeated parallel reworking although the dynamic nature of a curriculum is undeniable. In order to achieve the competencies we drive from occupational standards, we need one and only one thing, which is real practice. To practice the industry and become competent, we need machines. Can we afford it? I had been teaching English at TVET for two years six years ago and what I observed was that the shortage of resources for practice- many students use one computer at the same time and turn by turn,

students had to go far in summer to learn in practice what they learned in TVET. Learning would be effective of if learning the theory immediately followed by practical learning.

## References

Bowman, K., Clayton, B., Bateman, A., Knight, B., Thomson, P., Hargreaves, J., Blom, K. & Enders, M. (2003). Recognition of prior learning in the vocational education and training sector. A project for the Australian National Training Authority conducted by the National Centre for Vocational Education Research in conjunction with the University of Ballarat and the Centre Undertaking Research in Vocational Education. Retrieved from https://www.ncver.edu.au/...

Candy, P. C.& Harris, M. R. (1990). Implementing Competency-Based Vocational Education: A View from Within. Journal of Further and Higher Education, 14(2), 38-58. doi:10.1080/0309877900140203

Chyung, S. Y., Stepich, D.& Cox, D. (2006). Building a Competency-Based Curriculum Architecture to Educate 21st-Century Business Practitioners. Journal of Education for Business, 81(6), 307-314. doi:10.3200/joeb.81.6.307-314

Dereje, D. (2013). Current practices and prospects of Technical and Vocational Education and Training (TVET): the case of East Wollega Zone. A Thesis (Unpublished)

Knight, B. (2005).Assessment for recognition of prior learning in technical and vocational education and training in Australia: where to from here? National Centre for Vocational Education Research Ltd. Retrieved from http://www. iaea. info/

Laird, D. & Stevenson, J. A (1993). Curriculum development framework for vocational education. *Australian and New Zealand Journal of Vocational Education Research*,3,71-92. Retrieved from www.voced.edu.au/content/ngv%3A31694

Learn4Work Schokland Program (2012). Technical and Vocational Education and Training Mapping in Ethiopia Final Report. Retrieved from The Edukans Foundation website: http://schoklandtvet.pbworks.com

MacNeil , A.J., Prater, D.L. & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education: Theory and Practice,* 12(1), 73-84, DOI: 10.1080/13603120701576241

Ministry of Education. (2008). National Technical & Vocational Education and Training Strategy.

Ministry of Education. (2011). Ethiopian TVET System Model curriculum.

Norton, R.E. (1992). SCID: A Competency-Based Curriculum Development Model. Retrieved from https://www.researchgate.net/publication/234569480_SCID_A_Competency-Based_Curriculum_Development_Model

O.S.K, K. A., Ramdass, R. & Santokhee, U.G. (2012). Recognition and Validation of Prior Learning: The Example of Mauritius. Association for the Development of Education in Africa.

Rauner, F. & Maclean, R. (2008). Handbook of Technical and Vocational Education and Training Research. UNESCO-UNEVOC International Centre for Education. Germany: springer

Soare, E. (2015). Perspectives on designing the competence based curriculum. *Social and Behavioral Sciences,* 180, 972 – 977.

Ministry of Education. (2011). TVET Curriculum Development.

Wesselink, R., Groen, A.M., Biemans, H. J. & Mulder, M. (2010). Using an instrument to analyze competence-based study programs: experiences of teachers in Dutch vocational education and training. *Journal of Curriculum Studies*, 42(6), 813-829, DOI: 10.1080/0022027100375924.

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# Realigning Vocational Skills for Employment and Self Employment of Hearing- Impaired Youths: The Case of Masvingo-Peri Urban

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**Abstract:** The study sought to investigate the prospects of equipping hearing impaired youths in peri-urban Masvingo District with skills for employment and self-employment in view of the economic crisis in Zimbabwe. The study used the Human Capital Theory as the theoretical framework. A case study research design was used. Data was collected through semi-structured interviews of eight purposefully selected hearing impaired vocational graduates as well as four key informant interviews with lecturers at the special school. Observations were also done to augment data from the interviews. Thematic analysis was used in analysing the data. The study revealed that the hearing-impaired graduates acquired technical and vocational and skills at the special school. However, despite the high skill levels, they were not being utilised for their livelihoods. Instead of utilising their technical and vocational skills, most of the graduates were engaged in self initiated micro-entrepreneurial activities such as street vending. The major challenges to employment and self-employment included lack of capital, communication barriers and lack of representation and clear policy. The study recommends the realignment of vocational skills with the reality in which hearing impaired graduates experience daily to focus more on entrepreneurship and community development in view of a weak economy which makes employment and self-employment difficult to achieve.

**Keywords:** *Vocational skills, hearing impaired youth, employment, and self-employment, economic crisis*

## 1. Introduction

Zimbabwe has made significant progress in the provision of both general and vocational education to its youths and adults with disabilities since attaining independence in 1980. Soon after Zimbabwe's independence, the new government began to coordinate and manage the education for the hearing impaired in line with the move towards providing equal opportunities for all (E Mpofu, Kasayira, Mhaka, Chireshe, & Maunganidze, 2007; Peresuh & Barcham, 1998).However, in recent years these youths have been operating at the periphery of the economy. This paper is premised on the notion that vocational skills offered to youths with disabilities in Masvingo peri-urban area of Zimbabwe is failing to improve the livelihoods of hearing impaired graduates and is in need of re-alignment to the current economic realities in order to enhance the graduates' employment and employability. The study was limited to hearing-impaired vocational graduates from a special school in Masvingo peri-urban. This paper starts by discussing the arguments for vocational education for youths with disabilities, the economic crisis in Zimbabwe and presents alternative directions for re-aligning vocational education for the hearing impaired to improve their employability. Equipping people with disabilities with vocational skills is widely believed to improve their chances of accessing employment opportunities as well as improving their participation in self-employment. Research has shown that people with disabilities are usually disadvantaged in regards with employment opportunities due to their lower access to education including vocational education(Barnes & Mercer, 2005; Eide & Ingstad, 2017; World Health Organization, 2015). Recent studies in the United Kingdom, South Korea and Ghana have revealed that people with disabilities have less access to vocational education programs as such; they do not enjoy the benefits of vocational training such as participation in the labor market through employment(Chun, Connor, Kosciulek, Landon, & Park, 2016; Gyamfi, Mprah, Edusei, Dogbe, & Owusu, 2016). In Uganda it has been revealed that inequality in employment is one of the stumbling blocks to social and economic development(Nyombi & Kibandama, 2016).

In the Zimbabwean context research has confirmed similar challenges in accessing work for persons with disabilities. Choruma (2007) aptly describes people with disabilities in Zimbabwe as a forgotten tribe in reference to their marginalization. In other studies, employers have been found to be skeptical in employing the disabled (Hlatywayo & Ncube, 2014; Kaserera, 2012). There are only a few studies on disability and employment in Zimbabwe as is the case for studies on skills development for the poor in general (Bennell et al., 1999). A study by (Musengi, Ndofirepi, & Shumba, 2012) revealed that current data on participation of the

hearing impaired in general education is unknown. Residential schools offering vocational skills training for the hearing impaired in Masvingo province include the Henry Murray School for the deaf at Morgenster Mission and the Jairos Jiri training centre. These special schools in Zimbabwe focus on vocational skills in fields such as metal work, welding, fashion and fabrics and agriculture, this is also the trend in the United States of America (Chitiyo & Wheeler, 2004; Musengi et al., 2012).There is still need for more research on employability of people with disability in Zimbabwe hence this study which focuses on vocationally trained hearing impaired youths in a special school. The study sought to address the following two research questions:

- What are the employability skills needed by hearing impaired VET learners in view of the economic crisis in Zimbabwe?
- How should the VET skills training for the hearing impaired be realigned to meet the need for employment and self-employment?

The terms vocational education and employability are defined in the following section:

***Vocational Education and Training***: There are so many definitions of the concept Vocational Education and Training (Billet, 2011). Vocational training involves teaching people to acquire a particular skill meant to prepare them for a particular occupation. According to UNESCO, VET is concerned with the acquisition of knowledge and skills for the world of work. In the Zimbabwean context, Technical and Vocational Education is used to describe technical education and vocational education as a whole inclusive of training done on the job as well as in training institutions (Ministry of Higher and Tertiary Education, 2005).

***Employability:*** The issue of employability has occupied centre stage in VET in recent years. The concept employability means different things to different people. In this paper the definition Hillage and Pollard (1998, p. 1) is adopted which spells out that employability is about having the capability to gain initial employment, maintain employment and obtain new employment if required. This definition is crucial in that it identifies key elements which determine employability including the possession of assets in terms of the knowledge, skills and attitudes they posses, the way they use and deploy those assets, the way they present them to employers, and crucially, the context including the circumstances in the labor market (Hillage & Pollard, 1998).

## 2. Literature Review

The purpose of this literature review is to show the importance of vocational education for people with disabilities. In doing so, the Human Capital Theory (HCT), was used as the theoretical framework for the study. The Human Capital Theory emphasizes the role of education in increasing the productivity and efficiency of workers (Nafukho, Hairston, & Brooks, 2004; Olaniyan & Okemakinde, 2008). Education therefore is considered to be an investment in the same way money is considered capital. As applied to the current study, an investment on hearing-impaired youth through vocational education will likely make them more productive for their organizations and society as a whole. Vocational education and training (VET) has been commended for contributing to development on the global level and has regained attention of policy makers and researchers (McGrath et al., 2006; Vaz, 2012). According to UNESCO (2016) globally, vocational education is being used to address a range of concerns including rising youth unemployment, poverty and gender inequality. It is against that backdrop that most countries have made significant investments in VET to equip youths and adults with skills for employment and self-employment. It has long been observed that without skills to sell on the labor market or to use in self-employment, individuals are much more likely to be in poverty(King & McGrath, 2002; McGrath, Akoojee, Gewer, & Roberts, 2006). This is worse for those who are differently-abled. Equipping the differently-abled with vocational skills is a critical component of the poverty reduction as anticipated in the Sustainable Development Goals (SDGs) 2016- 2030. In terms of VET provision specifically the UNESCO-TVET Strategy for 2016 to 2021 is at the centre of informing government policies (UNESCO, 2016). Of particular relevance are goal 4(quality education) and goal 8(decent work and economic growth) of the SDGs (UNESCO, 2016). The TVET Strategy focuses on the need to transform the TVET sector so that it reflects the current social, economic, technological and environmental landscape on the global scale. The changes in the nature of the labor market and trends in youth employment make the reforms even more urgent.

TVET has the power and potential to transform lives through enhancing people's employability and access to jobs, enabling labor market progression and promoting 'decent work' by, for example, increasing people's incomes and also reduce exclusion from the job market irrespective of race, gender, social position and disability (UNESCO, 2016, p. 5). Despite having clear roles for TVET in society, most of the time it fails to achieve its intended goals hence UNESCO realized the need to realign TVET to meet expectations of an ever changing global community. There has been a focus on enhancing the employability of disabled VET students for them to be able to participate in the labor market (Riddell, Baron, & Wilson, 2001). The unemployment of people with disabilities is higher than for the non-disabled (Harvey, 1998, 2001; Wagner, 1991). The transition from school to work has attracted significant attention in the field of special education and vocational education is one of the bridges linking the two. However, the efficacy of vocational training in increasing employment and self employment of graduates has not received adequate attention (Harvey, 2001).

The UNESCO TVET strategy identified the following six key areas of focus for TVET for the next five years; Access to TVET, Quality of TVET, TVET Governance, Private sector involvement, TVET institutions and Funding. The first two focal areas of access and quality are quite relevant especially in relation to VET provision for people with disabilities. Often times they have limited access to VET opportunities and where they eventually get access, the quality of provision often times is poor. Quality was again discussed, particularly in terms of outputs that are valued by employers, which has implications for the measurement of TVET success (UNESCO, 2016).The UNESCO TVET strategy outlines four key principles that should guide TVET provision, however only two are presented because of their close association with the current study:

- TVET provides opportunities to acquire better access to decent work. It provides 'skills for jobs' however cannot create these jobs. In this context, TVET should adopt a holistic approach, preparing people for life outside work in the wider society;
- TVET should also focus on providing other skills, in particular entrepreneurial skills, as these can help people create their own jobs when jobs are not available in sufficient numbers (UNESCO, 2016, p. 7).

It is uncontested that people equipped with vocational skills are more likely to have better livelihoods if they make use of their skills in employment and self-employment. It should be noted that about 80% of youths with disabilities live in developing countries (World Bank, 2005; UNDESA, 2012). These youths face challenges that are not unique from those of others including lack of access to education, health-care, social services and employment. However, the little literature available on employment of youth with disabilities suggests that they are affected by these challenges in more complex ways as compared to those without any disabilities(Kett, 2012). Youths with disabilities in developing countries have limited access to mainstream vocational education institutions and have also limited participation in the formal labor market(Bennell et al., 1999). Recent studies have shown that youths with disabilities experience employment and employability challenges (Chun et al., 2016; Guilbert, Bernaud, Gouvernet, & Rossier, 2016). Zimbabwe is considered to be one of the most disability friendly countries on the African continent due to its supportive legislation as well as economic and education policies for the differently-abled (Musengi et al., 2012). Zimbabwean legislation on disability includes the Disabled Persons Act of 1996, Section 22 of the Constitution of Zimbabwe Amendment No 20. These legislations recognize the role of the differently-abled in Zimbabwe including their participation in education and employment. Elias Mpofu and Harley (2002) note that the country has made significant investments in its vocational training system ahead of many others on the continent. The government of Zimbabwe is a significant player in the provision of VET however; there is also the participation of non-governmental organizations and the private sector.

***The Economic crisis and vocational education in Zimbabwe:*** Zimbabwe has experienced successive economic crisis from the early 1990s onwards. The crisis was triggered by economic liberalization policies and Structural Adjustment Programs prescribed by the Bretton Woods institutions. The policies affected the provision of social services including education and health (Nyazema, 2010; Vurayai & Muwaniki, 2016). More recently the economic crisis was worsened by sanctions imposed on the country after implementing the Fast Track Land Reform Program as well as poor economic stewardship (Groves, 2009; Mabhena, 2010). The economic crisis in Zimbabwe had obvious challenges on the operations of vocational training institutions and education provision in the country as revealed by the Presidential Commission on Education of 1999,

popularly referred to as the Nziramasanga Commission Report. Findings of the report revealed that most educational institutions were affected by the economic challenges in Zimbabwe compromising provision of knowledge and skills to learners. Other related studies have revealed that the challenges include decline in student enrollment, collapse of infrastructure and brain drain among others (Kanyenze, Kondo, Chitambira, & Martens, 2011; Nyazema, 2010; Nziramasanga, 1999). More recent studies on the impact of the economic crisis on education have also revealed that aspects such as teacher professionalism have also been negatively affected by the crisis (Vurayai & Muwaniki, 2016). Skills training centres were more affected by the crisis because more often they need consumables for practical subjects that are difficult to obtain when the economy is not performing well. In view of the economic crisis in Zimbabwe the researchers assumed that vocational education skills training programs for the hearing impaired youths in Masvingo peri-urban could be facing challenges in achieving the goals of employment and self-employment hence the study.

## 3. Methodology

A case study design was used in this study (Rule & John, 2011; Yin, 2013). This study was done with graduates from a special school offering vocational education and training to differently-abled youths in Masvingo peri-urban. The special school selected has special focus on hearing impaired youths. Qualitative research is conducted through intense prolonged contact with research participants (Miles & Huberman, 1994 ).Qualitative research is the best approach for this study to explore the social inclusion of individuals with disabilities(Hall, 2009, p. 163).Purposive sampling was used in the selection of study participants' hearing impaired vocational skills graduates who attended the special school in Masvingo peri-urban. The participants were eight graduates and four lecturers from the institution. The participants were from the following trades; welding, building, clothing and textile as well as wood work. Of the four lecturers, three were non-hearing impaired and only one was hearing impaired. Of these participants five were male and seven female.

**Data collection and Analysis:** Data was collected data using semi- structured interviews for the eight graduates. On the other hand, data from the vocational lecturers was collected using key informant interviews. A qualified research assistant helped in collecting data from the hearing impaired graduates using sign language. The assistant was asking the questions as well as recording the responses verbatim. Data was analyzed using qualitative data analysis which used the following steps: data reduction, coding and categorization into themes(Creswell, 2013; Miles & Huberman, 1994 ). Thematic analysis is regarded as an accessible and theoretically flexible approach to analyzing qualitative data (Braun & Clarke, 2006).The major themes that emerged from the data and were supported by rich quotes where it was deemed necessary.

**Methodological Rigor:** Rigor is an important aspect to consider in research studies. It refers to the means by which researchers demonstrate integrity and competence (Tobin & Begley, 2004). In this study aspects of trustworthiness and ethics were considered to uphold rigor. In this study applicability, consistency and neutrality were considered as aspects to enhance trustworthiness (Guba & Lincoln, 1994). As expected in research, care was taken to avoid violation of ethics. Ethical issues are important is research studies which involve the participation of humans as well as animals (Denscombe, 2014). Observing ethics become more important when dealing with vulnerable participants such as children or people with disabilities (Aldridge, 2014). In this study informed consent was addressed through informing all the participants of the purpose of the study as well as their freedom to withdraw at anytime

## 4. Results and Discussion

This section discusses the major findings of the study based on the two main research questions of the study.

**Employability skills needed by hearing impaired graduates in the context of economic crisis:** Evidence from the study from both the key informant interviews with vocational lecturers and the semi-structured interviews with graduates showed congruency on the major issues under study. The hearing impaired vocational graduates felt that the vocational skills they received from the special school gave them motor skills which they previously did not have. However their expectation after the training was to get employment in the trades they trained in as well as assist others who wanted to be self-employed. The

vocational graduates were united in their frustration with the training they received in that it emphasized acquisition of technical skills in trades such as welding, building, wood work and clothing and textile without including employability skills.

**Realigning vocational skills training programs for hearing impaired:** Related to the above finding are issues to do with including work related learning in the curriculum, broadening vocational profile of learners, use of industry specific technology and entrepreneurship training.

***Work related learning:*** The current vocational skills training program offered at the special school does not have compulsory work related learning which exposes students to the real world of work. As a result graduates are not well prepared for entry into the labor market upon completion of the training. These sentiments were shared by both the graduates and the lecturers interviewed. The following are some of the excerpts from the interviews:
**Lecturer 1:** *Our program is entirely institution based as a result our graduates complete without industrial exposure. This affects their participation in the labor market because employers prefer those who did attachment.*
**Lecturer 2:** *Employers have negative perceptions on our program. This is compounded by the fact that our students are unique in that they are hearing impaired. I think we need to expand enrolment to make it inclusive of non-disabled youths to show employers that we are equally competitive.*
**Student 1:** *We need industry exposure in our program so that we work together with the hearing co-workers as well. Sign language must also be recognized in work places as a normal language just as English and Shona.*
**Student 2:** *Our training program needs to emphasize both technical skills and other skills that enhance our chances of labor market participation.*

The need for work experience to enhance graduate employability in VET and Higher Education Institutions (HEI) has also been confirmed in several studies in recent years (Dacre Pool & Sewell, 2007; Working Experience Group, 2002). The Working Experience Group (2002, p. 4) note that employers value people who have undertaken work experience in the real world of work to develop their competency. Vocational training colleges need to understand the learning and teaching experience in more complex ways than is usually associated with projects that aim to enhance employability such as industry partnerships or work experience programs (McGrath, Needham, Papier, Wedekind, & van der Merwe, 2010b; Wedekind & Mutereko, 2016). Participation of students in work related learning is one of the key factors for the success of vocational education programs (Mabhanda, 2016). This applies to all colleges and even special schools for the differently-abled people since the labor market is not divided.

**Use of appropriate technology relevant to industry:** The economic crisis in Zimbabwe has had obvious challenges on the ability of vocational institutions to invest in technology for teaching and learning. Lecturers also lamented the lack of current technology in their programs such as the one used in industries. The investment in technology has been hampered by the poor performance of the economy over the past twenty years. The following quotations are quite revealing on the challenges faced as a result of poor technology.
**Lecturer1**: *In my program, we have not adopted computer technology for teaching and learning. Computers are not even prioritized at all and I don't think they are necessary in building.*
**Lecturer 2:** *In metal work, there are some activities which we do not do because we do not have the necessary equipment such as lathe machines used by technical colleges. As a result our students do not cover the whole curriculum.*

In order to enhance approximation between industry requirements and the learning environment at the local institution, there is need to create working linkages between the institutions whereby industry also invests in infrastructure development for the training centres. This is in line with Wedekind and Mutereko (2016, p. 379) findings that given the rapid pace of social and technological change, educational institutions need to be flexible and adaptable to the needs of employers.

**Broader vocational profiles:** Graduates from the special school revealed that currently once they choose a particular program they are confined to it and do not learn any other subjects. In their view, this affects their employability. Some graduates interviewed made the following responses:

**Graduate 1**: *Our school emphasizes specialization in a field that you have been placed in. Some of these placements are just made at Administration office and sometimes you are given a field you are not interested in.*
**Graduate 2:** *The Lecturers in the schools need to have students in their classes at any one time. As a result of low student enrollments they just divide the number of students with the programs available without even looking at the labor market.*
**Graduate 3:** *In cases where educational guidance is offered to us when we start courses, it has been biased deliberately by the lecturers because they do not want to lose students to other programs and we end up studying for qualifications that are not marketable.*

Graduates under study had limited vocational profiles, in that one had to make a single choice of program of specialization. For increased employability, there is need to expand programs for example one can study building and wood work simultaneously. This broadens the skill base of the graduate in that apart from being able to build houses one now has roofing skills as well. This enhances the chances of these hearing impaired graduates to compete on the labor market once they have broader skills. The importance of broadening vocational profiles of learners been emphasized in earlier studies (Working Experience Group, 2002).

**Curriculum responsiveness to local realities:** Colleges need to take note of the local realities in which they operate and as such their curriculum should be responsive to changes in the labor market to improve graduate employability. Findings from the study have revealed that employability of graduates from the special school under study has been also worsened by poor curriculum responsiveness to prevailing circumstances in the economy. This was confirmed by the lecturers. The following quotations from the interviews with some lecturers reveal poor curriculum responsiveness:
**Lecturer 1:** *The programs that we offer have not been reviewed or changed since the opening of the school. I came here more than ten years ago and there have not been any changes.*
**Lecturer 2:** *Our curriculum is mostly closed, with little input from outside of the institution as such we lag behind developments in the labor market*.
The above quotations from interviews with the lecturers are quite revealing on the poor curriculum responsiveness at the institution and this has a bearing on graduate employability. There is evidence of poor quality assurance by the institution and this affects the quality of graduate produced by the college. Previous studies on curriculum responsiveness and employability in VET have revealed that vocational curriculum should respond to the needs of employers, the economy students and the requirements of a particular discipline (Moll, 2004; Wedekind & Mutereko, 2016).

## 5. Conclusion and Recommendations

The study revealed that there is a misalignment of vocational skills training for hearing impaired youths at the special school studied as a result of the economic crisis in the country. There is a need for the realignment of vocational training for hearing impaired youths with the realistic employment and self employment opportunities available. There is need for vocational policy that encourages inclusive education as well as offering disability specific training programs that are in-line with labor market requirements. The government of Zimbabwe should also consider employment quarters which encourage the employment of people with disabilities in areas where they have skills. Companies which comply with this requirement need to be encouraged by the government through tax exemptions in certain cases. Another aspect is in relation to work environments which need to be accessible for all people, with or without disabilities. There is need to encourage all stakeholders in vocational training of hearing impaired youths to promote employment and self-employment opportunities for these graduates. Vocational graduates need to be supported financially and materially to start their own enterprises. It also emerged that vocational training should be contextualized and responsive to the nature of learners' disabilities. Vocational training needs to expand its focus from labor market to non-labor market imperatives.

**References**

Aldridge, J. (2014). Working with vulnerable groups in social research: dilemmas by default and design. *Qualitative Research,* 14(1), 112-130.

Barnes, C. & Mercer, G. (2005). Disability, work, and welfare: challenging the social exclusion of disabled people. *Work, employment and society,* 19(3), 527-545.

Bennell, P., Bendera, S., Kanyenze, G., Kimambo, E., Kiwia, S., Mbiriyakura, T. & Parsalaw, W. (1999). Vocational Education and Training in Tanzania and Zimbabwe in the Context of Economic Reform. Education Research Paper: ERIC.

Billet, S. (2011). Vocational Education Purposes, Traditions and Prospects. New York: Springer.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Chitiyo, M. & Wheeler, J. (2004). The Development of Special Education Services in Zimbabwe. *International Journal of Special Education,* 19(2), 46-52.

Choruma, T. (2007). *The forgotten tribe: People with disabilities in Zimbabwe*: CIIR.

Chun, J., Connor, A., Kosciulek, J. F., Landon, T.& Park, J. (2016). Career Development for Youth with Disabilities in South Korea: The Intersection of Culture, Theory, and Policy. *Global Education Review,* 3(3), 57-74.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*: Sage publications.

Dacre Pool, L. & Sewell, P. (2007). The key to employability: developing a practical model of graduate employability. *Education+ Training,* 49(4), 277-289.

Denscombe, M. (2014). The good research guide: for small-scale social research projects: McGraw-Hill Education (UK).

Eide, A. & Ingstad, B. (2017). Disability and poverty: A global challenge: Policy Press.

Groves, R. (2009). Fast-track Land Reform And The Decline Of Zimbabwe's Political And Economic Stability.

Guba, E. G. & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research,* 2(163-194), 105.

Guilbert, L., Bernaud, J. L., Gouvernet, B. & Rossier, J. (2016). Employability: review and research prospects. *International Journal for Educational and Vocational Guidance,* 16(1), 69-89.

Gyamfi, N., Mprah, W. K., Edusei, A. K. E., Dogbe, J. A. & Owusu, I. (2016). Relevance of vocational training programme for persons with disabilities in the Ashanti Region of Ghana. *Journal of Disability Studies,* 1(2), 69-76.

Hall, S. A. (2009). The social inclusion of people with disabilities: a qualitative meta-analysis. *Journal of ethnographic & qualitative research,* 3(3).

Harvey, M. W. (1998). The relationship of postsecondary transitional outcomes and participation in secondary vocational technical education among students with disabilities. Pennsylvania State University.

Harvey, M. W. (2001). The efficacy of vocational education for students with disabilities concerning post-school employment outcomes: A review of the literature.

Hillage, J. & Pollard, E. (1998). Employability: developing a frame work for policy analysis. London: Department of Education and Employment.

Hlatywayo, L. & Ncube, A. C. (2014). Employing Deaf Persons: A Zimbabwean Employers Perspective. *International Journal of Innovative Research and Development,* 3(10).

Kanyenze, G., Kondo, T., Chitambira, P. & Martens, J. (2011). Beyond the enclave: Towards a pro- poor and inclusive development strategy for Zimbabwe. Harare: Weaver Press.

Kaserera, J. (2012). Assessing the impact of mainstream vocational training in developing capabilities of people with and without disabilities. A case of Danhiko Training Institution in Harare, Zimbabwe. Institute of Social Studies, The Hague, Netherlands.

Kett, M. (2012). Skills development for youth living with disabilities in four developing countries. Background paper for EFA Global Monitoring Report.

King, K. & McGrath, S. (2002). Globalisation, enterprise and knowledge: Education, training and development in Africa.

Mabhanda, W. (2016). Industrial Attachment challenges: Lessons drawn from Gweru Polytechnic College in Zimbabwe. *International Journal of Business and Management Invention,* 5(9), 37-42.

Mabhena, C. (2010). Visible hectres, vanishing livelihoods: A case of the Fast Track Land Reform Programme in southern Matebeleland- Zimbabwe. (PhD), Fort- Hare, South Africa.

McGrath, S., Akoojee, S., Gewer, A., Mabizela, M., Mbele, M. & Roberts, C. (2006). An examination of the vocational education and training reform debate in Southern Africa. *Compare,* 36(1), 85-103.

McGrath, S., Akoojee, S., Gewer, A. & Roberts, J. (2006). An examination of the vocational education and training reform debate in Southern Africa. *Compare,* 36(1), 85-103.

McGrath, S., Needham, S., Papier, J., Wedekind, V. & van der Merwe, T. (2010b). Employability in the College Sector: A Comparative Study of England and South Africa. Final Report of the Learning to Support Employability Project. School of Education, University of Nottingham.

Miles, M. B. & Huberman, A. M. (1994 ). *Qualitative data analysis: A sourcebook of new methods* Thousand Oaks, CA: Sage.

Ministry of Higher and Tertiary Education. (2005). Technical and Vocational Education and Training policy review framework (pp. 1-58).

Moll, I. (2004). Curriculum responsiveness: The anatomy of a concept. In H. Griesel (Ed.), Curriculum Responsiveness: Case Studies in Higher Education. Pretoria: SAUVCA.

Mpofu, E. & Harley, D. A. (2002). Disability and rehabilitation in Zimbabwe: lessons and implications for rehabilitation practice in the US. *Journal of rehabilitation,* 68(4), 26.

Mpofu, E., Kasayira, J., Mhaka, M., Chireshe, R. & Maunganidze, L. (2007). Inclusive education in Zimbabwe. *Responding to the challenges of inclusive education in Southern Africa*, 66-79.

Musengi, M., Ndofirepi, A. & Shumba, A. (2012). Rethinking education of deaf children in Zimbabwe: Challenges and opportunities for teacher education. *Journal of deaf studies and deaf education,* 18(1), 62-74.

Nafukho, F. M., Hairston, N. & Brooks, K. (2004). Human capital theory: Implications for human resource development. *Human Resource Development International,* 7(4), 545-551.

Nyazema, N. Z. (2010). The zimbabwe crisis and the provision of social services health and education. *Journal of Developing Societies,* 26(2), 233-261.

Nyombi, C. & Kibandama, A. (2016). Access to Employment for Persons with Disabilities in Uganda. Retrieved 17 October 2017, from Cornell University ILR School http://digitalcommons.ilr.cornell.edu/gladnetcollect/569.

Nziramasanga, C. T. (1999). Report of the Presidential Commission of Inquiry into Education and Training. Harare: Government Printers.

Olaniyan, D. & Okemakinde, T. (2008). Human capital theory: Implications for educational development. *Pakistan Journal of Social Sciences,* 5(5), 479-483.

Peresuh, M. & Barcham, L. (1998). Special education provision in Zimbabwe. *British Journal of Special Education,* 25(2), 75-80.

Riddell, S., Baron, S. & Wilson, A. (2001). The learning society and people with learning difficulties: Policy Press.

Rule, P. & John, V. (2011). Your guide to Case study research. Johannesburg: Van Schaik Publishers.

Tobin, G. A. & Begley, C. M. (2004). Methodological rigour within a qualitative framework. *Journal of advanced nursing,* 48(4), 388-396.

UNESCO (2016). UNESCO- TVET Strategy 2016 - 2021. Bonn, Germany: UNESCO.

Vaz, G. (2012). Integrating Vocational Education with Academic Education in Commonwealth Open School: Commonwealth of Learning (COL).

Vurayai, S. & Muwaniki, C. (2016). Zimbabwe's economic crises and the state of proffessionalism among rural secondary school teachers. *Dzimbabwe Journal of Multidisciplinary Research,* 1(1), 64-74.

Wagner, M. (1991). Youth with disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students.

Wedekind, V. & Mutereko, S. (2016). Employability and curriculum responsiveness in post-school education and training.

Working Experience Group. (2002). Work Related Learning Report. Nottingham.

World Health Organization. (2015). WHO global disability action plan 2014-2021: Better health for all people with disability: World Health Organization.

Yin, R. K. (2013). Case study research: Design and methods: Sage publications.

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# The Interaction between Service Quality and Students Satisfaction

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**Abstract:** This study aim to describe the effect of service quality on students' satisfaction. Study used a sample of respondents from university students in Hail, Saudi Arabia and the data were collected through questionnaire. Descriptive and regression analysis were used to find out the relationship between students satisfaction and service quality. This study concluded that there is a significant effect of tangible, reliability on students' satisfaction at university in Hail state. Moreover, there is a difference in service quality of higher educations managed by goverment and those managed by a foundation (private). Also, there is a difference between students satisfaction in public and private universities. Based on the findings, it is suggested that the goverment needs to pay more attention to increase service quality for the satisfaction of students, which will develop the public interest to go to university.

**Keywords:** *Reliability, Tangible, Responsiveness, Insurance, Empathy*

## 1. Introduction

The existence of higher education is strongly influenced by the internal and external developments of organization. The internal development is colored bythe potential of educational inputand itsprocess such as the potential of students, lecturer quality and working ethos. The external development is much more colored by the changes in economic, social, technology and culture which in turn becomes a mirror and demands of society in common. As a sub-system of national development, the education, especially higher education, must support national development system. Service is activity or benefit offered by one party to another that is essentially intangible in characteristic and does not produce any ownership. The production may be tied or not tied to the physical product. Service is actually a performance of service, intangible, quickly lost, being more felt than owned and the consumers can participate actively in the process of consuming these services (Kotler, 1997). Demand of quality in education is the quality of knowledge and skills owned by educational personnel, especially the lecturers, dexterity in taking action, broad-minded, effectiveness of structural system in job organization and professional in handling duties. Meanwhile, the modern understanding of the quality of higher education is understood as conformity of productin nature with the needs of consumers.

For graduates, quality is the main problem to face competition. It will be achieved by improvement of service quality (SERVQUAL) provided by the institution. On management aspect, the process of higher education can be viewed as a continuous improvementstarting from a series of cycles since the idea to produce qualified graduates (output). Development of curriculum andlearning-teaching process has responsibility to satisfying the graduates (output). There are five determinations of service quality: (1) reliability is the ability to fulfillthe services precisely and reliably, (2) tangible is physical appearance referring to equipment and personnel as well as the communication medium (3) confidence or assurance is the ability to generate trust and confidence, (4) empathy is a care of giving attention to consumer, and (5) responsivenessis the willingness to help consumers and provide them with quick and responsive services (Kotler, 1997). Physical (tangible) service quality greatly affects the learning process and generallythe educational facilityis limited. The educational facility is generally provided adequately instate college, but very limited in private college, including books in library, laboratory, and the quantity and quality of lecturers are relatively limited. The purpose of this writing is to investigate, analyze and discover the dimensions of service quality, namely; reliability, physical appearance, assurance, empathy, and responsiveness affects customer satisfaction in private and state universities in Hail state. There are differences in service quality between the public and private colleges.

## 2. Literature Review

Service characteristic is an intangible experience received by the consumer or customerin conjunction with the tangible product being purchased (Sienny, 2001). Service is categorized into two: (1) visible service, the service which can be seen and felt directly by consumers, provided by the provider who directly face the consumers and (2) invisibleservice,the services that cannot be seen and felt directly by consumers, these services support system visible. There are three main characteristics of service productwhich distinguish it from the retail product (Albert, 2002), namely, (a) Relative Intangible of Service, (b) Simultaneity of Service Production and Consumption, (c) Customer Participation.It is a dynamic condition relating to products and services. Additionally, quality is fitness for use. In various studies, since 1980s, service qualitytowards improvement of profitability was seen as something very important in encountering competition in business services, including public services. In literature, service quality (SERVQUAL) is often associated in relevance to large business organization with bureaucratic structures frequently leading to poor customer communications (Zeithami & Bitner, 2003). Based on the literature, conceptualization of SERVQUAL has developed very rapidly since 1980 that began with the conceptualization (framework) by Grönroos (2000) named "the Nordic model". Another expert who is well known in the measurement of service quality and customer satisfaction is Zeithami & Bitner (2003). They suspect that the perceived level of high service quality will generate customer satisfaction (Tufail et al., 2016).

Indicators of qualified lecturers are those who have academic reputations with the following characteristics; (1) the reputation of lecturers should be built on the accumulation of research results, scientific works and the quality of research result achievementsin the form of seminars: regional, national, and especially international scales; (2) possessing a specification on the substance of knowledge and expertise with a Master degree (S-2) and Doctoral (S-3) although still young; (3) not due to mere consideration of age senioryand adequately long tenure, but the most important is the ability to develop themselves in accordance to the needs in times. Customer expectations is a key point for everyone who involved in customer satisfaction that Irwan (2002) states that without recognizing the customer's expectations as well as possible, it is very difficult for companies to be able to provide optimum satisfaction to its customers. Customers with high expectations will be difficult to make them satisfied and inversely customers with low expectations will be more easily to satisfy. Expectation is an estimate or belief of customers in what they will receive when buying or consuming a product or using a variety of services, while the perceived performance is what the customers really receive after consuming the products purchased or using services of a company Barnes (2003.)

Tse & Wiltton (1988) expressed that satisfaction or dissatisfaction of customers is the response of customers to the evaluation of perceived mismatch between prior expectations and actual performance of the product being felt after use. Irwan (2002) argues that a satisfied customer is a customer who has gotten the manufacturer or service provider. This value may derive from product, service, system or something emotional. The concept of customer satisfactionis very diverse, as proposed Oliver (Cooper and Schindler (2006), with the expectancy disconfirmation models. In this model, the customer satisfaction is determined by cognitive variables, namely confidence in the anticipated result of a product or service and disconfirmation, i.e. the difference between expectations and reality, and the perception of pre purchase after purchase (post purchase perception). There has been a misunderstanding about the perception of satisfaction. The producers still consider the customer satisfaction lies in the price. They argued that if the price is low the consumer will satisfy. However, customer satisfaction lies in the quality of products and services in giving service. If customer satisfaction is created from the price, then the consumer gets immediate satisfaction. But in relation to quality, the long-term satisfaction should be created (Daft, 2003). Developed educational philosophy has been refracted into a sense of teaching with an emphasis on cognitive factors (recognition based on experience) and then the effective factor (internalization) and psychomotor (physical activity with respect to mental). Education in the broad sense can be defined as a process with a particular method that people acquiring knowledge, understanding and the way to behave in accordance with the needs of community (Sharma & Patterson, 1999).

## 3. Methodology

This research used quantitative method with two approaches: descriptive and explanatory. The descriptive approach was used to give explanation through the responses of respondents using tables, pictures and graphs of data collected descriptively and also be processed by others. The explanatory approach was used to explain thecausality, namely between the independent variables and the dependent variable. The independent variables: (X1) tangible, (X2) reliability, (X3) responsiveness, (X4) assurance, and (X5) empathy. The dependent variable is (Y) students' satisfaction in Hail. Data collection used (1) observation, (2) questionnaires, (3) interview and (4) documentation.

## 4. Results

**Effect of Service Quality on Student Satisfaction:** The result of this research after the test of validity and classic assumption stated thatthis research has satisfied to be analyzed by using multiple regression statistical analysis model. The remaining 0,629 or 62.90% is determined by other variables that are not included as researchvariables. The significance of students satisfaction improvement can be seen from the value of $F_{calculation}$ = 42,274 and p(sig) = 0,000 < 0,05 being affected simultaneously by physical service (tangible), reliability, responsiveness, assurance and empathy. Thus, the research hypothesis is simultaneously proved significant. To know the effect of SERVQUAL variables of tangible, reliability, responsiveness, assurance and empathy on students' satisfaction in Hail state, the partial discussion is as follows.

**(a) Effect of Tangible on Satisfaction:** The level of student satisfaction received from the management of the four universities in Hail state can be seen from the value of R2 = 0.371 or 37.10% that were influenced by an increase in satisfaction based on physical evidence as shown through standardized coefficientsunder the symbol of pi amounted to 0.090 or 9%, with the assumption that the variables of service such as reliability, responsiveness, assurance and empathy in a constant state. The increase of student satisfaction was influenced by the increaseeffect of physical evidence that can be shown by the value t = 2.132 and p (sig) 0.034 <0.05. Thus, the hypothesis 1 sub A is in partially proven that service quality (SERVQUAL) of physical evidence has positive and significant effect on student satisfaction during lecturing.

**(b) Effect of Reliability on Student Satisfaction:** The level of satisfaction the students received from the management of universities can be seen from the value of R2 = 0.371 or 37.10% were influenced by the increase of student satisfaction based on reliability as shown by standardized coefficient with the symbol $p_2$ of 0.093 or 9.30% on the assumption that the variablesof service quality (SERVQUAL) such as physical evidence, responsiveness, assurance and empathy are in constant state. Meanwhile, the significant increase in the level of student satisfaction was influenced by the increased influence of reliability that can be shown by the value t = 2.187 and p (sig) 0.029 <0.05. Thus, Hypothesis 1 sub b partially proven that quality service (SERVQUAL) through reliability of campus management services has significant and positive effect on the level of student satisfaction during the lecture.

**(c) Effect of Responsiveness on Student Satisfaction:** The level of student satisfaction received from the management of universities can be seen from the value of R2 = 0.371 or 37.10% that were influenced by an increase in the contribution of satisfaction based on the responsiveness of service that can be indicated by standardized coefficientswith p3 symbol of 0.205 or 20.50% with the assumption that the other variablesof service quality(SERVQUAL) such as physical evidence, reliability, assurance and empathy were in a constant state. The significance of the increase in student satisfaction was influenced by the increase of the influence of responsiveness which can be shown by the value t count - 4.742 and p (sig) 0.000 <0.05. Thus, the hypothesis 1 sub c is partially proven that quality service (SERVQUAL) through campus management service responsiveness was positively and significantlyaffect the level of satisfaction of the students during the lectures.

**(d) Effect of Assurance on Student Satisfaction:** The level of satisfaction the studentreceived from the management of universities can be seen from the value of R2 = 0.371 or 37.10% that were influenced by an increase in satisfaction based assurance services that can be shown by standardized coefficientswith the

symbol P4 of 0,118 or 18.80% with the assumption that the variable of quality of service (SERVQUAL) such as physical evidence, responsiveness, reliability and empathy were in constant state. The significant increase of student satisfaction was influenced by the increase in effect of the assurance as shown by the value t = 2.708 and p (sig) 0.007 <0.05. Thus, the hypothesis 1 sub d was partially proven that quality service (SERVQUAL) through assurance of campus management services has positive and significant effect on the level of student satisfaction during the lecturing in universities.

**(e) Effect of Empathy on Student Satisfaction:** Satisfaction of Management students can be affected by the service they get. Based on the results of this study that the validity and classic assumptionswas for the first tested, the data of all variables of this research are eligible to be analyzed using a model of statistical analysis regression through SPSS to find out briefly the difference between the level of students satisfaction who study at state universities and private higher universities. Based on the test results mentioned above, the second hypothesis of the research was received on the significant rate of 95%. So,there is a difference in the level of satisfaction felt by students from both state and private colleges. Many factors that cause these differences, namely at state universities students are very adherent to meet their obligations on time, because of the better service(on time), especially in lecturing, the strict rules to make students attempting to fulfill their obligations on time. Meanwhile,the students at private universities frequently got service of lecturing irregularly making them dissatisfied.

Quality of service through responsiveness is also seen that there is a difference if the note of contribution between the responsiveness of the services provided by the universities run by the government and universities managed by foundations or private. Based on the statistical results showed that the quality of empathy services shown by colleges by the second government has diferent with colleges by the second foundation. The difference between public and private universities can. In addition to supporting the research of Tjiptono, other evidence that shows how much attention of many researchers to customer satisfaction seen from the many results of research conducted Among done at PT. Jamsostekby Setyanto (1999), which examines the quality of service as perceived by subscribers on the three branches of Social Security, namely Publications, Darmo and Tanjung Perak in Surabaya with the finding that the five dimensions of quality of services which include: direct evidence, reliability, responsiveness, assurance and empathy can affect customer satisfaction. Then Kadir (2001) in her dissertation tried to examine the effect of the bank's management commitment to the level of employee satisfaction and customer satisfaction rate of banks in South Sulawesi. The results showed there were differences in the level of customer satisfaction, for example, the dimensions of tangible commercial banks government considered more satisfactory than private banks, on the contrary dimension realibity private banks considered more satisfactory by customers when compared to state-owned commercial banks.

Another researcher, Daft (2000), examined the impact of service quality on customer behavior taxi transport services which concludes the influence between service quality and customer behavior that is favorable or unfavorable. Behavior that is favorable to say positive things about the service providers, include: recommending to another prospect, remain loyal to the company, re-purchase or pay a premium price. While the favorable behavior indicates otherwise.Thus, this study further strengthens the findings of previous studies, although this study used different objects with variables that are relatively the same but with a different indicator. Research can provide new nuance in the development of science, especially in terms of quality of service.

**Discussion of Partial Effect:** The discussion of partial effect was intended to find out and get a more specific description of each of the variables studied. The findings of each variable of the service qualitywill make it easier to find the cause of the weakness or strength in the service of each independent variable on the dependent variable. The findings of effect of each independent variable on dependent variablewill make easier to know the cause the effect rises and falls.

**(a) Effect of Reliability on Student Satisfaction:** The service quality from the dimension of reliability includes the on-time lecturing process, student assignments, examination, administrative services, feedback of students' works. The fifth indicators of reliability variable used to the universities, both the public and private were still not optimal. It isproved by the contribution valueto the level of student satisfaction at only

0.093 or only 9.30%. The low quality of service reliability is also triggered by differences in reliability services, where the public universities are relatively more reliable in service compared with private universities with the different contributions that the state collegewas larger (18.10%)than the private colleges (13.20%). The difference due to the state colleges having more capable employees than the private colleges with various limitations.

**(b) Effect of Responsiveness on Student Satisfaction:** Service quality from the dimensions of responsiveness includes the readiness to listen to the complaints given by students, responsiveness to deal rapidly with the complaints of students, the readiness and ability to explain the procedures and systems concerning the lecturing the students do not yet understand, and creativity in solvingthe problems faced by students. The four indicators of responsiveness variables were valid for all universities, but still not in accordance with the expectations of most students. This can be evidenced by the value of its contribution to the level of student satisfaction at only 0.205 or only 20.50%. The low service quality of responsiveness is also triggered by the difference in responsiveness service, where state universities are still relatively more responsive in service to students than in private universities with different contributions that the state university is bigger, namely 29,30% that the private university only reaches 12, 80%. The differences in service quality of responsiveness are caused bystate colleges having a number of professional and competent employees in providing better services. The dimension of responsiveness which needs improvement is responsive to student complaints. In this regard, three possibilities that occur in connection with their level of satisfaction: customers satisfy to action taken for overcoming their problem (Irwan, 2002).

**(c) Effect of Assurance on Student Satisfaction:** The service quality of assurance dimensions in the form of lecturer professionalism, ability to solve the problems faced by students, ensure the security and safety of the vehicle and student facilities, ensure the safety of students during staying in college, ensure that no illegal payments were made by either lecturer, administrative and even students itself. The fifth indicators of the quarantine variable are valid for universities organized by both the government and the private and it does not prove to satisfy the expectation. With the difference in the background, private colleges are able to understand the difference in providing services compared with thin comparison with a college run by the government using various limitations. Results of this research have supported the research conducted by Tjiptono (2003), who found that the service quality of empathy has effect on students' satisfaction. This research further contributes to the research result in this field of service quality, especially in the service of empathy.

## 5. Conclusion

Based on the discussion of research results having been stated previously, the general conclusion is that there is a positive and significant simultaneous effect of service quality (SERVQUAL) between physical service (tangible) and reliability, between physical service (tangible) and empathy to students' satisfaction at the universities in Saudi Arabia. The partial effect of the five dimensions of SERVQUAL as dependent variables is concluded as follows:

- Physical service (tangible) has positive and significant effect on the level of student satisfaction at the universities in Hail state.
- Reliability has positive and significant effect on the level of student satisfaction at the universities in Hail state.
- Responsiveness has positive and significant effect on the universities in Hail state.

## References

Albert, C. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, 36(7/8), 811-828.

Barnes, J. G. (2003). Secrets of Customer Relationship Management. It's all About How You Make Them Feel. New York: McGraw-Hill.

Cooper, L. & Schindler, F. (2006). Business Research Methods, New York: McGraw-Hill.

Daft, R. L. (2003). Manajemen Sumber Daya Manusia. Jakarta: Erlangga.

Gronroos, C. (2000). *Service Management and Marketing: A Customer Relationship Management Approach, 2nd edition*, Chichester: John Willey & Sons, Ltd.

Irwan, H. (2002). 10 prinsipke puasanpe langgan, cetakan Kedua, PT. elex Media Komputindo, Jakarta.

Kadir, A. R. (2001). Pengaruh Komitmen Manajemen Bank terhada ptingka tkepuasan Kerja Karyawandan Tingkat Kepuasan Nasabah Bank di Sulawesi Selata. Disertasiti dakdipubli kasikan, Program Pasca SarjanaUniversitas Airlangga, Surabaya.

Kotler, P. (1997). Manajemen Pemasaran, Analisis Perencanaan, Implementasi, dan Kontrol, Edisi Sembilan Terjemahan, PT. Phenhallindo, Jakarta.

Sharma, N. & Patterson, P. G. (1999). The impact of communication effectiveness and service quality on relationship commitment in consumer, professional service. *Journal of Service Marketing*, 13(2), 151-170.

Sienny, T. (2001). Membangun Service Quality Untuk Mencapai Kepuasan Konsumen di Industri Hospitality

Tse, D. K. & Wiltton, P. C. (1988). Model of Consumer Satisfaction Formation; A Extension. *Journal of Marketing Research*, 25, 12-24

Tufail, M. S., Muneer, S. & Ishtiaq, M. (2016). Job Characteristics with Task and Contextual Performance: Moderating Role of Procedural Justice for Front Line Managers. *Journal of Social Sciences*, Special Issue, 299-508.

Daft, R. (2000). Manajemen. Edisikelima. JilidSatu. PT Gelora Aksara Pratama (Erlangga). Jakarta.

Tjiptono, F. (2004). Strategi Pemasaran. EdisiKedua. Andi Offset, Yogyakarta.

Setyanto (1999). Researchers to customer satisfaction seen from the many results of research conducted among done at PT. Jamsostek.

Zeithaml, V. A. & Bitner, M. J. (2003). Service Marketing, McGraw-Hill, New York.

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# An Exploration of Experiences and Academic Challenges of African Female Student at University of Zululand, South Africa (UNIZULU)

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**Abstract:** Most African female students are weak in accounting. They feel that accounting is a male dominated subject. Studies have shown that females consider accounting to be masculine career. This study is an attempt to understand the academic challenges and experiences of African females at UNIZULU. With the aid of structured questionnaires, varied experiences and challenges of African female students at UNIZULU was captured and studied. Among the variety of experiences, few important ones are highlighted: academic support of lecturers, teaching and leadership style of lecturers, academic preparation of students, understanding of language and curriculum problems. In terms of challenges, students face problems related to language barriers, mathematical knowledge, time management, discipline and conduct, lack of female role model among others. The study suggested that UNIZULU should follow the gender sensitive leadership and mentorship programs to improve female academic performance in the accounting modules.

**Keywords**: *Academic performance, Accounting, African female, challenges, Teaching, UNIZULU*

## 1. Introduction

Accounting is perceived to be a masculine subject associated with masculine traits such as completion, accuracy, and mastery of numbers and mathematics (Broadbent, 2016). Many female students complain of prejudicial attitudes shown to them by males (Siboni et al., 2016). Females experience three main challenges as proposed by some studies such as Masasi (2012) and Spall (2012): (1) poor command of Emglish language (2) poor knowledge of mathematics (3) lack of good female role models. Males score better grades than females in these subjects and are more likely to become managers and earn more money than females (Spall, 2012). Males exhibit less anxiety as compared to females when doing accounting at university and are more confident in dealing with business and numbers; they are seen to be more assertive and competitive (Spall, 2012). However, females bring with them compassion and greater emotional intelligence to the workplace than males. They also take more personal responsibilities for than their male counterpart. The post-1994 period in the country has seen a sea change in handling the gender discrimination in the country. A Gender Equity Task Team (GETT) was created and the team recommended equal access to educational facilities without gender discrimination (Unterhalter, 2011). The South African government also introduced many interventions from schooling to the university education. The Thuthuka program promoted female enrolment and participation of African females in the discipline (Unterhalter, 2011).

Despite the extensive literature on the academic performance of female accounting students in developed countries, there is a paucity of qualitative and empirical studies in developing countries including South Africa. Masasi (2012) and others, such as Okafor and Egbon (2011) are a few scholars who have written and researched on academic performance and experiences of African females in accounting in African countries such as Tanzania and Nigeria, respectively. Understanding the educational psychology of female accounting students with respect to their experiences and challenges will curriculum experts to design gender-sensitive accounting curriculum in South Africa. The major objective of this study is to record, understand, and interpret the experiences of African females and the challenges that they face in completing the modules in the first year of the BCOM accounting program at the University of Zululand in KwaDlangezwa, KwaZulu-Natal. The study aims to answer the following research question: why do African females struggle in the accounting modules? What African females experience in studying the first year accounting modules? What kind of challenges they face in this endeavour? The material of this study is organized under five sections. The Section 2 discusses the theoretical underpinning of the work and a brief review of literature. This is followed by the discussion on research methodology and data analysis in Section 3. The results are discussed in Section 4 while conclusions and policy implications are provided in Section 5.

## 2. Literature Review

There are two main theoretical behaviour theories-sociocultural learning (SC) and neuro-linguistic programming (NLP). They provide the basis for understanding the psychology of the African females. Socio-culturallearning theory is often based on the concepts of hegemony. It is derived from hegemon, literally meaning leader. This signifies some combination of authority, leadership and domination. In the context of this study, the group which is dominant and possesses authority and leadership are males and the subordinate group are females. Males dictate social norms and rules and females are expected to follow them. This theory states that males and females are socialized differently. Males are given more freedom to think for themselves and pursue any career they desire in the society. On the other hand, women are taught to be subservient and dependent on men for their happiness and wellbeing (Lander, 2014). The socio-cultural theory contends that female's reluctance and willingness to pursue careers in accounting due to socialisation. This theory provides the reason for poor female academic performance in terms of socialisation and the influence of parents and schools. It highlights the cultural reason behind the poor female academic performance in accounting. It may be possible that females are discouraged from doing accounting as they may see it as a male oriented career. This is due to parental and societal expectations of female students being home makers (Spall, 2012).

The teachers' attitude also matters in explaining the reasons for the poor academic performance of female students in accounting (Ansari and Bugden, 2010). This affects female students negatively and they have a low sense of self-esteem, which causes them to drop out of certain courses such as accounting. Teachers have an important role to play in the child's psychological and social well-being (Vogel et al., 2013). Children feel empowered and self-actualized when they have caring teachers so they can achieve their dreams (Vogel et al, 2013). This is true for female students who need extra nurturing and support from teachers to improve their academic performance in the accounting discipline. On the other hand, Neuro-Linguistic Programming **(**NLP) theory states that the neurons and brain network play an important role in explaining the learning behaviour. The neurons are responsible for memory, retention, and learning of new facts (Ansari, 2011). The brain is divided into left and right hemispheres. Each of these hemispheres has a function; namely, the right is used for numbers and logical things while the left is used for language, emotional understanding, and connections between things, people, and facts (Vogel et al., 2015). A few studies by Matjejo (2012), Vogel (2013), Vogel et al. (2013) analyse the brain structures involved in reading and mathematics. Matjejo (2012) looked at the neural foundations of arithmetic learning. The neuro-cognitive mechanisms that bind symbolic number processing and arithmetic are unknown. The study by Vogel et al. (2013), which used brain imaging research primarily using comparison paradigms, has provided strong evidence demonstrating that the Interior Posterior Lobe (IPS) in the brain is a key region for processing both numerical and non-numerical magnitudes. These studies have suggested that there are both activation overlap and segregation in these brain regions involved in processing different dimensions of magnitude.

As per socio-cultural learning theory, males and females are socialized differently and thus expected to behave differently in the real world. The subject of accounting requires good mathematical, analytical and language skills. Oftentimes, poor mathematical skills of females dissuade them from enrolling in accounting degrees. Accounting is hence considered as a masculine discipline (Masasi, 2012). Other factors that affect female student performance include, but not limited to the instructional style of lectures, gender, race and ethnicity. According to Masasi (2012), Spall (2012), and Roos (2009), female students tends to perform better academically when lectured by a female lecturer. The teaching style of the lecturers does impact positively or negatively on a student's academic career. In the study of Unterhalter (2011), it was revealed that female students are positively motivated by female lecturers (Unterhalter, 2011). Same gender identification is crucial or instrumental in determining the level of motivation in accounting (Unterhalter, 2011). Females are seen to be as more compassionate, kind and more emotionally intelligent than males, which are more competitive and sometimes rash and hot tempered (Unterhalter, 2011; Prakash and Flores, 1985). Male lecturers had a different teaching style than female lecturers; men were more relaxed in their approach and more complacent in their lesson preparation (Spall, 2012). They had a temper problem which caused female students to avoid male lecturers (Masasi, 2012). Men also displayed greater sarcasm and ridicule to female students (Masasi, 2012); they also had sexualized tendency towards women, which translated into bossy, authoritative and domineering behaviour (Unterhalter, 2011). Their mannerisms and behaviour also irked

many female students who responded negatively in classes by not entering their classes or dropping out of the courses (Masasi, 2012).

Race and ethnicity play an important role in determining the effectiveness of teachers and students' performance (Spall, 2012). In post-apartheid South Africa, the teaching profession has become more diverse and more socially representative of the general population. During apartheid, the new ideals of learner centred education, inclusive and modern education, were mostly followed by white teachers. On the other hand, African and non-White teachers followed the traditional teacher centred teaching methods; the students had a limited idea of the curriculum as there was only one source of knowledge that was through the teacher alone (Spall, 2012). Lander (2014) also examined the race and ethnicity factors that determine the students' academic performance in commerce faculties in South Africa. The study had two important conclusions, namely: 1) African lecturers had a lower sense of confidence and self-esteem as compared to white lecturers; and 2) African students performed the worst at university commerce courses especially in accounting (Lander, 2014). This difference in students' performance can clearly be attributed to teachers' race and ethnicity. In conclusion, it is clear that lecturers characteristic influence students' emotion and affective attitudes towards the subject and this in turn influence the academic performance of students. A hard working, positive lecturer influences students positively so they earn better grades. A positive, friendly and well-prepared lecturer is always seen as desirable by students (Spall, 2012). Lecturers are always seen to be professional in the sense that they should be able to inspire students and inculcate positive values in them (Masasi, 2011). Female lecturers have a high stake in ensuring that female students are motivated to study and excel in accounting.

## 3. Methodology

A paradigm is a way of looking at the world through a prism. It defines hypothesis, perspective and research questions, aims, and objectives. This study used the interpretive paradigm in examining the experiences and challenges of African female students in accounting at UNIZLU as it is a preferred method in education discipline (Cohen and Manion, 1989). Interpretive paradigm aims at describing and interpreting the phenomena of the world and sharing this meaning with others (Pollard, 2002:32). In other words, the researcher tried to understand the meaning that people give to events, rather than from the researcher's perspective. The researcher employed the mixed method approach in this study. The mixed method research is a research methodology that combines the quantitative (for example, experiment, surveys) and qualitative (focus groups, interviews) research. The integration of both qualitative and quantitative research provides a better understanding of the research problem. The mixed method research also allows the possibility of triangulation; that is, combining several methods to examine the same phenomenon. Thus, this method provides a more comprehensive understanding of research.

**Research Design:** The research design of a typical study includes how the data is to be collected and what instruments are to be employed; some examples of research design include descriptive, correlational, experimental, semi-experimental, review of the literature and meta-analysis. These are some qualitative research methods. Examples of quantitative research methods are regression analysis and other multivariate statistical analysis. The current study used three types of research designs: (1) Review of literature technique, (2) Questionnaire-based survey. The review of literature technique was used as a research tool to describe the factors affecting the female academic performance in accounting challenges and experiences of females in studying accounting discipline at university. The other research design used was a survey-questionnaire. This entailed the collection of data by using survey questionnaires to discover the opinion of the intended population. Structured questionnaires were used as instruments to collect the opinions, attitudes and beliefs of African females about the challenges and experiences of studying accounting at UNIZULU. One popular method of data collection through surveys is using Likert scale techniques. Likert scale technique is used to measure attitudes of respondents by asking response to a statement which ranges from "strongly agree" to "strongly disagree"; this is a dominant method for measuring attitudes. Likert scale was hence chosen a method of analysis for the second objective of the study.

**Research Approach:** Both qualitative and quantitative methods are used in the current study. The review of literature and survey questionnaire methods was chosen as a qualitative method. Descriptive statistics by means of bar charts and table were used in the quantitative method.

**Population:** The population of the study included first-year African female accounting students at UNIZULU in 2014. The location of the study was KwaDlangezwa Campus, University of Zululand. The entire population of accounting students is African; there were about 250 first year accounting students of which 120 were females. Most of these students were below 19 years of age and graduated from high school.

**Sampling:** This study used structured questionnaires to elicit information from students. The researcher analysed the academic experiences and challenges of selected African female students at UNIZULU for the year 2014-2015. Purposive sampling design was used and about 100 questionnaires were distributed.

**Data Collection Tools:** The major purpose of the structured questionnaire survey was to understand the emotions, behaviour and feelings of the students with respect to the teaching and learning issues within the accounting curriculum. A survey questionnaire was used as a tool for collecting data from the African female students. The questionnaire had two parts: Part 1 included responses to statements using a Likertscale; Part 2 included open-ended questions and opinions of the respondents. The survey questions were designed to keep all necessary issues in the mind. Ethical clearance was obtained from the University of Zululand Ethical Committee (UZREC), and also, permission from the Dean of Faculty of Commerce, Administration and Law was sought to collect information.

**Data Analysis:** The survey questionnaire data was tabulated from each questionnaire and was aggregated. A systematic analysis of survey questionnaires was used as a tool to collect the qualitative data about the experiences and challenges of African female students enrolled in accounting program. Responses from survey questionnaires were used to write down themes, norms and main ideas generated. For the quantitative aspect, graphical analysis by means of simple bar charts and simple percentage were used.

## 4. Results and Discussion

The researcher studied the experiences and challenges of first-year female accounting students. The research is based on the qualitative and quantitative analysis of the questionnaires administered to students at UNIZULU. For the qualitative analysis, the themes that were pinpointed from the literature review and also based on the information collected from survey questionnaire are discussed in Sections 4.1 and 4.2 while the quantitative analysis is discussed in Section 4.3.

**Experiences:** The student experiences can be classified into 6 categories of themes: (1) academic support, (2) career intentions and aspirations, (3) teaching and leadership style, (4) academic preparation, (5) understanding of language and (6) curriculum-related problem. There are briefly discussed here**.**

**Academic Support from Lecturers:** The majority of students surveyed in the study felt that lecturers were good and of a sufficiently high standard. A student commented, "I felt very blessed to be taught by such professional lecturers." They were happy with the academic support given to them. Many students felt that lecturers were professional and knowledgeable. Lecturers were seen as beacons of hope and transmitters of knowledge. They could motivate students to perform better on the subject. Students not only received academic, but also emotional and psychological support. They acted as emotional counsellors and agents who could understand the young students readily. Furthermore, students looked up to female lecturers as role models who acted as agents of change. The studies by Kadri et al. (2009) and Fried and MacCleave (2009) confirm that lecturer as role models positively impact the academic performance of students.

**Career Intentions and Aspirations of Students:** It is highly evident from the students' responses that they have an earnest desire to become CA's. Student A expressed the following words, "I have always wanted to be a CA, it is in my DNA." Student B stated, "Accounting opens up many avenues for financial success". Similarly, student C said, "I liked Maths and Accounting at school so I decided to study accounting so I could become a CA."Studies such as Spall (2012) and Pierre et al. (2009) have shown that accounting is indeed a difficult and

financially rewarding career. Spall (2012) has argued that accounting is a rich subject fraught with technical jargon and difficulties. The majority of students felt that accounting is of prime importance in their lives. They are motivated by the subject and its high earning potential. It is believed that accounting is a highly sought after career and requires a lot of hard work and patience. A good knowledge of numeracy and language is essential for success in accounting. Most students have high aspirations and want to become high earners quickly. They want to enter top managerial posts in firms SAICA, KPMG and Ernst and Young.

**Teaching and Leadership Style of Lecturers:** The majority of students said, "my lecturer motivates us in the class". Another student commented, "Good leadership style is shown by lecturers and provides us with very kind of support we may need". This indicated that lectures were good in displaying good teaching and leadership styles. Most students stated lecturers were well prepared and emotionally sensitive. Students found their lecturers motivating and encouraging.

**Academic Preparation by Students:** Here are a few quotes from Students M and N which emphasise the need for good academic preparation that is needed by students. Student M stated, "Accounting is a tough subject and it needs a lot of preparation." Student N commented, "I have to prepare well for the degree, it is essential to prepare well for accounting exams and tests". "Reading before the lecture helps understand in the class" was a statement by student L. These quotes illustrate the need for good, sound preparation in accounting. Students have to be well prepared for accounting tests and examinations. The degree requires a high level of maturity and intelligence. The majority of students are extremely stressed out by the number of examinations and the syllabus. Students feel ecstatic when they pass the tests and examinations. In the context of the research study, there are a few South African and global studies which argue for excellent preparation needed by accounting students. It is noteworthy to see that scholars have emphasized the need of extensive tutorials, faculty intensive seminars and extra work schedules in order for students to succeed at accounting examinations.

**Understanding of Language:** Presently the medium of instruction at UNIZULU is English, but there is dissatisfaction expressed in their survey questionnaires. Students, in general, feel that the policy should change the medium of instruction to Zulu. The majority of students are thus experiencing cognitive dissonance as a result of exclusionist language policy. English is seen to be a language of the colonizer and foreign to many UNIZULU students. Students feel alienated by the lack of spoken Zulu in the lecture hall; they understand certain concepts much better in Zulu. They feel more comfortable with Zulu as they can understand the concepts better. Although English is the lingua franca of the South Africa, many staff and students are comfortable at teaching in and being taught in Zulu. Many socio-linguistics feel that the new government ought to implement the new language policy which called for indigenous languages to be used as mother tongue instruction (Spall, 2012). This is an essential step in transforming the nature of education in South Africa. With the possible introduction of Zulu as a language of instruction at South African universities, the higher education sector has to promote social justice and equality. Most students prefer Zulu as the first language to be the medium of instruction.

Understanding English language communication from a variety of lecturers amused students. Some students' mother tongue was not English, so they experienced some difficulty in pronouncing words and figuring out their meanings. "Students battle to understand the lecturers when they teach the students in English", said a student in the interview. Student M said, "Lecturers tried translating concepts into Zulu to make students understand. I kind of translate the idea in my language". Here are a few quotes from the students. Student P said, "I am a Zulu speaker, English is difficult for me to understand and write". Student Q: "English is a difficult language to understand and master. It is essential to understand English well enough to succeed in UNIZULU." Student R: "English is an essential skill needed at university. It is extremely difficult for African students to study in English medium university. The medium of instruction should change." All these quotes add to the complexity felt by students. It shows how most students feel that the medium of instruction should be IsiZulu. Furthermore, it is imperative to know English well enough to succeed at university (Foley, 2004).

**Curriculum Related Problems:** Majority of African students are extremely confused by accounting syllabus. They prefer to learn business economics instead. The typical examples to this claim are based on the survey done by the researcher. They also expressed difficulty in understanding the concepts of mathematics. Thus,

poor knowledge of English and poor mathematical skills extremely constrain student's capacity to imbibe accounting concepts (Dafouz and Camacho-Miñano, 2016; Spall, 2012; Steenkamp et al., 2009). Students also need to develop synthesis skills. They need to follow their socio-cultural models of thinking and integrate all ideas in a cohesive manner. Based on the survey, the researcher noted that there are three main curricular related problems that accounting students at UNIZULU experience: (1) lack of understanding of accounting concepts, (2) poor knowledge of Mathematical and English skills, and (3) poor mentorship and application of the curriculum. Many accounting students are unable to synthesize the information presented in the curriculum. There is a poor understanding of accounting concepts by students. The curriculum is complex and requires a high level of mathematical and language skills. The following quotes from students X.Y.Z illustrate the following point effectively. Student X: "I struggle to synthesise the information and come up with unique solutions to academic problems." Student Y: "Synthesis of information is crucial in passing and doing well in Accounting." Student Z- "It is essential to be able to come up with holistic solutions to excel in accounting". Mentorship plays an important role in making students understand the insight related to the accounting.

**Challenges:** As discussed in the beginning of Section 4.0, challenges also constitute the part of the second research objective of the study. We, therefore, continue this discussion. Furthermore, the student survey indicated that female accounting students faced several challenges in pursuing accounting courses. The six notable challenges that students expressed were: (1) language barrier, 2) lack of knowledge of mathematical skills, 3) time management problems, 4) discipline, 5) poor control of skills, and 6) other miscellaneous ones. These challenges are extremely daunting for learners and are briefly discussed here.

**Language Barriers:** Language barrier affects students' academic performance negatively in the classroom. It is evident to see that the language barrier has a serious role to play in the poor academic performance of female students in accounting (Spall, 2012).It is an emotional issue for many students as they battle to understand the lectures in English. This is an interesting debate which should be an important question for language policy debates. It is important to promote mother tongue education as it is espoused by the South African constitution. Many students at UNIZULU have expressed dissatisfaction with being taught in English. They feel that Zulu should be the medium of instruction at UNIZULU. Zulu is thought to be a more representative language that they can relate to. Without repeating from section 4.1., many statements by students confirmed that English language skills are a must to be a good accountant which is in line with the study of Dafouz and Camacho-Miñano (2016) and Cole, Branson, and Breesch (2011). Language barriers are important in understanding female students' poor academic performance. African students have a poor command of English language and this is supported by studies such as Spall (2012), and Steenkamp et al. (2009). These authors argue that a poor knowledge of English causes poor academic performance in accounting. Second-language speakers of English are disadvantaged in examinations. It is historically an African university with a majority of students being African and coming from rural areas. Students feel comfortable conversing and writing in Zulu. They feel that it is important to teach in IsiZulu to make knowledge more accessible. Many African students see the importance of learning English as the lingua franca of the world and consider it a powerful language in the business world. Accountants need to have a mix of linguistic and commercial skills to become global leaders and agents of social change. Universities can play an important role in transforming the nature and medium of instruction. This can act as a catalyst that can promote social justice and equality. It is essential to promote values of social justice and multilingualism in South Africa.

**Mathematical Skills:** The problem of mathematics is common among many accounting students. Here are some students' quotes which express their mathematical anxiety. Student B "I battled with mathematics because it is difficult to understand. I battle with it." Other Student D said, "I really hated mathematics. I could not understand accounting". These quotes show how the student battles with mathematics and hates the subject. She feels inadequate about her lack of mathematical skills. Furthermore, the university needs to help the student to make them confident in their mathematical ability. Similarly, student C stated, "Mathematics is a tricky subject which needs some brains and is tough to handle". This quote strengthens the notion that poor mathematical skills are a problem among accounting students and they need to be helped in order to master mathematics (Muller, 2011; Okafor and Egbon, 2011).

**Time Management:** Time management is an essential skill for university students. Donnelly et al. (2005) found that time management plays the most important role in student success at the universities. Time management is an important aspect of university study. Students who are poor managers of time fail miserably in their studies. The study mentions that time management and discipline is essential for employers. George et al. (2008) found that time management is the most important factor for academic achievement. The second study by Macpherson (2011) focuses on the academic performance of students studying in North American universities. These students were mostly conscientious and disciplined but some of them complained of poor time management skills due to girlfriend/boyfriend, poverty, the poor socio-economic status of students and hunger. Many students came from a low socioeconomic background and battled to concentrate on studies. They also found it difficult to come and concentrate on university work. The presence of a partner also made it difficult for students to concentrate on their work and complete assignments on time. In the present context of the study, Student D commented: "Time Management is an important skill needed to survive in the faculty." It is essential to note that proper time management and planning is essential to succeed at university level accounting. This skill needs to be inculcated in students.

**Discipline:** Many students in the study felt that discipline is essential for success in the university. They feel the need to be disciplined so that they can achieve greater success in the working world. This attribute is essential to understand the nature of academic performance in UNIZULU. Discipline is essential in any field. Accounting requires an immense amount of discipline. It requires a strong sense of mind and willpower. The following quotes from students illustrate how important this attribute is. Student A's quote, "Discipline is needed if one needs to study and succeed in accounting". This explains how important the discipline is. There are many studies globally and in South African context that show how important it is to be disciplined. Koh and Koh (1999) and Spall (2012) have argued that disciplined students score well in accounting.

**Poor Control of Skills:** The research question relates to poor control of skills which adds to our understanding of how female students perform in accounting. As per review of the literature, there are three main difficulties that accounting companies face when they employ accounting graduates: (1) a poor knowledge of accounting and business terminology, (2) A lack of communication skills in business and (3) a poor knowledge and understanding of the business cycle. This is a global concern among top accounting companies who employ graduates in the field. These students state that it is difficult for them to master business communication and jargon because of a poor command of the English language. Communication skills are essential for entry-level accountants, especially newly appointed graduate. Similarly, poor numeracy skills also contribute to a lack of business mathematical skills. This is lacking in many UNIZULU graduates. If we analyse the lack of skills and poor control of accounting procedures, from a gender perspective, one can see that females tend to perform worse than male students due to societal and gender constructions. Society expects women to be nurturing and kind yet this is what impedes female professional growth. Females often have ambivalent feelings towards entering the business world and this is expressed by them in the survey. Student X - "I am unsure of myself in the business world". They have a self-fulfilling prophecy which causes them to feel insecure and incompetent.

**Female Role Models:** The presence of good female lecturers is an asset to the university. These lecturers are also a good example of gender equality which is espoused by the constitution. Female role models can be motivated by good mentoring from female academics. They can act as models of social change. Social change is an important aspect of gender relations at the university. There are some studies which show that good female role models can provide inspiring leadership students at UNIZULU. Jones (2013) found that supplemental instruction or mentorship (learning through peer group) can improve the academic performance of the students. Equally important is the career counselling for accounting students. These suggestions were to improve the nature of mentorship and career counselling for women. Career counselling for women is an essential part of her plan to improve the academic performance of female students. It is essential to see that increased participation of females in accounting would lead to greater diversity in the business world. There are a very few female accounting lecturers at UNIZULU. However, they lack organisational power and authority to implement social change. Female lecturers are instrumental in changing the perceptions of female students towards accounting as a subject. Empowerment of female lecturers thus finally leads to empowerment of female students in the discipline. There has to be a comprehensive training in gender equality and training so targets are achieved. There are many studies

globally and in the South African context which suggests that it is essential for female academics to develop inspirational leadership and focus on improving female academic performance in accounting (Chishlom, 2001). The discipline requires good technical and emotional intelligence which females are good at and being with them to the business world. Similarly, a degree in behavioural sciences is necessary for students of business to master emotional and social intelligence which are seen to be vital for the business world.

**Miscellaneous Challenges:** Many female students have said that there are problems regarding their ability to synthesise information. They can understand individual concepts in accounting but struggle to focus and grasp the entire syllabus. They are unable to make connections between the syllabus and its main points. This is due to slow developmental growth and psychological problems. The slow connections between neurons and the two hemispheres of the brain play an important role in slow learning. Piaget (2003) argues that there is a lack of developmental outcomes in university students as many of them are in operating in formal concrete operational stage yet curriculum requires them to operate in abstract terms. University lecturers need to be aware of this developmental outcome. Lecturers also need to understand the role that secondary school teachers play in developing university students' intellectual and cognitive ability. The students need to ensure that they are developed into mature cognitively thinking adults who can contribute effectively to society.

**Quantitative Analysis:** Likert scale analysis is the other part of the questionnaire and is discussed here in this section. The responses were collected using the Likert scale (summated rating) techniques. This consisted of ten statements which were graded by the students in 1-5 scale, where 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5=strongly agree. Descriptive information about the respondents is summarised and given in Figures 1, 2, and 3. Most of the respondents had an average grade of 4 or 5 in mathematics and an average grade 5 or 6 in English in the high school examination. The average age is about 19 years. The individual responses of 35 students are given in Table 1. The aggregate summated responses are summarised in Table 1.

**Figure 1: Age of Respondents**

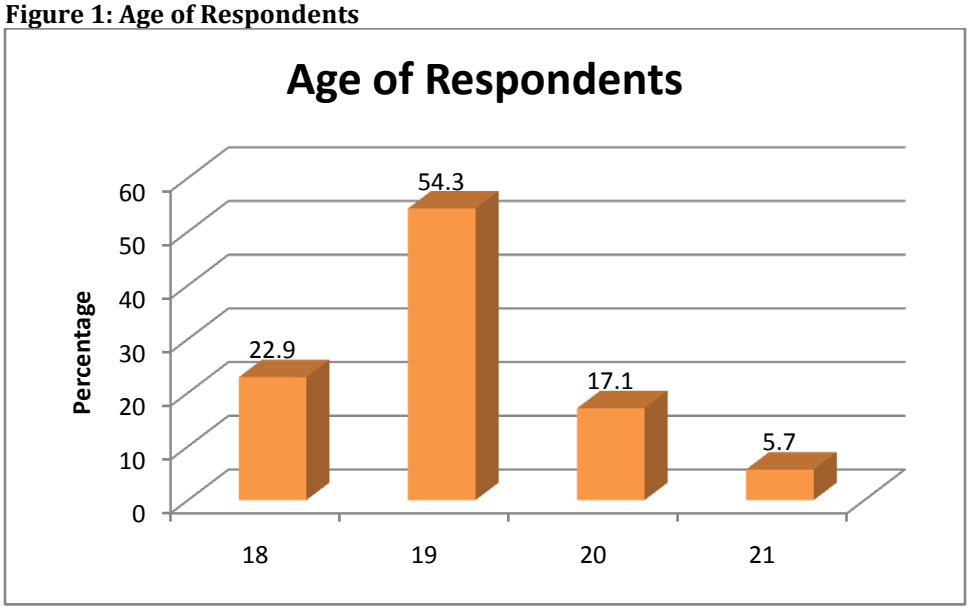

**Figure 2: Respondents Score in Mathematics**

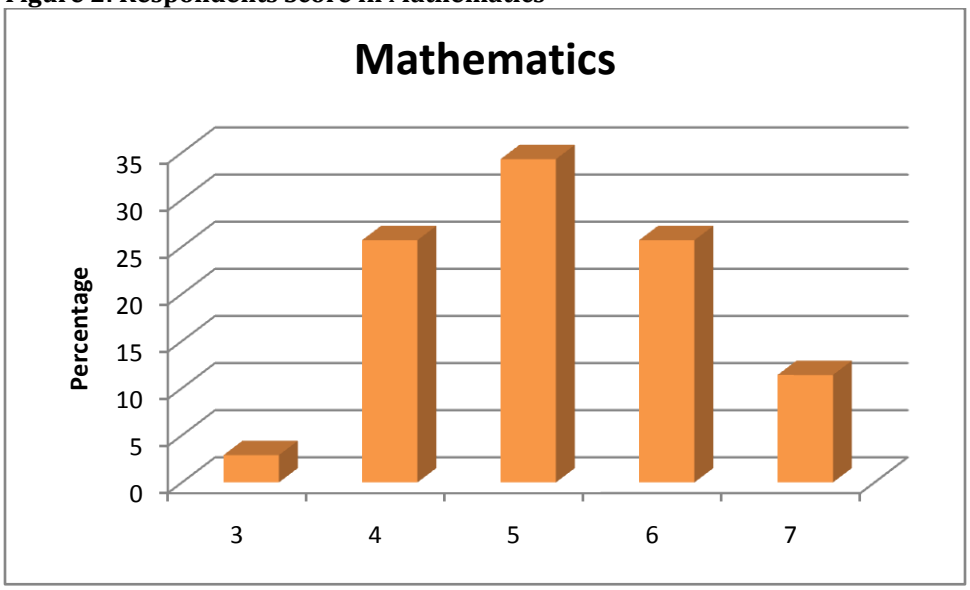


**Figure 3: Respondents Score in English Language**

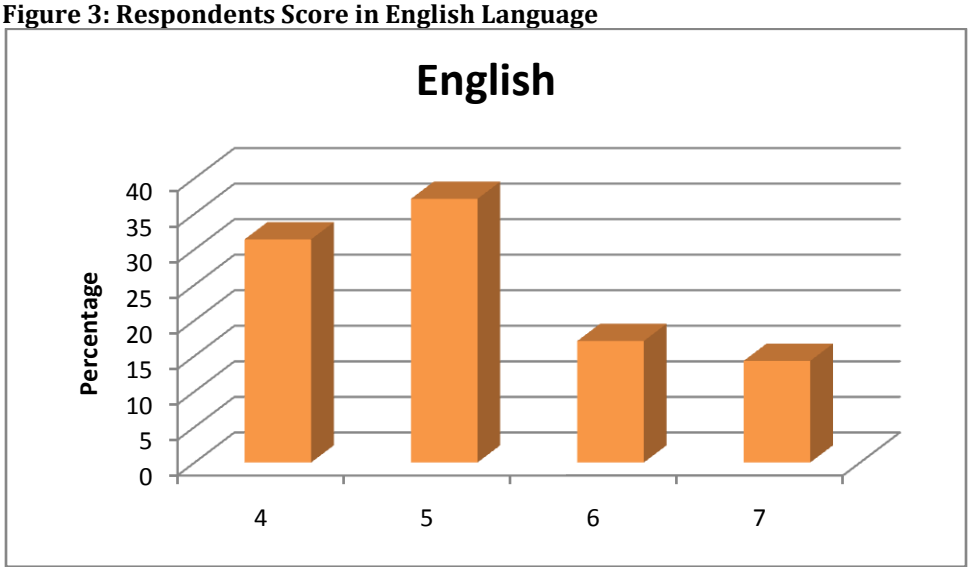


**Table 1: Aggregate Responses of First Year Female Accounting Students, UNIZULU**

| Responses Statement | Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 |
| Strongly disagree | 0 | 0 | 0 | 0 | 0 | 0 | 2.9 | 5.7 | 2.9 | 0 |
| Disagree | 20 | 0 | 5.7 | 2.9 | 11.4 | 14.3 | 8.6 | 14.3 | 28.6 | 2.9 |
| Neutral | 2.9 | 2.9 | 5.7 | 14.3 | 17.1 | 31.4 | 28.6 | 34.3 | 20 | 11.4 |
| Agree | 71.4 | 94.3 | 85.7 | 74.3 | 62.9 | 51.4 | 60 | 40 | 37.1 | 80 |
| Strongly agree | 5.7 | 2.9 | 2.9 | 8.6 | 8.6 | 2.9 | 0 | 5.7 | 11.4 | 5.7 |
| Aggregate Responses | 3.6 | 3.8 | 4 | 3.9 | 3.7 | 3.4 | 3.3 | 3.4 | 3.4 | 3.4 |

Source: Author's Compilation
Note: Statement (1-10)

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- The content of Accounting lectures was difficult
- The content of the course requires a sound knowledge of Mathematics.
- A good knowledge of English is essential for attaining good marks in Accounting modules.
- Extra Mathematics Classes will help students understand Accounting concepts better and will enable students to earn better marks.
- Extra English Classes will help Students improve the Academic performance of students.
- Female Accounting lecturers teach better than male Accounting lecturers.
- Assessment of the Accounting course was fair and transparent.
- Female Accounting Lecturers understand the problem of female students much better than male Accounting lecturers.
- Female Accounting students are discriminated against by male lecturers in general.
- Good academic support was provided by the University.

Based on Table 1 as above, the majority of students surveyed indicated accounting as a tough discipline. For example, some 74 percent of respondents rated the statement number 1 (the content of the accounting lectures was difficult) as 4 or 5; meaning "agree" or "strongly agree" (Table 1). The average Likert score for the first statement was 3.6, indicating that most of the respondents agreed that accounting is a tough discipline. Some more than 90 percent of students agreed to the statements (Statement No 2 and 3) that the sound knowledge of Mathematics and good English language skills are the bare minimum to survive in the class (Table 1). For example, some 97 and 91 percent of students rated Statements No 2 and 3 respectively about 4 and above. For example, 34 out of 35 students (97.1 percent) agreed that mathematics skills are a must; likewise, 32 out of 35 (91 percent) confirmed that good English skills are very important (Table 1). It is interesting to note that research has shown that candidates who speak English as a first language tend to perform better in accounting qualifying examinations and degrees as compared to second language speakers (Roos, 2009; Koh and Koh, 1999). The need for good Mathematics and English skills are reinforced by statements number 4 and 5. Statements number 4 and 5 were tested on whether extra help with respect to these skills will enable them to do well in accounting modules. Some more than 86 percent of students questioned agreed or strongly agreed with the statements (Table 1). For example, some 32 out of 35 students, 86 percent of total, agreed that mathematics support enables them to do well in accounting. Likewise, some 32 out 35 students agreed that English skills do enable them to earn extra marks in accounting modules (Table 1).

This shows that academic support from the university is essential for students' academic performance. "There are many challenges that students experience such as the difficulty of curriculum, language difficulty and poor lecturers (Student A's words)". Furthermore, according to Student A "good leadership style is shown by the lecturers and provide us with every kind of support we may need. They are supportive." The teaching style also has a positive impact on the students' academic performance. There was a difference of opinion on whether female lecturers teach better than male lecturers or not (Statement No 6). The aggregate Likert score for this statement was 3.4, which was very close to neutral. That is, 19 out of 35 students rated the statement No 6 as 4 or above, some 54 percent of the total. The opinion here is thus almost split half and half. When the students were asked whether female lecturers understand the problem of female students better than male accounting lecturers, the response was not glaringly positive. Only 16 out of 35 students agreed or strongly agreed to the statement. This means that the majority of female students do not believe that only female lecturers can help them more than male lecturers. Unlike, Unterhalter (2011) who see female lecturers as more compassionate, kind and emotionally intelligent than their male counterpart, the respondents in this study opined that it is rather a person specific problem, not a gender specific one. Furthermore, only 49 percent of students felt that they are discriminated by the male accounting lecturers, the majority of female accounting students did not support that there exists any vehement gender discrimination against them in the class (Table 1, Statement No 9). This is contrary to the findings of Masasi (2012) who opined that men displayed greater sarcasm or discrimination to female students.Some 60 percent (21 out of 35 students) of student agreed that assessment of accounting module was fair and transparent (Table 1, Statement No7). Also, the majority of students questioned (86 percent, 30 out of 35 students) accepted that UNIZULU provided good academic support (Table 1).

## 5. Conclusion and Recommendations

Education is seen as a tool for social change. Investigating the experiences and challenges of African female first year accounting students is very crucial for developing an appropriate framework that will improve their academic performance. Major challenges include language barrier, poor mathematical skills and poor time management. Accounting is seen as a difficult discipline which requires sound knowledge of mathematics and English language in order to excel, therefore, adequate academic support in mathematics and English language from the university, together with good leadership styles, are essential for excellent performance of the student in the course of study. Also, the majority of female students do not believe that only female lecturers can help them more than male lecturers. Rather, it is an individual specific problem. Taking cognisance of the peculiar challenges faced by female students, UNIZULU management has provided good academic support for them. It was established from the study that female accounting students perform less than their male counterparts and the major cause of such poor performance include poor mathematical skills. In order to solve such problems, this study recommends that a regular mentorship program, tutorship program and workshops should be put in place to improve their performance.

## References

Ansari, C. & Bugden, F. (2010). A critical study of neurons and their function on the brain. *Journal of Neuropsychology and Cognition*, 5, 89-105.

Ansari, C. (2011). The Differences between the two hemispheres and its impact on the neuropsychology and cognition. *Journal of Neuropsychology and Cognition,* 3, 88-106.

Broadbent, J. (2016). A gender agenda. *Meditari Accountancy Research*, 24(2), 30

Chishlom, C. (2001). Gender and leadership in South African educational administration. *Gender and Education*, 13(4), 387-399.

Cohen, L. & Manion, L. (1989). *Research methods in education.* 3rd Edition. London: Routledge.

Cole, V., Branson, J. & Breesch, D. (2011). The illusion of comparable European IFRS financial statement. Beliefs of auditors, analysts and other users. *Accounting and Management Information System*, 10(2), 106-134.

Dafouz, E. & Camacho-Miñano, M. M. (2016). Exploring the impact of English-medium instruction on university student academic achievement: The case of accounting. *English for Specific Purposes*, 44, 57-67.

Donnelly, D., Kovav, D. & Fisher, D. (2005).The mediating effects of time management on accounting students' perception of time pressure, satisfaction with the major and academic performance. Social Science Research Network. Retrieved from http://ssrn.com/abstract=644582.Accessed on 25 March 2016.

Fried, T. & MacCleave, A. (2009). Influence of role models and mentors on female graduate students' choice of science as a career. *The Alberta Journal of Educational Research,* 55(4), 482-496.

Foley, A. (2004). Language policy for higher education in South Africa: implications and complication. *South African Journal of Higher Education,* 18(1), 57-71.

George, D., Dixon, S., Stangal, E., Gelb, S. L. & Pheri, T. (2008). Timed delay and questionnaire assessment of factors associated with academic and personal success among university undergraduate. *Journal of American College Health,* 56, 706-715.

Jones, P. (2013). The Impact of the supplemental instruction leader on student performance in introductory accounting. *American Journal of Business Education (AJBE)*, 6(2), 87- 105.

Kadri, M. H., Alwi, F. & Hashim, M. (2009).The effect of lecturer gender, teaching experience, and student gender on students achievement. Retrieved from http://ssrn.com/abstract=1458434 or http://dx.doi.org/10.2139/ssrn.1458434.

Koh, M. Y. & Koh, H. C. (1999). The Determinants of performance in an accountancy degree courses. *Accounting Education: An International Journal,* 8(1), 13-29.

Lander, R. (2014).Racism in America. *Race Ethnicity and Education*, 14(3), 76-85.

Macpherson, A. S. (2011). *Race and sex* in North America. *Journal of the American Ethnological Society*, 38(3), 614-615.

Masasi, N. J. (2012).How personal attribute affect students' performance in undergraduate accounting course: A case of adult learner in Tanzania. *International Journal of Academic Research in Accounting, Finance and Management Sciences,* 2(2), 89-100.

Matjejo, C. (2012). Approaches to research methods in experimental psychology. London: Palgrave Publishers.

Muller, J. (2011). Are Females being asked to do too much in the accounting field? *Journal of Accounting and Financial Management,* 7, 100-116.

Okafor, C. & Egbon, O. (2011). Academic performance of male versus female accounting undergraduate students: evidence from Nigeria. *Higher Education Studies,* 1(1), 9-19

Paisey, C. & Paisey, N. J. (2004). Student attendance in accounting module-reasons for non-attendance and the effect on academic performance at a Scottish university. *Accounting Education,* 13(1), 39-53.

Piaget, W. (2003). Piaget's Theory of Cognitive Development. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved from http://www.edpsycinteractive.org/topics/cognition/piaget.html.Accessed on 25 March 2016.

Pierre, K. S., Wilson, R. M. S., Ravenscroft, S. P. & Rebele, J. E. (2009). The role of accounting educational research in our discipline-An editorial. *Issues in Accounting Education,* 24(2), 123-130.

Prakash, V. & Flores, R. C. C. (1985). A *study of psychological gender differences: applications for advertising format, NA-Advances in Consumer Research*. Volume 12,Eds Elizabeth C. H and Holbrook, B. . Provo, UT: Association for Consumer Research, pp. 231-237.

Pollard, C. (2002). How meaning is created in interviews? *Journal of South African Education*, 6, 89-106.

Roos, S. (2009). Factors affecting Southern African students' success in CIMA examinations. *Meditari Accountancy Research,* 17(1), 49-67.

Siboni, B., Siboni, B., Sangiorgi, D., Sangiorgi, D., Farneti, F., Farneti, F. & de Villiers, C. (2016). Gender (in) accounting: insights, gaps and an agenda for future research. *Meditari Accountancy Research*, 24(2), 158-168

Spall, N. (2012). Poverty and Privilege: Primary School Inequality in South Africa. Stellenbosch Economic Working Papers: 13/12 July 2012. A Working Paper of the Department of Economics and the Bureau of Economic Research at the University of Stellenbosch.

Steenkamp, L. P., Baard, R. S. & Frick, B. L. (2009).Factor influencing success in first year accounting at a South African university: A comparism between lecturer' assumptions and students' perception. *South African Journal of Accounting, Research,* 23(1), 113-140.

Unterhalter, E. (2011). Progress made in gender equality in South Africa since 1994. *Journal of Race, Gender, and Ethnicity*, 4(6), 78-89.

Vogel, S. E., Gotten, C. & Ansari, D. (2015).Developmental specialization of the left parietal cortex for the semantics representation of Arabic numerals: An FMR-adaptation Study. *Developmental Cognitive Neuroscience*, 12, 61-73.

Vogel, S. E., Grabner, R. H., Schneider, M., Siegler, R. S. & Ansari, D. (2013). Overlapping and distinct brain regions involved in estimating the spatial position of numerical and non-numerical magnitudes: an fMRI study. *Neuropsychologia*, 51(5), 979-989.

Vogel, J. T. (2013). A case study on the impact of the READ 180 reading intervention program on affective and cognitive reading skills for at-risk secondary level students (Doctoral dissertation, Liberty University).