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Technical Education In Post-Independent Zimbabwe: Conditions Of Service

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ABSTRACT

This article is based on a research survey carried out in 1987. This pilot study was done at Harare Polytechnic. Other technical colleges involved were: Bulawayo Technical College, Kwe Kwe Technical College, Gweru Technical College, Masvingo and Mutare Technical College. In fact only one technical college - Kushinga Phikelela was not involved. The study concentrated on the Automotive, Mechanical and Electrical Engineering Departments. This study investigated general problems experienced by technical colleges since independence. From all the technical colleges, the most important and crucial problem mentioned, related to salaries.

The Pilot Study

Among the main aims and objectives of the pilot study were: testing instruments, methods and techniques used in the survey, identification of main issues likely to emerge in the running and organization of technical colleges.

Harare Polytechnic was chosen for the pilot study due to several factors. Harare Polytechnic is the largest and oldest technical college in the country. That being the case, issues under investigation were likely to be represented at this polytechnic. The three departments, electrical, automotive and mechanical were found at Harare Polytechnic.

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Participants

In all, 33 lecturers took part in the pilot study. These consisted of one female and the rest were male. In fact, as will be noted, female lecturers were conspicuous by their absence in the technical fields at all the other technical colleges. The average age of these participants was above 40 years.

Highest Academic Qualifications

The pilot study revealed that 15 (45.5%) had 'O' level qualifications, 11 (33.3%) had 'A' level qualifications, four (12.1%) were first degree university graduates and (9.1%) had other qualifications. The distribution of these qualifications was revealing in several ways. The biggest number had 'O' level qualifications.

Highest Technical Professional Qualifications

The biggest number of participants were in the 'other' qualifications category. This was not surprising given that the majority of these qualifications were obtained from abroad and 13 (39.4%) were expatriates. Besides the 'others' category, participants' technical qualifications were: four (12.1%) had no formal technical training, four (12.1%) had City and Guilds, four (12.1%) had Advance Crafts Certificate and nine (27.3%) had City and Guilds Technical Certificate. It was revealing to discover that 12.1% of these lecturers did not have any formal technical training. Maybe they obtained their qualifications on the job.

Highest Teacher Training Qualifications

It was established that out of 33 participants, 15 (45.5%) had no formal teacher training, seven (21.1%) had a diploma in teacher education, one (3.0%) had an M.Ed qualification and three (9.1%) had other qualifications. It is debatable as to whether or not people who teach at technical colleges require formal training in pedagogues. In terms of training, it means Harare Polytechnic was disadvantaged since the biggest number of lecturers did not have formal teacher training.

Experience as Lecturers

The majority of lecturers, 24 (72.7%) in the pilot study had experience between two to seven years. At the same time there were seven (21.1%) lecturers with experience of over 10 years.

Lecturers' Attitudes Towards Conditions of Service

In the questionnaire used, lecturers were requested to give their views and opinions with regards to their work and conditions of service. They were requested to indicate their degree of satisfaction on items such as equipment, lecture halls, class size, allowances, canteen facilities, salaries, ancillary staff among other items.

Using 50% as cut off point, lecturers who took part in the pilot survey were not satisfied with the following: salaries, accommodation, equipment, number of lecturers and allowances. On the other hand these same lecturers were satisfied with two items: class size and number of working hours per day. From these results, it is clear that the most crucial item relating to lecturers' conditions of service was salaries.

Other Crucial Issues Noted By Lecturers

In the open section of the questionnaire, lecturers were requested to identify crucial issues they liked to be corrected in order to improve upon their conditions of service. In rank order, the issues identified were: salaries, accommodation, administration particularly the relationship between the Polytechnic and Head Office, more staff, more equipment, staff development and research facilities. The issues stated by the lecturers at Harare Polytechnic in the spaces provided in the questionnaire were basically similar to those in the closed ended sections of the questionnaire. In the open ended sections however, lecturers added such items as staff development and administration. These were found to be crucial issues at other technical colleges as well.

Summary of Main Findings from the Pilot Study

The main findings from the pilot study were:

- Participants in the pilot study were predominantly male.
- In terms of academic qualifications 45.5% of the participants had 'O' levels.
- 46% of the participants were expatriates.
- It was established that 45.5% of the participants had no formal teacher training which means they taught as untrained teachers.
- With regards to lecturers' views on their conditions of service, it was found that lecturers were concerned with salaries, accommodation, inadequate lecturers, equipment and allowances. On the other hand these lecturers were satisfied with the size of their class and working hours per day.

The purpose of the pilot study was to determine the suitability and relevance of the instruments as well as methods used in the final survey. This purpose was achieved. Consequently the questionnaires used in the final survey were revised and relevant to the study emerged. These issues were further investigated in the final study.

The Main Study

The main study was carried out at Bulawayo Technical College, Kwekwe Technical College, Masvingo Technical College, Mutare Technical College and Gweru Technical College.

Research Design

Several methods were used in the collection of data. Among these included: documented data from the Ministry of Higher Education, technical colleges, formal and informal discussions, interviews, and questionnaires.

As far as questionnaires were concerned, these were both closed and open-ended. Questionnaires were filled in by technical college lecturers in the automotive, electrical and mechanical engineering departments. The only exception was Masvingo Technical College where these departments had not started operating. Non-technical lecturers filled in the questionnaires at Masvingo Technical College.

Questionnaires were administered to groups of lecturers who filled in the questionnaires in the presence of the researcher. This technique of data collection was used because it:

.... ensures high response rate, accurate sampling and minimum of interview bias while permitting interview assessments, providing necessary explanations ... and giving the benefit of a degree of personal contact. (Oppenheim, 1975, p.36)

Data collected particularly through the questionnaire was analysed using an SPSS computer package at the University of Zimbabwe's Human Resources Research Centre (HRRC). The method used was descriptive statistical method consisting of the number (N) of respondents and their related percentage frequencies.

Participants

As noted above all technical colleges lecturers, except those from Kushinga-Phikelela, in the mechanical, automotive and electrical engineering departments took part. In all, these were 81. This figure excludes lecturers who took part in the pilot study who were 33. The 81 lecturers sampled from the various technical colleges represented 45% of lecturers in all the technical colleges who were 180 at the end of 1987. If we exclude lecturers from Harare Polytechnic in the 180 total, we remain with 91 lecturers. If we take 81 lecturers as a percentage of 91, the figure is 89%. If we take all the lecturers who filled in the questionnaires, against all the lecturers in the departments (mechanical, electrical and automotive) investigated, that is 180, the percentage is 62.8%. The point being made is that taking 50% as cut off point to determine whether the sample was representative of the total number of lecturers in the department under discussion in 1987, the sample was representative. The total sample of 81 lecturers consisted of 76 (93.6%) male and five (6.3%) female lecturers. The overall picture shows that there were by far more

male than female lecturers. The reason for this is sex discrimination against girls in education in general and in technical education in particular.

While these stereotype attitudes are dying more effort should be put in the recruitment of girls not only in general technical fields but in the training of people to become lecturers, teachers and instructors in the technical fields.

The ages of these participants indicate that they were relatively young. The biggest number, 64 (79%) were between 21 and 40 years of age. This age distribution is not surprising. This is because 60.5% of these lecturers were recruited after independence. This has possible implications on in-service courses. Because of their relative young ages, they can undertake required inservice courses and still be employed over a long period within the Ministry of Higher Education.

Qualifications

Information relating to academic qualifications indicated that the majority of these lecturers, 54 (66.6%) had 'O' level academic qualifications. These qualifications raise a number of issues which include whether such candidates are qualified enough to man such colleges, and the type of in-service courses that might be needed. Given the demand for relatively high academic qualifications in the country's institutions, are 'O' levels suitable?

The origins of the academic qualifications were evenly distributed with 40 (49.4%) obtained abroad and 41 (50.6%) in Zimbabwe.

The majority of the lecturers 75 (93.8%) had technical professional qualifications with those who attained City and Guilds 33 (40.7%) being the biggest group. These technical professional qualifications were obtained from abroad by 56 (69.1%) of the lecturers.

Data on lecturer training qualifications revealed that 63 (77.7%) of the respondents had no formal teacher training qualifications. This was in line with the pilot study. If it is agreed, that professional teacher training is necessary for such lecturers, it means that the Ministry of Higher Education should mount some in-service training courses for such lecturers.

Experience as Lecturers

Experience has been recognized as useful in any job situation and performance. Analysed data indicate that 63 (77.7%) had experience ranging from less than one year to five years. For those unfamiliar with, and inexperienced about the development of technical education among black Zimbabweans, these figures show that technical lecturers in the survey lacked or had limited experience. Technical education for the majority of black Zimbabweans is an advent of independence. The fact that 63 lecturers had such experience as noted above, is in itself an achievement on the part of the Government. This reflects that most of these lecturers were employed after independence. As already noted above, these lecturers can be given relevant and appropriate in-service training in line with the country's socio-economic and socio-political set up.

Class Size and Contact Time

In the parlance of educational planning, there are arguments for and against large class sizes. This is particularly the case at the school level. The arguments for and against large class sizes at school level also apply to technical colleges. There seems to be an almost universal belief among educationists that large classes are bad. From the lecturer's point of view, large classes are exhausting, cause frustration and are a reason for failure among the taught (Chivore, 1985). Sometimes large classes are regarded as a source of dissatisfaction. With 'small classes' it is held that educators can apply a wider variety of instructional strategies and learning activities, develop positive attitudes and morale.

Data collected and analysed showed that 79 (97.6%) of the lecturers taught between 10 and 25 students per class. These were relatively small classes. It is true that such classes may reflect the nature of the education and skills that are imparted. Equally true is that Zimbabwe is a developing country with limited resources. Given the high appetite for such education among the people one wonders how long class sizes can remain so small.

On contact hours per class, per week, information gathered showed that 75 (92.6%) of the lecturers taught between 10 and 15 hours per week. On average this works something like three hours per day. Given the demand for technical education and the country's limited resources, can these working hours be maintained as they are?

Lecturers' Attitude to Work and Conditions of Service

Information was solicited from participants regarding their attitudes towards work and conditions of service. On the questionnaire there were 15 items. Participants were free to add items they regarded as crucial in their work. Candidates rated these items on a five point scale as follows:

1. Not satisfactory
2. Somewhat satisfactory
3. Satisfactory
4. More satisfactory
5. Most satisfactory

Scales 1 and 2 were collapsed to become 'Not satisfactory' and 3, 4 and 5 became 'satisfactory' (Table 1).

In rank order, participants were satisfied with only two items, that is, class size, 64 (72.8%) and number of class contact hours per day, 59 (72.8%). That participants were satisfied in these two items is not surprising. This is because as already noted, lecturers at technical colleges worked between 10 and 25 hours per week teaching classes of between 10 and 25 students. By any standard these were favourable class sizes and number of working hours. This data also truly reflected what was actually happening.

Participants were dissatisfied with all except the two items noted above. The rank order in terms of dissatisfaction was as follows: Salaries, 78 (96.3%); accommodation 70 (86.4%), allowance 69 (85.2%), library facilities 66 (81.5%), canteen facilities 65 (80.2%), technicians 65 (80.2%), equipment 55 (60%), number of lecturers 52 (64.2%), ancillary staff 47 (58%), lecture halls 43 (53%) and leave 42 (51.8%).

TABLE 1
LECTURERS' OPINIONS AND VIEWS ON THEIR
CONDITIONS OF SERVICE AND ISSUES
RELATED TO THEIR WORK

	Not Satisfactory		Satisfactory		Total		Rank
	N	%	N	%	N	%	
Equipment	55	67.9	26	32	81	100	7
Lecture halls /classrooms	43	53	38	46.9	81	100	10
Number of lecturers	52	64.2	29	35.8	81	100	8
Class Size	14	17.3	64	82.7	81	100	13
No of class contact hours per day	22	27.1	59	72.8	81	99.9	12
Salaries	78	96.3	3	3.7	81	100	1
Accommodation	70	86.4	11	13.6	81	100	2
Leave/holidays	42	51.8	39	48.1	81	99.9	11
Allowances	69	85.2	12	14.8	81	100	3
Canteen facilities	65	80.2	16	19.8	81	100	5
Technicians	65	80.2	16	19.8	81	100	6
Ancillary staff	47	58	34	42	81	100	9
Library facilities	66	81.5	15	18.5	81	100	4

Respondents were asked to note down issues they regarded as crucial in making work in technical colleges attractive. They were requested to note these issues in the open-ended spaces provided in the questionnaire. The aim was to solicit for issues provided in the questionnaire. The aim was to solicit for issues that may not have been covered under the closed-ended

sections of the questionnaire. The issues outlined under the open-ended section of the questionnaire were similar to those rated as unsatisfactory under the closed-ended section of the questionnaire. In rank order these were: salaries should be improved, better promotion prospects, accommodation, improved communication between lecturers and Ministry Head Office, improved administration, staff development for lecturers, equipment, library facilities, improved canteen facilities, improved laboratory facilities and mini buses for technical colleges.

The issues rated as unsatisfactory by the lecturers could be classified as follows:

Financial: salaries, promotion prospects and allowances.

Administrative: improved communication between lecturers and Ministry Head Office, consultation between lecturers and Head Office on the new proposed holiday structure and the need to have vice principals at technical colleges.

Pedagogical: staff development, laboratory facilities, library facilities and equipment.

Social: canteen facilities, college transport and accommodation.

It would be useful to make a few comments with regards to some of these grouped issues.

Administration

Lecturers alleged that decisions were made at Head Office with little or no consultation. They cited as an example the new holidays structure about which they claimed were not consulted. Under this new holiday structure, lecturers took holidays not based on college calendar but as administrative officers. In other words, they would not be entitled to college holiday as this was known at other education institutions. They would remain on duty even after students went on holiday. In addition lecturers complained that it took a long time before a recommended lecturer was appointed. In several cases candidates waiting for possible appointments left having found jobs elsewhere before they heard from Head Office of the then Ministry of Labour, Manpower Planning and

Social Welfare which controlled technical colleges. Lecturers also claimed that even the Ministry of Higher Education issued directives on professional matters without consulting the lecturers.

Administration of technical colleges improved tremendously when the Ministry of Higher Education took over. At technical colleges such as Bulawayo, Mutare and Gweru, few principals were appointed. These principals had long standing experience of college administration under the then Ministry of Education. In addition a properly constituted Department of staffing took responsibility over staffing. These changes seemed to put some credence to claims made by technical college lecturers that administration before the Ministry of Higher Education took over left a lot to be desired.

Salaries

Under issues rated as unsatisfactory by technical college lecturers, salaries were on top of the list with 78 (96.3%) stating that they were dissatisfied with salaries. In another study carried out among secondary teachers in post independent Zimbabwe (Chivore, 1989) it was established that the highest ranked factor in determining the attractiveness of the secondary teaching profession was salaries relative to those paid in the public and private sector. In this study out of the 15 factors rated as relatively important in determining the attractiveness of the secondary teaching profession, seven, that is nearly half and a third of the original 21, had something to do with financial remuneration.

Taking technical lecturers as part and parcel of the teaching profession, the importance of salaries has been emphasized by most empirical studies. A UNESCO conference on the status of teachers held in 1986 reported (ILO/UNESCO), (1984, p.42),

Amongst the various factors which affect the status of teachers, particular importance should be attached to salary, seeing that in present world conditions other factors such as the standing or regard accorded them and the levels and appreciation of the importance of their functions, are largely dependent, as in other comparable professions, on the economic position in which they are placed.

To appreciate lecturers' concern about their salaries, it is essential to know these lecturers' salary scales. (Table 2).

Table 2
Technical College Lecturers' Salary Scales (1989)

Lecturer Grade 5 (non-technical)	\$11 376 - \$18 240
Lecturer Grade 4 non-Graduate Technical	\$12 228 - \$20 640
Lecturer Grade 3 Graduate non-Technical	\$13 386 - \$19 272
Lecturer Grade 2 non-graduate Skilled Workman technical and graduates	\$14 496 - \$19 272

Source: Ministry of Higher Education 1989 salary scales.

From the above figures it should be noted that non-technical lecturers (non-graduates) were (1989) paid less than non-graduate lecturers at teachers' colleges. This is because whether graduate or non-graduate, lecturers at teachers' colleges fall within \$12 640 salary scale which is lecturer grade 4 at technical colleges. In addition to that, as far as the maximum salaries are concerned, all lecturers at technical colleges got less than lecturers at teachers' colleges. And yet in terms of demand, skills which technical lecturers have are sought after more than the skills ordinary teachers' college lecturers might have.

In general, lecturers at technical colleges were paid less than what was paid to people with similar skills working in industry particularly in the private sector. In one leading private company [Chivore, 1988], technicians were paid between \$1,400.00 and \$1,885.00d per month. The minimum salaries of these technicians were higher than the maximum salaries of lecturers at technical colleges in Zimbabwe. Due to the relatively high demand for their technical skills, lecturers were [still are 1992] easily lured into industry where they received relatively high salaries. It is no secret that technical colleges in Zimbabwe between independence and now [1992] lost more than 60.2 percent of their lecturers. True several of these lecturers were whites who did not want to work under an African government, the fact that the trend continued well after independence means A black lecturers are leaving technical colleges if and when they get greener pastures.

Improvements In Technical Lecturer's Salaries.

The fact that technical lecturers were leaving for greener pastures was known to government. That is why in 1991 there was a major salary review for technical lecturers [Table 3]. These are the salaries operation as of January 1992.

Table 3
Technical College Lecturers' Salary Scales
1991-January 1992.

Skilled Journeyman Class I/Lecturer 2	\$26496 - \$33228
Class II Lecturer [degree computer science, maths graphics Arts	\$27396 - \$33228
Skilled Worker Class I	\$28884 - \$33228
Senior Lecturer II	\$34032 - \$37260
Principal Lecturer II	\$38040 - \$400968

Source Ministry of the Public Service B/C/33/91

In addition to the above pay scales, senior lecturers and principal lecturers receive a "Retention Allowance" of 20.0 percent of their salaries. With "Retention Allowance" The picture would be as follows:

Senior Lecturer II	\$40838.40 - \$44712.000
Principal Lecturer II	\$45648.00 - \$49161.16

It is clear that the Government, through the Ministry of Higher Education did a lot to improve the lecturer's salaries. But there are several flaws that erode the salaries received by lecturers at technical colleges. Lecturers who are not in the senior and principal category do not receive the retention allowance. Not only that on paper, compared to the 1989 salaries [Table 2] lecturers at technical colleges receive comparatively and relatively better salaries. But it should be noted that between 1989 and 1992, the value of the dollar has plummeted by more than 50.0 percent at a conservative estimate. In 1991 alone, the Zimbabwe dollar decreased in value by 40.0 percent. In terms of value the Zimbabwe dollar is now [1992] worse than the Botswana Pula, the Malawi Kwacha and the South African

Rand, currencies which were less than the Zimbabwe dollar when salaries contained in Table 2 were in operation. At the same time the government under the Economic Structural Adjustment, allowed free collective wage bargaining in the private sectors and parastatals. This resulted in the private sector pay levels for people with similar qualifications and experiences as technical lecturers getting better salaries even using the revised salary scales contained in Table 2. Simply put, true technical lecturers received better salaries in 1991 than was the case in 1989, but these salaries still compare unfavourably with those in the private sector. It seems the government cannot catch up with the private sector. Hence technical colleges will keep losing their lecturers to better paying sectors

Other Crucial Issues

Besides issues noted as crucial by the participants, there were other aspects revealed through this study which merit further discussion. These were academic and professional qualifications.

It was noted that in terms of academic qualifications, the over-whelming majority of these lecturers had 'O'levels qualifications. This is because in addition to 'O'levels these lecturers hold technical qualifications such as City and Guilds. While this stance could be correct it should not be forgotten that we are talking of people who train others. Such people especially at tertiary institutions should be University graduates having specialized in their respective areas. That being the case the Ministry of Higher Education should arrange staff development courses at the Polytechnic or at the University. Degrees such as the Bachelor of Technology should be open to these lecturers. Assistance in mounting such courses could be obtained from the University of Zimbabwe's Engineering Department. This means candidates will not be sent outside the country for such courses. Hopefully the new University of Science and Technology based in Bulawayo will assist in this aspect.

In terms of teacher training qualifications, it was noted that the majority of the lecturers did not have formal teacher training qualifications. During his data gathering the author was informed (Feasibility Study 1988) that there were plans to train technical teachers at Gweru Technical College. This idea was also supported by the then Ministry of Education for as the Deputy Secretary Planning (Ministry of Higher Education 1987) in a submission stated:

Since the graduates of the proposed college would lecture at polytechnic, which are post 'O' level institutions, it could be possible for our Technical Teachers' Colleges to recruit lecturers from this source as well. This is particularly important in view of the current vocationalisation of secondary education. However, for this Ministry to be comfortable with the professional (as opposed to technical) competence of the lecturers from this college, it could be preferable for the proposed college to be affiliated with the University of Zimbabwe whose record in teacher training is proven and acceptable world wide.

The Deputy Secretary went on:

The main advantages of such a college to our Teachers' Colleges could also be that our Teachers' Colleges could also draw lecturers in technical subjects from this college. This is important because the lecturers from this college would already be journeyman with teaching qualifications. This is why it is desirable for the teaching diploma of this college to be awarded by the University. If the college produces more teachers than can be absorbed by technical colleges and our teachers' colleges, then we could possibly employ some of them to teach the upper forms of our high schools in technical subjects.

Given that the majority of lecturers at technical colleges are not teacher trained and the demand for trained technical teachers at other institutions such as secondary schools and teachers' colleges, one hopes that the proposed Gweru Technical College Programme is implemented without delay. Equally crucial is that the University of Zimbabwe or The National University of Science and Technology [NUST] should be involved in such a proposal especially in the awarding of the certificates to successful candidates.

Summary of the Main Findings

In any study perfect solutions exist only in the realm of pure ideas and the imagined. What is good for, or works in one society is not necessarily a recipe for another. Common elements between situations and between societies may exist and sometimes do exist. But a successful relationship between challenge and response must be based on the identification and recognition of facts and problems of each situation as reflected by the realities of that society and the direction in which these point. This also depends on certain moral imperatives, socio-economic and socio-political considerations.

The main highlights of findings and brief recommendations made in this study are based on the realities obtaining with the view to improve upon technical education Zimbabwe. The main findings in this research included:

- That in terms of gender, the overwhelming majority of the lecturers were found to be male. We believe this to be the case even now (1992). A deliberate effort should be made by the Ministry of Higher Education to employ females as lecturers in these technical fields.
- It was noted that in terms of academic qualifications, the majority of lecturers at technical colleges had 'O'level qualifications. We believe higher academic qualifications, such as university degrees, are needed at these technical colleges. To that end, arrangements could be made to admit existing lecturers for the Bachelor of Technology degrees done at NUST or special arrangements could be made with the Faculty of Engineering of the University of Zimbabwe for such courses to be mounted.
- Hand in hand with relatively low academic qualifications was the fact that the majority of lecturers did not have formal teacher training. We believe that such qualifications are needed. The author was given evidence to the effect that Gweru Technical College is being upgraded into a Technical Teachers' College. This is a welcome move. We strongly feel that the University of Zimbabwe which has experience in teacher education should be involved in drafting the courses that are offered, monitor this programme and certificate candidates who train to be technical teachers under this scheme.

Lecturers at all the technical colleges complained about poor administration. There was evidence of this especially before technical colleges were put under the Ministry of Higher Education. Because of administrative experience of the top personnel hitherto under the then Ministry of Education which took over technical colleges, there has been some improvements. New experienced principals were appointed to these colleges and an experienced staffing Division established. Delays in appointments have been drastically reduced. It is hoped that administrative problems as well as problems related to shortage of equipment will be dealt with expeditiously.

As far as lecturers at technical colleges were concerned the issue which dissatisfied them most was salaries. There is evidence which shows that lecturers at these college compared unfavourably with people employed in the private sector. It is self evident that the Ministry of Higher Education should make every effort to ensure that technical lecturers' salaries are competitive so that these lecturers are not lost to the private sector. Unlike secondary and primary teachers who are the biggest white collar labour force, whereby if government tried to equate their salaries with that of the private sector, Government might be bankrupt, we believe technical lecturers' salaries can be equated to those of the private sector. This is because these lecturers are not as many as secondary and primary teachers.

CONCLUSION

Zimbabwe is one of the most industrialized country in black Africa. That being the case the country faces a challenge in the field of technical education. This challenge is to properly plan for and revamp technical education in such a way that those inherited institutions can be maintained at an even higher standard. In addition the Ministry of Higher Education should have a new look at technical education by improving on administration, lecturers' academic and professional qualifications, equipment and lecturers' salaries. Unless these issues are redressed, technical education in Zimbabwe will not be as effective and efficient as one would like it to be.

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