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## Management Strategies for Practical Skills Development Instruction in Zimbabwean Polytechnics

**Ellen Zindi**

Lecturer, Department of Education, Gweru Polytechnic College, Zimbabwe

**Henry Matienga**

Lecturer, Department of Technical Education, Faculty of Education, University of Zimbabwe, Zimbabwe

### **Abstract:**

*The purpose of this study was to come up with management strategies for practical skills development instruction. This was motivated by the observation that lecturers' instruction is not in tandem with practical skills development which is key to polytechnic education. This problem was also identified in other countries (Nigeria, Atsumbe, 2002; Ghana, Dasmani, 2004 and Botswana, Richardson, 2009). Literature review reflected on theoretical perspectives on practical skills development in polytechnic education in the hope of coming up with management strategies to promote the practical skills. Descriptive Survey was used for research design. Cluster sampling was applied to raise a sample size of 115 lecturers. Questionnaires and interview guides were used. Documents like policies, minutes, circulars and schemes of work were analysed to establish the position and subsequently the teaching of practical skills. From the data collected it emerged that most lecturers rely heavily on the demonstration and lecture methods for practical skills development and unavailability of resources as well as lack of know-how on the part of the lecturer were impingements on practical skills development. Lack of know-how was confirmed during interviews and authenticated by questionnaires which were left blank on spaces requiring teaching methods. The study recommends that in-service training for instruction on practical skills development be organised. Colleges can use one of the colleges as a centre for practical skills development instruction. Each college can twin with one industry for departmental equipmentation to expose students to current machinery. Lecturers can go on attachment in industry. Such exposure would enable them to know industrial expectations on practical skills. Further research can be done on factors affecting lecturers writing of books on practical skills development.*

## **1. Introduction**

### *1.1. Background to the Study*

Bennell (1991), the World Bank (1998) and Fafunwa and Aisiku (1998) in Zengeya (2009:277) observe that African societies, Zimbabwe being one, have a long and rich history of education and training. Functionality and practical application were the cornerstones of traditional African Technical and Vocational skills development. Whatever was learnt was seen as being practical and utilitarian for the individual's role in the society.

The technical and vocational education curriculum in Zimbabwe evolved with a view to producing artisans, technicians and technologists in areas which the then only university in the country could not offer. A skilled workforce is a basic requirement for driving the engine of industrial and economic growth (Ministry of Higher and Tertiary Education, 2004:14). Polytechnic education, it is said holds the key to building this type of technical and entrepreneurial work force. Thus the professional and pedagogical competence of the technical lecturer is crucial to the successful implementation of any technical and vocational education and training (TVET) strategy. UNESCO (2007:79) aptly supports the above by saying that the role of the polytechnic trainer of trainers has a multiplier effect in the sense that if the lecturers are not properly trained chances of achieving high quality polytechnic education at national level become remote.

### *1.2. Context*

Lecturers who teach polytechnic education are trained at Gweru polytechnic which was built in the early 80's for that purpose. To enable these lecturers to teach at higher levels (ND and HND), National University of Science and Technology (NUST) introduced a Bachelor of Technology teacher education (Honours) degree programme, particularly for lecturers in engineering. It is also important to look at the nature of the lecturer who trains lecturers at Gweru polytechnic.

Lecturers for the trainer of trainers programme at Gweru polytechnic are all recruited either from the schools system or from teacher education institutions. This is evidenced by their qualifications which in the majority of cases range from Bachelor of Education to

Masters Degrees (Staff records, 2012). An analysis of the job and qualification match would lead to the conclusion that the lecturers have the obvious danger of distorting the technical and vocational paradigm since they have no experience of the technical and vocational education and training model. Under such circumstances the possibility of a product of 'academics' reflecting white collar mentality cannot be ruled out. If the lecturers are not properly trained, they negatively affect their students as well as the image of the college if not that of Higher and Tertiary Education. Hence the need to come up with management strategies to improve the teaching of practical skills.

## 2. Literature Review

### 2.1. *The Management of Learning Instruction*

According to MOHTE report (2004) TVET is monitored institutionally. This transfers the monitoring and evaluation of practical skills development as well as the instruction in use to the polytechnics and this is put under the auspices of the academic board.

The academic board in Polytechnics is the highest level of decision making. The Board is mandated to make all the decisions pertaining to instruction as well as learning and any other issue which affects curriculum implementation for example lecturer's qualifications. It comprises heads of divisions, heads of departments and lecturers-in charge. They make the watchdog team of the Ministry of Higher and Tertiary Education in the colleges. The Board deliberates on all matters pertaining to instruction and learning under the chairmanship of the Principal. The academic board in polytechnics for example at Gweru Polytechnic has a mixed composition of members in terms of experience in lecturing as well as the qualifications they hold.

Wheelen and Hunger (ibid) say boards range from phantom boards with no real involvement to catalysts boards with a high degree of involvement. He even goes further to say highly involved boards take their tasks of monitoring, establishing, influencing and initiating seriously. The academic board has to monitor the teaching of practical skills. The task is even made easier since the Heads of Divisions and Heads of departments are members of the academic board.

### 2.2. *Quality Assurance System in Polytechnic Education*

Total quality management (TQM) is an operational philosophy that stresses commitment to customer satisfaction and continuous improvement (Hunger and Wheelen, 2008:48). The requirement for quality is a major concern in polytechnics. This is because meeting society's needs and expectations in TVET depends on its staff programmes and students as well as its infrastructure and academic environment. Ekong in UNESCO(1998:5) argues that the search for quality has many facets and the principle objective of quality of enhancement measures should be both institutional as well as system wide improvement. Thus quality assurance implies that all the policies, systems and processes are directed to ensuring the maintenance and enhancement of the quality of education provision within an institution. A quality system is the means by which an institution confirms to others that the conditions are in place for the students to achieve the standards set (Ekong, Policy Paper on Quality) in UNESCO (ibid). A look into TVET quality assurance system is necessary.

The coordination of quality in the polytechnics is executed primarily via Higher Education Examinations Council and some consultation with key stakeholders in industry (MOHTE, 2004). The quality assurance system includes a range of mechanism which is established under various regulations. The system includes regulation of curricula, provision of governance structure, accreditation and registration of providers and the examination system. For example in regards to curriculum development, the curriculum research and development unit is supposed to work with relevant industrialists to ensure that the curriculum conforms to the needs of the industry especially when it comes to the development of the required practical competences (Kanyenze, 2009:19). This tallies very well with practical skills development instruction. Competences can be taken to mean a combination of knowledge, skills, personality traits and attitude for proper functioning of a professional situation. These competences cannot be produced in a vacuum but through effective instruction.

According to Arcaro (2007:63) education, polytechnic education inclusive, is in a highly competitive environment and is viewed as one of the major reasons America is losing her competitive advantage. He goes on to say people must take responsibility for improving the quality as well as the products or services they provide to their internal and external customers. Students in polytechnics are the internal customers while industry as the consumers of the products churned out are the external customers. While Deming in Stoner et al (2007:119) talks of improving quality and productivity to reduce costs, Arcaro (ibid) talks of improving quality in education by instituting a chart-it, check-it and change- it process. This is whereby one describes the process to be improved, identify the customer or supplier chain, identify areas for improvement, implement the changes, assess and measure the results, document and standardize the process. In support, UNESCO (1998:103) says while the quality of curricula is contingent on the quality of goals, it is also highly dependent on the quality of teaching methods. Like what Stoner et al (ibid) say, quality in the workplace means achieving increasingly better products and services. They go on to say this includes doing things right the first time rather than making and correcting mistakes. It is through the right way of developing practical skills by way of instruction that polytechnics can realise their competitive advantage over the Universities and thus increase their market share.

To achieve quality in practical skills development in polytechnics, there is need for value chain analysis. Pearce and Robinson (2007:92) say value chain analysis attempts to understand how a business creates customer value by examining the contributions of different activities within the business to that value. Lovelock et al (2007:439) support the concept of value chain analysis when they say that value chain analysis is also applicable to service areas and education is one such area. Primary activities under inbound logistics in polytechnics among other things include lecturers who are recruited to develop practical skills in students and the students to be taught. All the other raw materials including consumables and equipment for practical skills development have to be secured in

advance through the procurement committees established in the colleges. This would call for alternative sources for inputs rather than depending on ZIMDEF as a single supplier of training equipment and consumables.

Also the role of the administration as Pearce and Robinson (2007:139) puts it, is crucial in the value chain analysis. Pearce and Robinson go on to say it is the Administration which acquires relevant equipment and technology. The actual teaching of practical skills needs to be monitored as part of the process of operations so that the outbound logistics in the form of skilled graduates is realised in the industry. This also calls for the zero defects principle in the training process.

### *2.3. Improving Practical Skills Development Instruction*

Goldman and Nieuwenhuizen (2006:77) say the objective of differentiation strategy is to incorporate differentiating features into a product or service offering which will cause buyers to prefer the organization's product or service to the brands of the competitors. He goes on to say that successful differentiation allows an organization to sell more units and render more services as well as gain greater buyer loyalty to its brand. Polytechnic education needs to earn buyer loyalty and this has to be made possible through practical skills development instruction. In support, Fifield (2006:98) says differentiation is all about creating brand identity and loyalty. Polytechnics have the potential to create a brand identity through practical skills if correct instructional methods are used and thus create brand loyalty with the consumers of their products who are the industry. The tradition of maintaining, increasing and diffusing knowledge through research and intellectual creation and spreading knowledge in various ways is thus fundamental in polytechnics. Presidential Commission of Inquiry into Education (1999) had also envisaged this when they became concerned about shortage of educational literature on TVET in a country rich in intellectual power. This implies taking account of the needs of society and its economic social and cultural diversion as well as of major world trends foreseeable for the years ahead. It includes the task of developing endogenous capacities for acquiring and applying existing knowledge and creating new knowledge (UNESCO, 1998:6). Thus as needs and wants of the consumer population change, existing course packages or delivery systems in polytechnic colleges would also need to change. Practical skills development instruction would need to be improved.

Whilst there are appropriate ways to develop practical skills in students in polytechnics, in Zimbabwe this could be hindered by lack of know-how on the part of the lecturers since they are more of a mixed bag. Another hindrance to demonstrations could be lack of equipment and consumables. Zimbabwe relied heavily on donor funding for the development of polytechnic education and the funds have since dried up. Kanyenze (2009:22) also reiterated this when he said the departure of many donors coupled with shrinking state resources, has resulted in infrastructure deteriorating due to lack of routine maintenance. He goes further to say equipment and library resources are out of date and the quality of teaching and graduates has likewise fallen.

### *2.4. Motivation of the Study*

This study has been motivated by the observation that lecturers' instruction in polytechnics is not in tandem with practical skills development which is key to polytechnic education. This problem was also identified in other countries (Nigeria, Ghana and Botswana). In Nigeria most industries complaints stem from inadequate skill requirement for cutting edge technology (Atsumbe, 2002). Atsumbe goes further to say that the teaching methods in use did not succeed in impacting positively on practical skills in engineering training. In Ghana, King and McGrath (2004) revealed that inadequate training given to teachers affected the teaching goal for practical skills. In Botswana while the design may have been flexible, many teaching staff have limited teaching skills which means the delivery becomes rigid and inflexible' leaning more towards didacticism (Richardson, 2009). The above manifestations led to the three research questions:

- What instructional methods are being used for practical skills development by Zimbabwean Polytechnic lecturers?
- What factors influence instructional methods being used for practical skills development?
- What management strategies can improve instruction for practical skills development?

### *2.5. Rationale*

The main purpose of the study was to improve TVET lecturers' instructional methods to enhance practical skills development. It is most probably the first one on practical skills in Zimbabwe. Lecturers in polytechnic colleges would tap on the knowledge generated to improve on didactics. Lecturers in polytechnics, given correct orientation pertaining to practical skills development instruction could then be motivated to write literature on their areas of specialization. Other researchers would use the findings as a springboard for further research into practical skills development instruction in TVET. This way, the concerns of the Nziramasanga Commission (1999) of a critical shortage of educational literature could be a thing of the past in the long run.

## **3. Methodology**

### *3.1. Research Design*

In this study a descriptive research was used. Descriptive research designs identify the variable, describe its distribution within the population and factors contributing to the distribution (Panneerselvan, 2005:190). In this study it was adopted to facilitate the identification of instructional methods used for practical skills development in polytechnics. Factors that influence the selection of these methods were also found to be crucial and hence they were also given. To improve the teaching and learning using these methods, management strategies were outlined as recommendations.

### *3.2. Population and Sample*

A population is any group of individuals that have one or more characteristics in common, that are of interest to the researcher (Bhasin,2010;Kulbir,1998,Hartas,2010).The research population comprised a total of 588 lecturers who develop practical skills through instruction in students and this is the collated figure in the five colleges. These lecturers are in different departments for example the applied sciences division is subdivided into cosmetology, clothing technology, library science and records management. Each department was considered as a unique cluster. The basis of including everyone was that whilst some of these lecturers do not have a teaching qualification, they all develop practical skills in polytechnic students.

Best and Khan (1993:19) suggest that the larger the sample size the greater the probability the sample will reflect variable distribution within the general population. Out of a population of 588, 115 comprised the sample. This was large enough to cater for the accuracy as demanded by Schundler and Cooper (2003) and thus fulfilling the criterion of an unbiased sample. Since the total sample frame was known, probability sampling methods were applicable. In this case, cluster sampling was used.

The researcher used clusters formed through the divisions for example Engineering, Applied Sciences, and Commerce among others. Gall et al (1996: 227) in support say in cluster sampling the unit of sampling is a naturally occurring group of individuals. Proportional sampling was applied from one division to another to cater for the quantitative variation. Teaching methods were expected to be uniformly distributed. Simple random sampling was applied to select lecturers to respond to the questionnaire. Lecturers' employee numbers were matched to random numbers generated by a computer. This was continued to raise a sample of size n=115.This is a large sample in which the variable (teaching methods) is normally distributed and findings can be generalised to similar situations.

### *3.3. Research Instruments*

The instruments selected for the study included questionnaires, interview guides and documents.

#### 3.3.1. Questionnaire

A lecturer questionnaire seeking to collect demographic data, instructional methods, factors that influence the selection of these methods and management strategies to help improve the teaching of practical skills was used.The questionnaire was used on the strength that lecturers are literate. Lecturers in polytechnic colleges have their personal views as well as attitudes about practical skills development instruction. Individual views were required. These views contributed immensely to the drawing up of management strategies for practical skills development skills which is the third objective and were made available through the use of open ended questions so as to capture the information. Completed questions were analysed for completeness, answering of questions and incident cases.

However the questionnaire had its shortcomings. The behaviours, emotions, gestures and reactions remained unnoticed (Kilbur, 1995; Mukherji, 2010). As such the researcher had to employ interviews to counter the shortcomings of the questionnaire through triangulation of data.

With the respondents being a mixed bag, some were not willing to disclose their views about some certain issues on instructional methods they use. In support, Hutchinson (2004) in Hartas (2010:258) says respondents may translate opinion into action indirectly through the mechanisms of suppression and inaction.

#### 3.3.2. Interview Guide

An interview is a method of data collection where one person asks questions to an individual or group of people with the expectations of getting answers to a particular question or an elaboration of their views on a particular topic (Mukherji and Albon, 2010 and Cresswell, 2005). The researcher used interviews for clarification of issues raised in the questionnaire. Research on practical skills development is researching lived experiences and this meant going to the source of that experience (Hartas, 2010:227). Exploring the teaching of practical skills meant asking questions focusing on everyday routine aspects. In support, Hartas (2010) and Hoy (2010) say interviews allow for gathering of lived experiences, recollections of experiences and dialogue with the interviewee. There was need to look at the whole of the experiences since development of practical skills is the synergetic interaction of the learning environment, leadership and resource factors in the teaching and learning process. Unfortunately interviews have their shortfalls. In this research the researcher was a 'co-producer' of knowledge making the data unreliable. To counter this, the data was triangulated with the data from questionnaires and documentation.

In administering the interviews the researcher explained the purpose of the investigation and the information that was required from the respondents. The researcher reiterated that no names would be given as well as the departments in which the lecturers teach would be mentioned. Follow up questions were also introduced to solicit further clarifications of points. The interviews were focused on the factors that influence the selection of teaching methods during practical skills development.

#### 3.3.3. Documents

Best and Khan (2003:191) advises that when document analysis is used current documents and issues are foci. Policies and circulars on TVET gave the researchers hard facts. The strategic plans by the Ministry of Higher and Tertiary Education for the periods 2005-2010 and 2011-2015 revealed the intentions on practical skills. These national master plans covered all colleges. What remained was the weighing of these against the responses from the questionnaires and interviews. General staff meetings minutes were analysed for deliberations on practical skills development. Other documents such as policies and schemes of work were read, interpreted and effort was made to find out if practical skills development instruction was discussed in the documents. The authenticity and credibility of the



documents was checked using the original documents from the Human Resource Departments. All the necessary features for example dates and signatures were checked. With minutes, the cut off period was 2010.

### 3.4. Data Collection Procedure

Permission to carry out the research was sought through the Principals of the five colleges. Vice principals in the five colleges were assigned to work with the researcher. The questionnaires were self-administered in the five colleges. This involved actual distribution of questionnaires to the sample population. During the process explanations were given on the purpose of the research which is in line with the process of 'tvetisation' by the MOHTE. This way, confidence was instilled in the respondents since they know the researchers as the national coordinators for pedagogics. Explanations were necessary since some of these respondents hold very low qualifications like National Certificate and some are technicians since they did not have a teaching qualification. These were not sure about the motives of the research at first. The completed questionnaires were also collected by the researchers, thus allowing for a 100% response.

## 4. Data Presentation, Analysis and Interpretation

### 4.1. Demographic Data

Sex	No. of lecturers	Percentage
Females	43	37
Males	72	63
Total	115	100

Table 2: Lecturer grouping by sex

From the above table it was noted that 37% of the lecturers are female while 63% are male. This could have an impact especially in engineering where if the female chooses to use the demonstration method depending on the equipment in use they would have challenges. Mills (1997) says when demonstrations are given the students would be concentrating on the demonstrator more than the skill being demonstrated. The implication being that the demonstrator has to perform well for students to imitate.

Response	Frequency	% Response
20-30 years	30	26
31-40 years	46	40
41-50 years	30	26
51-60 years	9	8
Above 61 years	0	0
Total	115	100

Table 3: Age of lecturers in Polytechnic Colleges

Data presented in table 3 shows that the majority of lecturers are in the (31-40) year category. These lecturers could be lacking experience and a teaching qualification for effective lecturing in polytechnics, they can be employed with their technical qualification at ND or even NC level. Hence there could be problems in the teaching for practical skills development. This could also be exacerbated by the absence of seasoned lecturers who would have been mentors to these new lecturers. The experienced lecturers left for either greener pastures or industry during the economic meltdown period.

### 4.2. Instructional Methods Used

Method	Male	Female	Response	Percentage
Discovery	1	2	3	3
Demonstration	47	19	66	57
Lecture	7	5	12	10
Discussion	4	6	10	9
Project	10	6	16	14
Experimentation	3	5	8	7
Total	72	43	115	100

Table 4: Lecturers favourite teaching method for practical skills development

From the data presented in table 4, the demonstration method had the highest percentage (57%). This could be attributed to the lecturers thinking that it is the one for practical skills. Mills (1998:72) says a good demonstration requires a great deal of time and trouble for preparation. The choice of the methods could be affected by lack of know-how from the lecturers or lack of resources in the institutions.

Response	Frequency	%Response
Bloom's taxonomy	31	27
Not sure	47	41
Through their involvement	37	32
Total	115	100

Table 5: How these methods develop students' practical skills

From the responses 41% indicated that they were not sure of how the methods promote practical skills. Perhaps this is the group without a teaching qualification. The other responses (32%) indicated that the methods would help develop practical skills through students' involvement leaving the how part of the question unanswered. This could be the group without a teaching qualification but base their lecturing on their experiences. This then confirms literature review in which it is said the lecturing staff comprises a mixed bag. According to Mintzberg in Armstrong and Baron (2008) this is an emerging pattern that calls for strategic management.

Method	Factor	frequency	% Response
Discovery	Students are involved in their own learning. Feel of the actual. They utilise their theory.	3	3
Demonstration	Students do the task. It encourages hands on. Drilling Students imitate. Teaches psychomotor.	66	57
Lecture	Lecturer can deal with a large class. Not time wasting. Inspires students to research. Enhances student participation	12	10
Discussion	Everyone is involved. Share ideas. Gives lecturer time to rest.	10	9
Project	Project is a requirement by HEXCO. Improves psychomotor. Allows students to develop all skills required.	16	14
Experimentation	Students are all involved. They come up with interesting ideas. Students pay attention. Students discover. They research on their own	8	7

Table 7: Reasons for choosing the methods

A summary of the responses as given above reflects that 48% of the lecturers use the demonstration method. This could be a result of their experiences when they were training or lack of exposure to other methods.

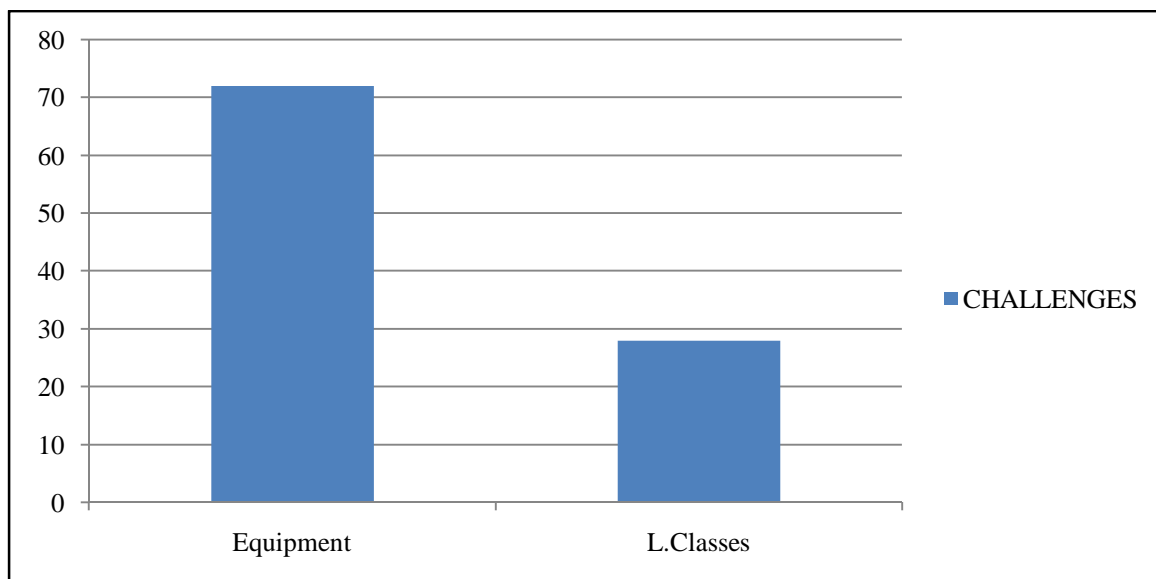


Figure 1: challenges faced by lecturers

From the graph above, 72% of the lecturer indicated that they faced the challenge of equipment which in most cases is obsolete and not enough. Kanyenze (2009:22) in support talks of out of date equipment and UNESCO (2007) would talk of the high cost of construction equipment and the provision of consumables and training material as a perennial problem. If one attribute is diminished, the others are affected. So the greater percentage in this response could be attributed to the negative effect experienced in the teaching of practical skills due to lack of teaching equipment. Training resources when inadequately supplied could give room to lecturers to focus more on theoretical teaching and hence are likely to contribute to students' not being proficient in practical skills acquisition.

Response	Division	Frequency	% Response
0-10	Applied Sciences	19	17
11-20	Engineering	26	23
21-30	ITC	21	17
31-60	Commerce	49	43
Total		115	100

Table 8: Lecturer-Student ratio in areas of Specialisation

The table above shows that 43% of the lecturers have a lecturer ratio which falls between 31 and 60 students. An analysis of the above scenario reveals that the majority of lecturers in polytechnic education have large classes. The problem being that large classes do not allow for maximum participation by the students which is a requirement in practical skills development. These classes do not match with inadequate supply and provision of training resources. Such situations do not allow the lecturer to attract and retain the attention of all students during demonstration lessons. - In Support Mills (1997:63) says passive reception will not churn out trained technicians. Going by the quality of training where there are large classes, it becomes expensive for consumers of the graduates since they would need to be retrained.

Responses	Frequencies	% Responses
No regulations	115	100

Table 9: HEXCO regulations

The table above shows that 100% of the responses indicated that HEXCO has no regulations on practical skills development instruction. In reality TVET curricular is to focus on outcomes in terms of the skills, knowledge and attitudes required by industry. In support Nyankov (1996) talks of the need of an effective linkage between training and the world of work. This calls for the value chain analysis, for instruction in practical skills development is a core inbound 'ingredient' in the development of practical skills for industry. Where there is lack of a coherent mode, training will not produce the requisite skills for the job market or for industry. This could result in the churning out of 'unskilled or ill-skilled' graduates. Quality in polytechnics as indicated in literature review is co-ordinated through HEXCO. Practical skills form the basis of polytechnic education. Arcaro (2007:63) would say people must take the responsibility for improving quality as well as the products or services they provide to their internal and external customers.

Documents analysed also confirmed nothing written on practical skills development. These included national strategic plans for Higher and Tertiary Education from 2005-2010 and 2011-2015, Concept Paper on Technical and Vocational Education and Training System for the 21<sup>st</sup> Century in Zimbabwe (2003), Ministry of Higher and Tertiary Education (2011) among other official documents. Minutes on held general staff meetings held were also silent on practical skills development.

Response	Frequency	% Response
Ensuring distribution of training materials	87	76
Very little	28	24
Total	115	100

Table 10: Role of management in the teaching of practical skills

From the above table 76% of the respondents indicated that the administration ensures distribution of training materials focusing on practical skills development. The responses could have focused on the provision of resources for practical skills development where lecturers know that ZIMDEF is mandated to provide training equipment and consumables. Kanyenze supports this when he says that MOHTE (2006) report strongly recommends the amendment of the 1994 Act so that ZIMDEF focuses strictly on funding TVET as was provided for in the 1984 Act, a position echoed by industry. If training equipment and consumables are availed by ZIMDEF then Management in institutions just ensures distribution of funds from ZIMDEF and then monitors through the structures thus authenticating the views of the 76%. The funds are disbursed bureaucratically meaning to say sometimes colleges are able to get consumables after the topics have been taught and thus leading to poor skills acquisition by the students.

Responses	Frequency	% Responses
Nothing	11	10
Allocation of resources	19	19
Collect marks	24	21
Standards in curriculum implementation	22	19
Not aware	38	33
Total	115	100

Table 11: Role of academic board in practical skills development

In the above table 33% of the lecturers revealed that they were not aware of the role of the academic board in the development of practical skills. Going by what Wheelen and Hunger (2008:18) say, the purpose of the board is to monitor, evaluate, influence, initiate and determine. Some of those characteristics are reflected in the responses by the lecturers. The implication is that the board could do more to influence practical skills development instruction.

4.3. Management Strategies to Improve the Teaching of Practical Skills in Polytechnics

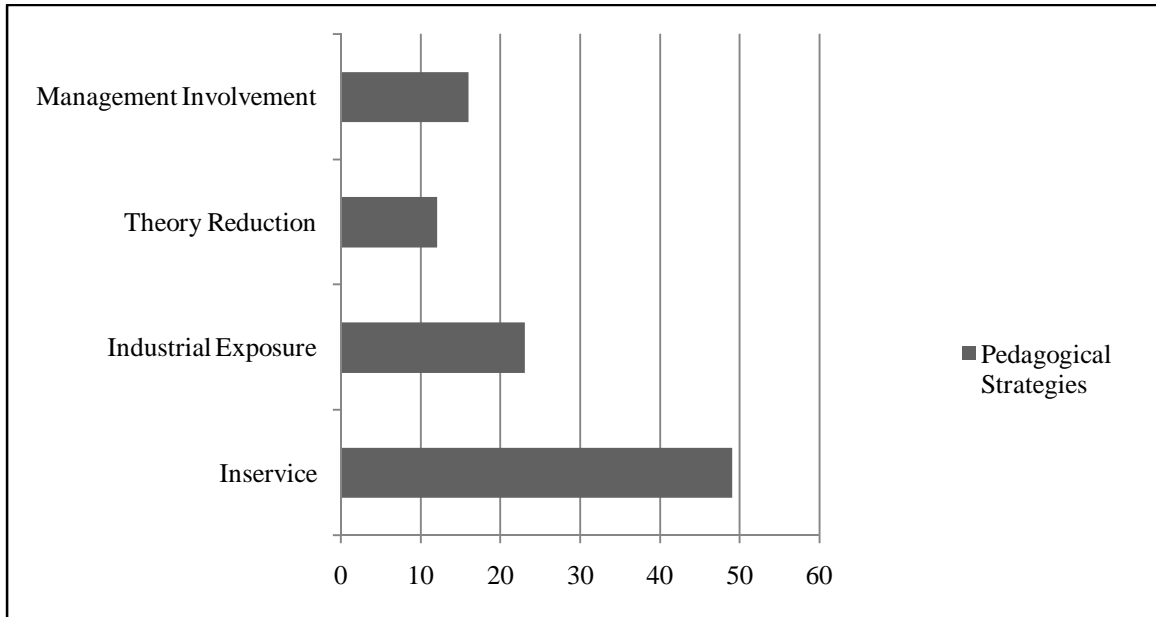


Figure 2: Pedagogical Strategies

The graph above reveals that 49% of the lecturers feel that lecturer in-servicing is important as a strategy to improve the teaching of practical skills in polytechnics. Of the remaining figure 23% of the lecturers felt there was need for industrial exposure for all those who develop practical skills.

Lecturer in-servicing is a critical point in the development of practical skills. Nyankov (1996) says that teacher qualification and quality of teaching affect the teaching of practical skills training of students. Under demographic data it was revealed that most of these lecturers fall in the 20-40 year category. This could be the category with lecturers who are inexperienced, lecturers who during the interviews needed an elaboration of every question asked on instruction. Industrial exposure for lecturers is important. Nyankov(1996) also indicated that lack of industrial training for TVET teachers affect practical skill development. The African Union(2007:8) says while training for high quality skills requires appropriate training equipment and tools, adequate supply of training material and practice, other requirements include relevant textbooks and training manuals as well as qualified instructors with the experience of the enterprise. This thus authenticates the concerns of the lecturers. Besides, that type of exposure would help them link what they teach and how they teach to what happens in industry.

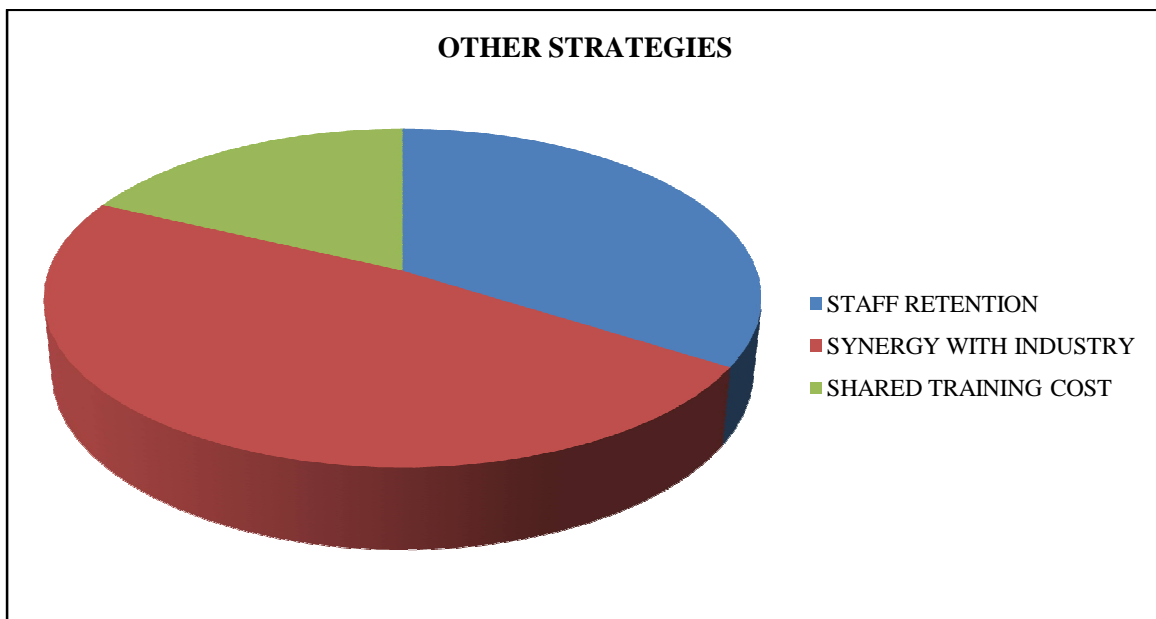


Figure 3: Other Strategies



From the chart above, 34% of the lecturers indicated that staff retention and retraining is a prerequisite Armstrong and Baron (2008:55) say it is the knowledge, skills and abilities of individuals that create value hence the need to attract, retain develop and maintain the human capital they possess. The majority of responses (48%) indicated the need for HEXCO to create synergy with industry so as to allow students to deal with practical research and exposure to current technology. This is more in line with the German mode of training in which students learning takes place in vocational schools and in production facilities or in the service industry concurrently (African Union,2007).The synergy promotes linkage of polytechnic education to the world of work. The remaining 18% indicated that the students share the training costs in practical skills development with the institutions.

## 5. Conclusion

From the findings it was revealed that lecturers in polytechnics use methods which include demonstration, discussion, experimentation, lecture, discovery and project. Among these the demonstration was the most popular. It was also revealed that there were various factors which influence the selection of teaching methods for practical skills development. Such factors include lack of equipment and consumables like industrial sewing machines for clothing technology, massaging tables for cosmetology and welding gas for mechanical engineering. It also came out that the lecturers need in-service training in the development of practical skills. It was also revealed that there is need for industry partnership in training as well as funding and facilities upgrading. It was further revealed that whilst practical skills development is the core business of polytechnic institutions, there are no policy documents as to how this is to be done.

## 6. Recommendations

The study was motivated by the observation that lecturers' instruction in polytechnics is not in tandem with practical skills development which is key in polytechnics. The following management strategies were suggested so as to improve practical skills development instruction. In-service training for instruction on practical skills development is necessary. Colleges could use one of the colleges as a centre for practical skills development instruction. Each college can twin with one industry for a department equipmentation to expose students to current machinery. Lecturers can go on attachment in industry for example, those in lecturer training at Gweru polytechnic can go during second term when students are out on teaching practice. Such exposure would enable them to know industrial expectations on practical skills and thus incorporate these in curriculum and teaching lecturers. Ministry of Higher and Tertiary Education can through the Zimbabwe Manpower Development Fund, fund lecturers attachment to industry. Further research can be done on factors affecting lecturers writing of books or articles on practical skills development. HEXCO as the Ministry of Higher and Tertiary Education's arm for polytechnic education should come up with policies on the teaching of practical skills as well as the assessment criteria. This way coherence in all colleges becomes inbuilt.

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