

A SURVEY OF THE REACTION TO AND APPLICATION OF KENYA TECHNICAL
TEACHERS COLLEGE INDUSTRIAL INSTRUCTORS TRAINING PROGRAMME: THE
CASE OF FORMER TRAINEE INSTRUCTORS OF THE NATIONAL YOUTH SERVICE

BY

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MAY, 1987.

This Research Project is my original work and has not been presented for a degree in any other University.

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This Research Project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

To my children Booker O. Nyapola, Perez H. Alis, Peter F. Opondo and Everlyn J. Arua for their inspiration and patience during the period of study.

D.P.O.O.

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A B S T R A C T

Technical, Industrial and Business education is gaining momentum in Kenya's rapidly changing education system. The growth of our industry partly depends on the quantity and quality of skilled manpower in all sectors of the economy.

The Industrial Instructor Training programme at Kenya Technical Teachers College was started to up-grade the quality of in-service technical, industrial and business instructors in public, parastatal and private sectors of the industry.

This study was set to survey the reaction of former trainees to the training programme and to determine the application of knowledge, skills and attitudes acquired from the training programme. The survey was centered on the former trainees' reaction to the course content, the resources and facilities used; and the general administration of the programme.

The results of the study show that the training programme is playing an important role in developing the Instructors in the industry. The programme, however, could still be improved and expanded to cater for the large number of Instructors not yet trained.

The study has also emphasized the importance of evaluating training programmes. The author recommends that evaluation of training programmes should be encouraged as a method of justifying the effectiveness of training. Recommendations for further research in evaluating training and development have also been suggested.

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CHAPTER ONE

INTRODUCTION

1.1. INTRODUCTION

Kenya Technical Teachers College became operational in 1977, hiring The Kiambu Institute of Technology. The ultra-modern campus at Gigiri was completed and opened in 1978.

The long-range objective of the College is to provide a series of educational and training programmes designed to meet the needs for skilled Technical, Industrial and Business teachers and instructors in schools and other training institutes throughout the country. Before the opening of Kenya Technical Teachers College, such teachers were trained at Kenya Polytechnic for Technical Education teachers, Kenya Science Teachers College for Industrial Education teachers; and Kenyatta College for Business Education teachers. Whereas the graduates of these colleges were mainly posted in Secondary Schools and Technical schools, there was no college offering industrial instructor training programmes for in-service industrial instructors in both public and private sectors of the industry.

The Department of Industrial Instructor Training was started to provide a variety of courses to meet the needs of in-service industrial, technical and business instructors in the private, parastatal and public sectors of the industry. Since 1977, the department has offered and continues to offer such courses to various government ministries and departments such as The Ministry of Labour, The Ministry of Transport and Communications, The Ministry of Water Development, The Youth Development Division in the Department of Social Services, The Department of Defence, The National Youth Service and The Kenya Police.

Examples of parastatals served by the department include the Kenya Railways, The Kenya Ports Authority, and The Kenya Power and Lighting Company. A lot of private commercial and manufacturing companies also send their industrial instructors to the training programme at Kenya Technical Teachers College.

The broad objective of the Industrial Instructor Training programme at KTTC is to equip the industrial instructors with the knowledge, skills and attitudes required in planning and conducting training programmes and evaluating the performance of their trainees.

The training programme covers six BROAD SUBJECT AREAS:

1. Effective Communication Skills
2. General Principles of Learning and Teaching,
including Learning Theories and Adult Education.
3. Training Methods and Techniques.
4. Curriculum and Schemes of Work Development.
5. Preparation and Using Training Aids.
6. Micro-Teaching Exercises.

Whereas the objectives of the training programme include follow-up and assessment of the performance of such instructors in their respective institutions, this has not been done due to financial constraints, the large number of instructors already trained throughout the Republic, and lack of enough and qualified staff to carry out the exercise.

It is for this reason that the researcher selected one of the largest clients - The National Youth Service (NYS) to conduct a survey of the reaction of former trainees about the industrial instructor training programme; and application of the skills, and knowledge acquired from the course.

The survey study focussed on the content of the course which was the independent variable in the study. The dependent variables in the study were the reactions of the former trainees about the course content; and, application of the knowledge and skills acquired during the course.

1.2. Objectives of the Study

The specific objectives of the study were two-fold:

1. To determine the reactions of KTTC Industrial Instructors Training Programme's former trainees at The National Youth Service on the content and relevance of the course to their duties as industrial instructors.
2. To determine the application of knowledge and skills acquired from the training programme.

1.3. Significance of the Study

All training programmes should be evaluated. The results of such evaluation exercises can be used to improve the content and administration of the training programmes.

1. The study will hopefully reveal to both the Kenya Technical Teachers College and The National Youth Service the contribution of this programme to the development of industrial instructors.
2. The study will also it is hoped identify the areas of the programme that need to be emphasized or improved.

3. Thirdly, it will act as a ready reference model for other institutions that have benefited from this programme.

4. Finally, the study could act as a model for academics and provide impetus to evaluate other professional and general courses such as in Supervision, Management, Human Relations, Accounting, Marketing and Engineering. It could also serve as a base for further research especially in behavioural and functional (result) areas of training programme.

CHAPTER TWO
EVALUATION OF TRAINING

2.1. Overview of Training and Development

Training and Development process is a combination of many subprocesses which are designed to increase the capabilities and performance of individuals and groups so as to attain both individual (career) and organizational goals. Training is an important staffing function in organizations which should be composed of three main components consecutively.

- I. Determination of training needs.
- II. Developing and administering a training programme.
- III. Evaluating the effectiveness of the training programme based on the objectives set earlier.

Training activities in organizations include:

1. Orientation (induction) training
2. Skill (Vocational) training
3. Coaching on-the-job by the superior
4. Human relations and attitude training

5. Appraisal interview and counselling.
6. Career Plans and other programmes for training and development of all employees.

Training deals with current needs, is job-oriented and is concerned with systematic development of knowledge, skills and attitudes required for job performance currently or in the near future. Development, however, is person-oriented, it deals with predicted needs and is concerned with the total preparation of individuals to perform whole groups of complex tasks in the future.

Industrial Instructor training is therefore a vocational training programme aimed at equipping the trainee instructors with knowledge, skills and attitudes required in order to become effective instructors in technical, industrial or business subjects.

Since it is usually difficult to draw a clear line between training and development, this programme also prepares the trainees for future long-term manpower development responsibilities in their respective institutions.

Like any other function in an organization, training should be evaluated to justify success, effectiveness and contribution to the achievement of organizational goals.

2.2. DEFINITION OF EVALUATION OF TRAINING.

Ramos has defined evaluation as "The systematic appraisal by which we determine the worth, value and meaning of something."¹ To a trainer therefore, evaluation means determining the value and worth of the training activities/programme.

According to Hamblin, "Evaluation of training is used in a broad sense to mean an attempt to obtain information (feedback) on the effects of a training programme, and to assess the value of the training in the light of that information."²

¹Francisco T. Ramos, Evaluating Training Programmes.

Paper presented at the Regional Seminar on Agricultural Training Methodology and Techniques, September 19 - October 14, 1977, UPLB, College,

²A.C. Hamblin, Evaluation of Training, in An Introductory Course in Teaching and Training Methods for Management Development (International Labour Organization, Geneva, 1982), p. 21 - 3.

We should however distinguish validation and evaluation. Training validation refers to the assessment of whether the training has achieved its laid-down objectives whereas evaluation is the measurement of the total effects of the training programme. In practice however, this distinction is not always meaningful since it may be impossible to obtain information on the total effects of training (which may be extremely complex). Therefore, any evaluation exercise involves selection between evaluation criteria and thus (by implication) the establishment of training objectives.

According to Goldstein, the evaluation of training is "The Systematic collection of descriptive and judgemental information necessary to make effective training decisions related to the selection, adoption value, and modification of various Instructional activities"³

³Irwin L. Goldstein, Training in Work Organizations, in Wendell L. French, The Personnel Management Process: Human Resources Administration and Development (5th Edition) (Houghton Mifflin Company, Boston, 1982), P. 370.

Evaluation of training is a vital part of any training endeavour. In fact it is one of the major activities which comprise the entire job of a training programme. The other two components are programme determination and programme implementation.

2.3. PURPOSE OF EVALUATING TRAINING.

A training programme by means of its various devices, methods and subject matter attempts to bring about changes in what people do, and changes in their knowledge, skills, attitudes, values, interests and general understanding. Evaluation seeks to determine the extent and the way changes are accomplished. It seeks to find out whether actions or activities have led to the desired outcomes.

Evaluation shows the degree or extent of progress or accomplishment. Without an evaluation of the training programme, the trainer(s) and the organization cannot determine how well the programme has succeeded or what should be accomplished in the future.

Evaluation is also basic to the improvement of a training programme.

A periodic appraisal helps to determine the progress of the programme and possible adjustments of training methods and techniques, facilities, and subject matter to suit the changing situations.

Learning is essentially a process. If a training scheme is to provide the optimum conditions for learning, then it must be adaptive to the changing requirements. Training which is moulded to a fixed pattern soon gets out of touch with requirements. Therefore, to ensure that training is periodically adapted to the needs of both the individual and the organization, procedures for reviewing the effectiveness of training are necessary.

As discussed by King⁴, the importance of reviewing training includes:

1. the contribution made by training to the organizational performance.

⁴David King, Training Within the Organization: A Study of Company Policy and Procedures for the Systematic Training of Operators and Supervisors, (Tavistock Publications, London, 1968.). P. 251

2. the effectiveness of the training services provided whether by an internal or external body.

Despite its importance to the individual trainees, and to the organization, several writers have commented that evaluation of training is not commonly done; or if done, is usually done poorly with no usable results.

As Finnigan has stated in his book,

"There can be no disagreement about the need to assess the effectiveness of training and little doubt that it is one of the neglected areas of the training scene. Industrialists have made little attempt, in general, to check up on the value they are getting for their training money".⁵

In many training matters, the trainer or training manager is dependent upon his manager colleagues for information about training which he can rarely get readily. The trainers, however, still have to rely on the information from the line managers on the effectiveness of training programmes.

⁵J. Finnigan, Industrial Training Management, (Business Books Limited, London, 1970), p. 67.

Wendell has also stated that "Research on the extent to which training does actually contribute to the attainment of organizational objectives is complicated and frequently expensive to carry out. However, it is possible to design small studies that will contribute to an organization's understanding of their value!"⁷

This however does not and should not discourage organizations from conducting training evaluation. It should be encouraged and as Wendell has further emphasized; "Good research on the consequences of various training programmes is in woefully short supply..... Careful development of criteria, the use of control groups; pre-and post measurements, and an examination of the context in which the training takes place are among the important features of careful programme research"⁷

⁶Wendell L. French op. cit. p. 370.

⁷Ibid. p. 370.

Dessler in his book asserts that: "It is unfortunate but true, that most managers do not spend much time appraising the effects of their training programmes".⁸ He further discussed the issue that sometimes the training may seem to have failed when in fact the reality may be that training was not the appropriate solution to the existing problem.

All training programmes should be evaluated. As Kirkpatrick has stated, "All training professionals agree: evaluation should be done. Few persons argue with the desirability of evaluation, they do however, disagree regarding the method to use, or else contend that the cost of evaluation exceeds the benefits to be gained".⁹

2.4. STAGES OF TRAINING EVALUATION

Training can be evaluated at any of three stages: input throughput or output. In terms of input, the costs (expenses) of training can be assessed, either in comparison with other programmes or against a budgeted figure. In terms of throughput, organizations often merely assess the numbers of trainees passed in a given time period.

⁸Gary Dessler Personnel Management, Third Edition, (Prentice-Hall International Editions, Reston, Virginia, 1984), P. 248.

⁹Donald Kirkpatrick, Evaluation of Training, in Robert L. Graig Editor, Training and Development Handbook: A Guide to Human Resources Development Second Edition, (McGraw-Hill Book Company, New York, 1976); P. 18 - 2

2.5: CRITERIA FOR EVALUATING TRAINING OUTPUT.

Far more effective, however, is the evaluation of output, which can be assessed by one or combination of the four criteria listed by Kirkpatrick as:¹⁰

1. Reaction - How well did the trainees like the programme ?
2. Learning - What principles, facts and techniques were learned ?
3. Behaviour - What changes in job behaviour resulted from the programme ?
4. Results - What were the tangibles of the programme in terms of reduced costs, improved quality, improved quantity etc.

A brief discussion on each of these criteria follows:

2.5.1. The Reaction Criterion:

This measures the emotional response of the trainees to the programme. This can be done through attitude surveys, typically shortly after the programme, or much later after the programme especially if there is also emphasis on the application of the knowledge and skills acquired from the training programme.

¹⁰Donald L. Kirkpatrick op. cit. p. 18 - 2

This criterion measures the trainees' reaction about the content, the trainers, the methods used, and the surroundings in which the training took place. The specific trainees reactions which the trainer or organization is interested in examining should be decided upon in advance at the time the training programme is being developed.

The trainees' reactions should preferably be determined by using a comment sheet or questionnaire which permits anonymous answers, and also allows the trainees to write additional comments not covered by the questions. The trainer can also conduct individual or group oral interviews to solicit more information or to reinforce the reactions in the questionnaires.

A good reaction assessment should concentrate on participants' reactions to the utility of the training, the relative value of different components, and the effectiveness of the resource persons, facilities and the general environment in which the training took place.

As discussed by Wexley and Latham, "Favourable reactions to a training programme do not guarantee that learning has taken place or that the behaviour of trainees has changed as a result of the programme".¹¹ Nevertheless, reaction results are still important for several reasons:

1. Positive reactions ensure organizational support for the programme. Negative reactions of course would have the opposite effect.
2. The results can be used by the trainers to assess the success of their efforts and to provide them with information which may help in improving current programmes as well as in planning future programmes.
3. Favourable reactions can be used to gauge the trainees' motivation to learn especially in terms of the usefulness of what they learn. This information can be used to plan any subsequent training the trainees might take in future.

¹¹Kenneth N.. Wexley and Gary P. Latham, Developing and Training Human Resources in Organizations (scott Foresman and Company, Glenview, Illinois, 1981,) P. 81

4. The information can be used to compare trainees from different groups or trades, or levels within the organization, or even from different age groups.

5. When conducted several months after training, it allows the trainees to realistically assess the effectiveness of the training to their jobs. The training staff can also compare the ratings with those collected immediately after training (if any) to find out if there is any consistency.

All the above reasons for conducting reaction survey of a training programme will hopefully be justified by this study.

2.5.2. The Learning Criterion

This criterion measures the acquisition of knowledge and skills as a result of the training. This is usually measured by subjective or objective tests administered to the trainees.

The paper-and-pencil tests similar to those taken in college courses can take different formats such as multiple choice questions, true-false questions, matching items and essay questions.

Performance tests are used to determine if the trainees have mastered particular skills for performance of specific tasks or jobs. At the supervisory/managerial levels, trainees might be asked to participate in various role-plays, business games or case studies to measure their human relations and conceptual skills.

Regardless of the learning tests used, it is essential that the test is based directly on the training programme's objectives which themselves must have also been determined through job analysis and training needs analysis.

This criterion is regularly done by the Department of Industrial Instructor Training at Kenya Technical Teachers College both during and after the course and the grades earned by the trainees are usually communicated to the trainees and their sponsors. This was therefore excluded from this study.

2.5.3. The Behavioural Criterion

Whereas learning criterion is based on the trainees' knowledge and skill performance in the training environment itself; behavioural criterion, on the other hand, is concerned with the performance of the trainees in the job environment. There may be a big difference between knowing the facts, principles and skills and using them on the job. It is also possible that trainees may do well on written and performance tests administered during or immediately after training, yet not be able and/or willing to exhibit these same knowledge and skills on their jobs. Such a situation is normally referred to as zero transfer of learning.

It is, therefore, important that information be gathered on how a trainee behaves in the environment. This can be done by observing the trainees while they are working. It can also be done by developing behaviourally oriented questionnaires to obtain information from their subordinates, co-workers and/or supervisors. In this study such a questionnaire was developed and administered by the researcher on the former trainees' sampled

students. The researcher also observed and assessed the various materials prepared by the former trainees to support them in their jobs. Due to time, resources constraints, the study was limited in observation of the former trainees' on the job as well as interviews and/or questionnaires for the instructors' bosses.

2.5.4. The Result Criterion

The Result Criterion measures the organizational effect of training. This assessment emphasizes the cost-related results or behavioural outcomes such as reduced turnover, reduced absenteeism, reduced accidents, increased sales, and increased quantity and quality of the units produced depending on the set objectives of the training programme.

This is, however, a difficult area and can be unreliable since even when such data is available, it is often difficult to determine whether changes in these measures can be attributed to training or to factors unrelated to training such as increased pay, changes in the weather, better facilities and working conditions, better selection of staff, self motivation, or changes in methods of operations, or changes in management and administration - the list of possible variables is almost infinite.

Despite these problems, the training specialist would still seek cost-related measures using control groups where possible in order to give high-level management evidence that training has an impact on organizational effectiveness.

CHAPTER THREE

STUDY DESIGN AND METHODOLOGY

3.1. Study Design

Simple random sampling using the lottery method was used to obtain a sample of 30 former trainees from the total population of 100 instructors already trained. Since the NYS has several training units, the population in each unit was sampled proportionately and the samples from each unit were combined to form the total sample of 30 former trainee instructors. The instructors who have been promoted to non-training administrative responsibilities or have left the NYS; were replaced through the same sampling procedure in order to maintain a sample of 30. This probability sampling technique provided an objective measure of the reliability and representation of all the former trainees of the National Youth Service.

Stratified Probability Sampling technique was used to obtain a sample of students trained by the Instructors. This was necessitated by the fact that the NYS instructors are in various units-Nairobi, Mombasa, Yatta, Gilgil, Naivasha and Turbo. Once the sample of the instructors was known, the various strata (units) were combined to form a total sample of 60 students.

3.2. Data Collection Methods

The secondary data used in the study was information on the structure and course content (Syllabi) from the Industrial Instructor Training Department at Kenya Technical Teachers College and Course Information from the National Youth Service.

The primary data on the reactions about the course by former trainees, and application of knowledge and skills acquired from the course was collected using questionnaires consisting of both closed and open-ended questions for both former trainees and their students (Appendices A and B).

All the questionnaires were personally administered by the researcher. This provided coverage of any relevant information not explicitly covered in the questionnaire as well as explaining especially to the students any parts of the questionnaire not clear to them.

The researcher also observed (inspected) the lesson plans, training aids, Schemes of Work, handout/notes, and students' performance records prepared by the former trainees to assess the quality of the work and recorded on a pre-determined check sheet (Appendix C).

The questionnaires were pretested with 30 Instructors from various Institutions attending an Industrial Instructors Course at KTTC; and their comments were incorporated in constructing the final questionnaire for the former trainees.

3.3. Data Analysis and Findings

The data analysis was through comparative statistics using simple and cross-tabulations; and percentages to describe the relationships and observations and findings. This together with the results from the structured questions and researcher's inspection was used to make conclusions and recommendations from the survey study.

- (V) The former trainees' overall reactions to:
 - (a) Length of the course
 - (b) Competence of resource persons
(Lecturers)
 - (c) Performance of resource persons (Lecturers.)
 - (d) Training facilities at Kenya Technical Teachers College.

- (VI) The former trainees' reaction to accommodation, meals and general administration of the college.

- (VII) The overall performance of former trainees (on the average) as perceived by their students.

- (VIII) The quality of Lesson Plans, Training Aids, Schemes of Work, Training Notes and Students' Performance Records as prepared and kept by the former trainees.

4.1. Objectives of the Course

The first step in preparing a training programme should be to set specific goals and objectives for the training involved - in other words, what the participants are expected to accomplish from the training programme.

Goals and objectives provide the trainers or training Institution with specific guidance in preparing and conducting the training.

The overall objective of the Industrial Instructors Training programme at Kenya Technical Teachers College is to provide a variety of courses to meet needs of in-service industrial, technical and business instructors in the Kenyan Industry. Through such courses, the industrial instructors are equipped with the knowledge, skills and attitudes required in planning and conducting training programmes, as well as evaluating the performance of their students.

The data on this aspect was collected to find out whether the participants were clear about the objectives of the course prior to joining; and whether the objectives had been achieved by the end of the course.

NB/- The terminologies former trainees, participants, or respondents are used in the findings interchangeably.

Table 1: Attendance of any Instructor Training Programme Before Going to Kenya Technical Teachers College.

Rating	Frequency (f)	Percentage (%)
Yes	2	6.7
No	28	93.3
	30	100

Source: Research data.

Out of 30 former trainees interviewed, 28(93.3%) reported that they had not attended any Instructor Training programme prior to going to Kenya Technical Teachers College.

Table 2: Teaching Experience Prior to Attending the KTTC Course

Years	(f)	(%)
1 - 2	11	36.7
3 - 4	10	33.3
5 - 6	5	16.7
6 - 7	4	13.3
TOTAL	30	100

The findings indicate that practically all the Instructors had had some teaching experience prior to attending the KTTC Course and so were able to compare their experiences and problems as instructors both before and after the course.

Table 3: Objectives of the Course

Rating	Clarity before the course		Achieved after the Course	
	(f)	%	(f)	%
Yes	29	96.7	29	96.7
No	1	3.3	1	3.3
TOTAL	30	100	30	100

Source: Research data

29(96.7) reported that the objectives of the course were clear to them when they joined the programme.

29 (96.7%) also reported that after attending the course the objectives were achieved.

From the above data it is apparent that the Instructors who came for this training programme had not attended any similar course somewhere before. Also, the KTTC brochure and other documents such as Regulations and Syllabuses for Industrial Instructor training programme explain to the potential participants the objectives of the programme clearly.

The design, content and conducting of the training programme also meet the already pre-determined goals and objectives.

4.2. The Difficulty and Relevance of the Training Programme

The Industrial Instructor training programme admits instructors from the middle-level technical, industrial and commercial institutions in public, parastatal and private sectors of the industry. Although the majority of such instructors normally have "Ordinary Level" academic background as shown in table 4 below; they usually have varied post-secondary semi-professional qualifications at Craft, Technician or Diploma levels from other institutions depending on the field of training.

Table 4: Educational (Academic) Qualifications

Level	f	%
Form II or below	3	10.0
Form IV ("O" level)	26	86.7
Form VI ("A" level)	0	0
Diploma	1	3.3.
Degree	0	0
TOTAL	30	100

Source: Research data.

26(86.7%) of the respondents had form four (Ordinary level) educational qualifications.

The purpose of this section was to find out the level of difficulty of the individual subjects covered in the course; and also the overall difficulty; relevance, and contribution of the course to the instructors training activities.

Table 5: Level of Difficulty of Subjects

Level of Difficulty	The Subjects											
	Effective Communication		Educational Media		Training Methods		Scheme of Work		Learning Psychology		Micro Teaching	
	f	%	f	%	f	%	f	%	f	%	f	%
Very Difficult	0	0	0	0	0	0	1	3.3	5	16.7	0	0
Difficult	4	13.3	2	6.7	6	20.0	12	40.0	12	40.0	1	3.3
Average	21	70.0	15	50.0	17	56.7	16	53.3	12	40.0	18	60.0
Easy	5	16.7	13	43.3	7	23.3	1	3.3	1	3.3	11	36.7
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100

Source: Research data

The above data indicates that majority of the respondents reported that all the subjects taught in the course are average except Psychology of Learning which was reported by 12(40%) as difficult, and 5(16.7%) as very difficult.

All subjects except Psychology of learning are made as practical and trainee-oriented as possible thus allowing the trainees to utilize more of their experiences and talents.

Psychology of Learning demands more cognitive and intellectual involvement which most trainees find relatively difficult especially after being out of school or college for several years.

Table 6: Overall Course rating

Rating.	f	%
Very Difficult	0	0
Difficult	14	46.7
Average	16	53.3
Easy	0	0
TOTAL	30	100

Source: Research data

On the overall, the former trainees reported the course as follows:

16(53.3%) reported that the course was average.

14(46.7%) reported that the course was difficult.

This compares positively with the findings from a separate independent question (Question 14 in Appendix A) which also sought to find out the overall difficulty of the course (Table 7 below)

Table 7: Overall Difficulty of the Course

Rating	f	%
Very Difficult	0	0
Difficult	3	10.0
Fair	26	86.7
Easy	1	3.3
TOTAL	30	100

Source: Research data.

26(86.7%) participants reported that the course was "Fair" which is equivalent to "Average", however, only 3(10%) reported that the course was difficult.

Table 8: Overall Rating of the Industrial Instructor Training Programme

Rating	f	%
Outstanding	12	40.0
Satisfactory	18	60.0
Unsatisfactory	0	0
TOTAL	30	100

Source: Research data.

The overall rating of the programme was reported as follows:-

18(60%) said it was satisfactory.

12(40%) said it was outstanding.

Table 9: The Extent to Which the Programme Has Helped the Instructors to do a Better Job.

The Extent	f	%
To a large extent	22	73.3
To some extent	8	26.7
Very little	0	0
Not at all	0	0
TOTAL	30	100

Source; Research data.

22(73.3%) said that the programme had helped them to a large extent to do a better job.

8(26.7%) said that the programme had helped them to some extent.

The findings from this section indicate that:

- (I) The subjects covered, and the overall level of the course is suitable for the intended participants; except Psychology of Learning which could be simplified/modified so that the concepts are easier for the participants. This could be achieved by making the subject more illustrative and practical-oriented so that the participants can draw more from their past experiences as instructors.
- (II) The overall course is rated as average (fair)
- (III) The overall Industrial Instructor Training programme is satisfactory.
- (VI) The programme contributes to a large extent in helping the Industrial Instructors to do a better job.

4.3. Relevance and Frequency of Using Training Methods and Techniques Covered in the Course.

A very wide range of different training methods and techniques are practised today; and new ones are constantly being developed and evaluated. There is now an increasing emphasis on participation in the learning process by the students themselves. It is important that until more research has been done on the effectiveness of various training methods and techniques, it is desirable for training courses to contain a balanced programme of methods and techniques.

It is because of the reason given above that the Kenya Technical Teachers College Industrial Instructors training programme exposes the trainees to a wide range of different training methods and techniques. This is also justified by the fact that the trainee instructors themselves have varied professional backgrounds. The trainee instructors are coached and encouraged to select appropriate methods and techniques, or any combinations which

would make their courses more effective.

The purpose of this section therefore, was to find out the relevance and frequency of using the various training methods and techniques covered in the course.

Table 10: Relevance of Training Methods and Techniques Covered in the Course.

Rating	Training Methods and Techniques																					
	Lecture		Demonstration		Group Discussion		Questioning		Role Playing		Case Study		Business Games		Experimentation		Field Trips		Projects		Programmed Instruction	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Very Relevant	11	36.7	24	80.0	5	16.7	18	60.0	4	13.3	2	6.7	1	3.3	5	16.7	10	33.3	6	20.0	8	26.7
Relevant	18	60.0	6	20.0	19	63.3	12	40.0	19	63.4	16	53.3	8	26.7	16	53.3	19	63.4	16	53.3	16	53.3
Not Relevant	1	3.3	0	0	6	20.0	0	0	7	23.3	12	40.0	21	70.0	9	30.0	1	3.3	8	26.7	6	20.0
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100

Source: Research data

Majority of former trainees reported the following
Methods and Techniques Very Relevant.

Demonstration - 24(80%) of former trainees
Questioning - 18(60%) of former trainees.

The rest of the Methods and Techniques were reported
Relevant except Business Games.

Table 11: Frequency of Using Training Methods and Techniques.

Rating	Training Methods and Techniques																					
	Lecture		Demonstration		Group Discussion		Questioning		Role Playing		Case Study		Business Games		Experimentation		Field Trips		Projects		Program Instruction	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Frequently	14	46.7	25	83.3	2	6.7	24	80.0	4	13.3	2	6.7	0	0	2	6.7	0	0	6	20.0	5	16.7
Occasionally	13	43.3	5	16.7	12	40.0	5	16.7	8	26.7	7	23.3	0	0	11	36.7	11	36.7	4	13.3	2	6.7
Rarely	3	10.0	0	0	12	40.0	1	3.3	10	33.3	11	36.7	7	23.3	8	26.6	18	60.0	8	26.7	12	40.0
Never at all	0	0	0	0	4	13.3	0	0	8	26.7	10	33.3	23	76.7	9	30.0	1	3.3	12	40.0	11	36.7
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100

Source: Research data

The findings indicate that the Methods and Techniques used frequently are:

Demonstration - 25(83.3%) respondents.

Questioning - 24(80.0%) respondents.

The Methods and Techniques used occasionally (but with a bias towards frequently i.e. 40% and above) are:

Lecture - 13(43.3%) respondents

Group Discussion - 12(40%) respondents

The rest of the Methods and Techniques are either rarely used or never used at all respectively as follows:

Business Games 7(23.3%) or 23(76.7%) respondents.

Programmed Instruction-12(40%) or 11(36.6%) respondents.

Field Trips/Visits - 18(60%) or 1(3.3) respondents.

Role Playing - 10(33.3%) or 8(26.7%) respondents.

Case Study - 11(36.7%) or 10 (33.3%) respondents

Experimentation/Learning by Discovery- 8(26.7%) or 9(30%) respondents.

This has a positive correlation with the findings from the students' perception of the frequency of using the common training Methods and Techniques (see table 12 below)

Table 12: The Frequency of Using Common Training Methods and Techniques as Perceived by Students.

Rating	Training Methods and Techniques											
	Lecture		Demonstration		Group Discussion		Questioning		Role Playing		Projects	
	f	%	f	%	f	%	f	%	f	%	f	%
Frequency	33	55	35	58.4	8	13.3	49	81.6	7	11.7	29	48.4
Occasionally.	11	18.3	16	26.6	22	36.7	7	11.7	17	28.4	14	23.3
Rarely	13	21.7	8	13.3	21	35.0	4	6.7	14	23.3	11	18.3
Never at all	3	5.0	1	1.7	9	15.0	0	0	22	36.6	6	10.0
	60	100	60	100	60	100	60	100	60	100	60	100

Source: Research data

The students reported the frequency of using Training Methods and Techniques by their instructors as follows:

Questioning - 49(81.6%) respondents.

Demonstration - 35(58.4%) respondents.

Lecture - 33(55%) respondents.

From the standpoint of Industrial Technical and Business training; and from the objectives of The National Youth Service (NYS) training school, some observations and recommendations can be deduced from the findings:

- (I) Lecture, Demonstration and Questioning methods and techniques are used frequently which is consistent with the NYS training programmes; and the level of the students.

- (II) Case Study method is rarely used or never at all possibly because all the NYS students are pre-service. However, towards the completion of their training, this method could be used occasionally to expose them to more real situations before they graduate and seek employment outside.

- (III) Role Playing and Independent Study/Projects are used rarely or never at all. These methods and techniques however, could be encouraged particularly since one of the goals of the NYS training programme is to train craftsmen who are eventually expected to start and run their own workshops and to be self-employed after completion of training.
- (VI) Group Discussion Method could be emphasized more in order to help the students learn to communicate and express themselves; as well as learn to appreciate other people and their points of view; and consequently their future workmates after graduation.
- (V) Business Games and Experimentation/Learning by Discovery are rarely used or never at all. This could be explained by the fact that the training at the NYS is mainly technical oriented with emphasis on safety and so may not be conducive to learning by discovery. Also Business Games are mainly used in business and management training.

- (VI) Although field trips are rarely used at the NYS, this could be emphasized (used occasionally) since it is the only method which gives the students an opportunity to relate what they learn at the training units to real life in the field. It also enables the students to see how various parts are assembled together to form a whole unit for example in Construction work, motor vehicle mechanics, electrical installation and manufacturing.
- (VII) Programmed Instruction is a relatively new training method which emphasizes individual trainee-oriented learning at his own pace. The learning packages are usually divided into learning modules ranging from simple to complex and the learner has to go through the modules sequentially, and continuously self-assessing his performance.

This method is rarely used at the NYS or never used at all. The explanation to this could be the large number of students involved; the method is quite demanding in terms of facilities (packages) and enough qualified staff. However, the method could be considered in the long-term planning since it gives the students opportunity to learn through self-involvement, self-assessment, and at the learners' pace.

4.4. Relevance and Frequency of Using Training Aids Covered in the Course.

There is nothing intrinsically new about audio-visual training aids. They have been used for many years as teaching-learning devices. However, in recent years, there has been a tremendous increase in the variety and sophistication of such training devices.

Audio-visual training aids are of great value in improving effective communication between the trainer and the trainees, but they should not be used to replace the trainer-trainee relationship. Learning aids range from such relatively simple devices as chalkboard, charts, posters and handouts, to more sophisticated and expensive audio, visual, and audio-visual equipment such as projectors, recorders and closed circuit television system.

The Industrial Instructor Training programme at Kenya Technical Teachers College incorporates as many of these audio-visual training aids as possible in the course. The trainee instructors are encouraged to identify and make use of as many of these devices as possible within their limited resources. At the same time, the sources and procedures for acquiring

the more sophisticated training aids are discussed during the course.

The data in this section, therefore, was to indicate the relevance and frequency of using the various training aids covered in the course.

Table 13: Relevance of Training Aids
To Instructional Assignments.

Rating	Training Aids																					
	Chalk-board		Charts & Posters		Flip charts		Overhead Transparency		Photographs		Sound Films		Slide Tapes		Models & Cutaways		Opaque Projector		VCR & Playback		Handout Notes	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Very relevant	29	96.7	24	80.0	10	33.3	19	63.4	4	13.3	9	30.0	12	40.0	16	53.3	9	30.0	6	20.0	29	96.7
Relevant	1	3.3	6	20.0	18	60.0	10	33.3	14	46.7	17	56.7	13	43.3	11	36.7	13	43.3	15	50.0	1	3.3
Not relevant	0	0	0	0	2	6.7	1	3.3	12	40.0	4	13.3	5	16.7	3	10.0	8	26.7	9	30.0	0	0
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100

Source: Research data.

The following training aids were reported very relevant to instructional assignments:

Chalkboard - 29(96.7%) respondents.

Handout Notes - 29(96.8%) respondents.

Overhead Transparencies - 19(63.4%) respondents.

Models and Cutaways - 16(53.3%) respondents.

The rest of the training aids were reported relevant especially Flip Charts, Sound Films and Video Cassette Recording and Playback.

Table 14: Frequency of Using the Training Aids.

Rating	Training Aids																					
	Chalk Board		Charts & Posters		Flip Charts		Overhead Transparency		Photographs		Sound films		Slide Tapes		Models & Cutaways		Opaque Projector		VCR & Playback		Handout Notes	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Frequently	30	100	15	50.0	3	10.0	9	30.0	0	0	1	3.3	1	3.3	10	33.3	1	3.3	0	0	21	70.0
Occasionally	0	0	12	40.0	10	33.3	10	33.3	1	3.3	1	3.3	8	26.6	10	33.3	4	16.7	0	0	6	20.0
Rarely	0	0	3	10.0	8	26.7	8	26.7	2	6.7	9	30.0	6	20.0	6	20.0	7	20.0	3	10.0	3	10.0
Never at all	0	0	0	0	9	10.0	3	10.0	27	90.0	19	63.4	15	50.0	4	13.4	18	60.0	27	90.0	0	0
TOTAL	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100	30	100

Source: Research data.

(I) The Training Aids used frequently are:

Chalkboard - 30(100%) respondents.

Handouts Notes - 21(70%) respondents.

Charts and Posters - 15(50%) respondents.

(II) At least 10(33.3%) of the respondents reported that Overhead Transparencies, Flip Charts, Models and Cutaways are used occasionally.

(III) Majority of the respondents reported that the following training aids are rarely used or never at all respectively:

Photographs/Camera - 2(6.7%) and 27(90%) respondents.

Sound Films - 9(30%) and 19(63.4%) respondents.

Slide Tapes - 6(20%) and 15(50%) respondents.

Opaque Projectors - 6(20%) and 19(60%) respondents.

Video Cassette Recording and Playback -3(10%)and 27(90%) respondents.

The findings have a positive correlation with the findings from the students' perception of the frequency of using the common training aids (see table 15 below).

Table 15: The Frequency of Using Training Aids as Perceived by the Students.

Rating	Training Aids															
	Chalk-Board		Charts & Posters		Flip Charts		Overhead Transparency		Sound Films		Models & Cutaways		Slide Tapes		Handouts Notes	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Frequently	51	85.0	31	51.7	11	18.3	9	15.0	2	3.4	28	46.7	4	6.7	39	65.0
Occasionally	5	8.3	18	30.0	9	15	16	26.6	3	5.0	8	13.3	7	11.7	14	23.3
Rarely	4	6.7	8	13.3	18	30	7	11.7	10	16.6	15	25.0	12	20.0	4	6.7
Never at all	0	0	3	5.0	22	36.7	28	46.7	45	75.0	9	15.0	37	61.6	3	5.0
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Source: Research data.

The following Training Aids were perceived by students as used frequently:

Chalkboard - 51(85%) respondents.

Handout Notes - 39(65%) respondents.

Charts and Posters - 31(51.7%) respondents.

Sound Films and Slide Tape packages were reported as never used at all by the students as follows:

Sound Films - 45(75%) respondents.

Slide Tapes - 37(61.6%) respondents.

Some observations and recommendations can be deduced from the findings:

- (1) Overhead transparencies are very relevant in such a training programme but are only occasionally used. It is recommended that the instructors and their respective training units should emphasize the use of this training aid. During the course at KTTC, the trainee instructors are usually well trained in making and using overhead transparencies. The overhead projectors once acquired, are relatively cheap to maintain. Transparencies are usually effective and motivating as training aids and also save the instructor's time.

- (II) Models and Cutaways were also reported as very relevant in industrial and technical training, yet they are only used occasionally. The instructors should emphasize the use of models and cutaways during training. They are usually very effective since they represent the actual object; as a lot of models and cutaways can be made from scrap pieces of materials. The institutions should also make the facilities for making such models and cutaways available to the instructors. Those models and cutaways which may be too complicated to make in a regular workshop, but would make training - learning more effective could be purchased when the resources are available.
- (III) The trainees normally go through very comprehensive and practical-oriented exercises in planning, preparing and using slide-tape packages as training aids during their course at Kenya Technical Teachers College.

Slide-tape packages can be very effective in the NYS training scheme. The institutions could arrange to purchase only one good camera and a couple of slide projectors and tape recorders per training unit. The cameras, projectors and recorders once

acquired are relatively cheap to maintain. The instructors should then be encouraged to use their skills and knowledge acquired from the course to prepare photographs, and slide-tape packages which can be used for quite a long time before they are obsolete.

- (IV) Sound films are admittedly very expensive. However, it is not necessary for the institutions to purchase a lot of such films. Instead, once the institutions have a film projector in each training unit, educational and training films are usually available from film libraries, cultural information centers and large commercial corporations either at a minimal fee or free. Some sound-motion pictures if used carefully can have a good impact on the learner especially in areas such as Safety; Manufacturing and Construction.

4.5.1. Former Trainees Overall Reaction to length of Course

The Industrial Instructors Training programme has been divided into three parts namely Course C (Basic Level), Course B (Intermediate Level), and Course A (Advanced Level). This has recently been modified into Part I and Part II. The purpose of dividing the programme into parts is to enable the trainees to attend a part of the course; and then have an opportunity to apply the knowledge and skills acquired before returning for the next level.

The purpose of this section was to find out the former trainees' reaction to the total length of the course as conducted at the college. The C, B, and A, parts have been 5 weeks long each; whereas parts I and II are now 12 weeks long each.

Table 16: Length of the Course

Rating	f	%
Too Long	1	3.3
Long	0	0
Satisfactory	18	60.0
Short	11	36.7
TOTAL	30	100

Source: Research data

18(60.7%) participants said that the length of the course is satisfactory.

4.5.2. The Former Trainees Reaction to Competence and Performance of Lecturers; and Training Facilities.

	Lecturers			Training Facilities		
Very Good	30	100	30	100	30	100
Good	50	100	50	100	50	100
Average	10	100	10	100	10	100
Poor	0	100	0	100	0	100
Very Poor	0	100	0	100	0	100
TOTAL	30	100	30	100	30	100

The success of a training programme also depends on the competence and performance of the resource persons (lecturers) who are the learning facilitators in the programme. Competence and performance of resource persons can be evaluated from the point of view of their qualifications, experience, preparedness, presentation of sessions, and commitment to their work.

Another critical factor in a training programme are the facilities used during training. Facilities include the training rooms, course materials, audio-visual training aids and equipment used to make learning more effective.

The objective of this section was to find out (on the average) the former trainees reaction to competence and performance of resource persons; as well as the training facilities used in the course.

Table 17: Competence and Performance of Resource Persons;
and Training Facilities Rating.

Rating	Lecturers' Competence		Lecturers' Performance		Training Facilities	
	f	%	f	%	f	%
Excellent	5	16.7	2	6.7	15	50.0
Good	19	63.3	21	70.0	11	36.7
Average	6	20.0	7	23.3	4	13.3
Poor	0	0	0	0	0	0
TOTAL	30	100	30	100	30	100

Source: Research data.

The findings in table 17 above indicate that the length of the course, competence and performance of resource persons, and the training facilities at Kenya Technical Teachers College are all above average.

These important components of the training programme should be maintained and if possible, improved by the college in order to maintain the high quality of the instructors training programme being offered.

4.6. The Former Trainees Reaction to Accommodation, Meals and General Administration at the College.

Industrial Instructors training programme at Kenya Technical Teachers College is an in-service residential training programme. It is therefore important that the college maintains certain standards of accommodation, meals and general administration which is acceptable to the participants.

The purpose of this section was therefore, to find out the reaction of former trainees to accommodation and meals offered by the college; and the general administration of the college which includes cleaning, laundry facilities, security of the premises and property, sports and other co-curricular recreational facilities.

Table 18: Accommodation, Meals and General Administration Rating.

Rating	Accommodation		Meals		General Administration	
	f	%	f	%	f	%
Excellent	7	23.3	3	10.0	14	46.7
Good	20	66.7	21	70.0	14	46.7
Average	3	10.0	5	16.7	1	3.3
Poor	0	0	1	3.3	1	3.3
TOTAL	30	100	30	100	30	100

Source: Research data

The findings indicate that accommodation, meals and general administration of the college are all above average. This is quite conducive to effective learning; and maintains the already established good public image of the college. These facilities should be maintained or even improved by the college in order to attract more clients in the future.

4.7. The Overall Performance of Former Trainees as Perceived by their students at National Youth Service.

The primary goal of any training programme is the application of knowledge, skills and attitudes which have been acquired by the participants from such a programme. In training, such applications can be evaluated at the levels of Preparation, Presentation and Students Evaluation/ Follow-up.

The purpose of this section was to find out the National Youth Service students' perception of the performance of their instructors who have already attended the Industrial Instructors Training programme.

Performance in the workshop/classroom could be evaluated from the following general factors:

- (I) Communication skills of the instructors.
- (II) Preparedness by the instructors prior to presentation.
- (III) Presentation techniques.
- (IV) Emphasis on importance of the topic, key points, and safety.
- (V) Instructors personality, sense of humour, friendliness and self-enthusiasm.
- (VI) Group Motivation and Control.

Table 19: Instructors' Performance (on the average) Rating.

Rating	Item/Behaviour																							
	Communicate simply and clearly		State lesson objectives at start of lesson		Usually prepared and ready to teach		Emphasize key points in the lesson		Ask questions and allow questions in the lesson		Emphasize safety in handling materials and machines		Encourage you to learn even difficult points/Steps		Give assignments and test continuously		Are humble and friendly		Controls class disturbances		Recognises and rewards good performance		Summarises lessons before closing	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%		
Yes	39	65.0	38	63.3	40	66.6	34	56.7	54	90.0	49	81.6	36	60.0	30	50.0	28	46.7	48	80.0	25	41.7	34	56.7
Sometimes	20	33.3	20	33.3	17	28.4	20	33.3	6	10.0	7	11.7	17	28.4	27	45.0	25	41.6	10	16.6	20	33.3	18	30.0
No	1	1.7	2	3.4	3	5.0	6	10.0	0	0	4	6.7	7	11.7	3	5.0	7	11.7	2	3.4	15	25.0	8	13.3
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Source: Research data

The findings indicate that the instructors (on the average) apply the knowledge, skills and attitudes acquired from the course to enhance their performance in the classroom/workshops. However, there is an apparent need for the instructors to be more enthusiastic and recognise the good performance of their students. There are several techniques for recognising learner performance including oral praising which can have a positive motivating effect on the learners.

Table 20: Class Motivation Rating

Rating	Class Motivation Technique													
	Recall from last lesson		Asking Questions		Use of Examples		Demonstration		Explaining Importance of Topic		Allowing Trainees Participation		Oral Praising	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Frequently	33	55.0	44	73.3	34	56.7	31	51.7	31	51.7	44	73.3	21	35.0
Occasionally	18	30.0	15	25.0	20	33.3	14	23.3	16	26.6	9	15.0	17	28.4
Rarely	6	10.0	1	1.7	3	5.0	7	11.7	7	11.7	3	5.0	11	18.3
Never at all	3	5.0	0	0	3	5.0	8	13.3	6	10.0	4	6.7	11	18.3
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100

Source: Research data

The findings indicate that the instructors (on the average) motivate their students using the skills acquired from the course. However, there is an apparent need for the instructor to develop and utilize skills in appreciating or recognising good students performance for example, through oral praising.

4.8. Quality of Lesson Plans, Training Aids, Schemes of Work, Teaching Notes and Students Performance Records

Since Industrial Instructor Training programme is practical-oriented and emphasizes trainee involvement, the participants are usually comprehensively coached in making:

- (I) Lesson Plans
- (II) Training Aids
- (III) Schemes of Work
- (IV) Teaching Notes
- (V) Students Performance Records.

These materials make preparation; presentation; and evaluation of students' performance more effective. In order to establish the quality of these materials, the researcher inspected what the former trainees have made and recorded the results in a pre-determined inspection sheet.

Table 21: Quality of Training Materials

Rating	Item/Behaviour									
	Lesson Plans		Training Aids		Schemes of Work		Teaching Notes		Trainees Performance Records	
	f	%	f	%	f	%	f	%	f	%
Well Prepared	11	36.7	6	20.0	9	30.0	20	66.7	30	100
Averagely Prepared	16	53.3	18	60.0	20	66.7	7	23.3	0	0
Poorly Prepared	1	3.3	3	10.0	1	3.3	3	10.0	0	0
Not Prepared	2	6.7	3	10.0	0	0	0	0	0	0
TOTAL	30	100	30	100	30	100	30	100	30	100

Source: Research data

The findings indicate that the quality of all the supportive training materials is above average. The reasons for these findings were:

- (I) The instructors at the National Youth Service training units have held workshops in which each section developed its own scheme of work (according to the trade) which is followed by all the instructors in the respective sections.
- (II) The National Youth Service has established a uniform format for recording the students' performance both in class and in the workshops. The format shows detailed records of both continuous and terminal performance as kept by the instructors within each section (trade).
- (III) Majority of the instructors (66.7%) showed a lot of enthusiasm in preparing their teaching notes which they also pass over to the students as handouts or notes copied from the chalkboard.
- (IV) There is; however, a need for the instructors to emphasize regular preparation of individual lesson plans.

(V) The National Youth Service Workshops are relatively well equipped with hand tools and power machines. However, as already discussed earlier, there is a need for the instructors to get more involved in preparing more training aids in order to make students learning more effective.

CHAPTER FIVE

LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1. LIMITATIONS OF THE STUDY

Due to time and other resources constraints, the study was limited to a survey of the reactions of former trainees to the industrial instructors training programme; and the application of knowledge skills and attitudes acquired from the programme as perceived by their students and the researcher.

The researcher was aware that the reactions of the former trainees could be affected by other independent variables. These could include the changing administration of the college, the former trainees themselves (academic and professional backgrounds, work experience, age, sex and other private experiences) which were not surveyed in the study.

The researcher was also aware that the application of knowledge, skills and attitudes acquired from the course could be affected by other independent variables within the respective training units such as administration, availability of resources and facilities, instructors' remuneration, the background of their students and the former trainees' self-initiative and motivation all of which were not surveyed in the study.

The study was also limited in determining the amount of learning and changes in behaviour as a result of the training programme. These areas could be further investigated in such future studies especially by using homogenous and control groups if possible.

5.2. CONCLUSIONS

The goals and objectives of the Industrial Instructor Training programme at Kenya Technical Teachers College seems to be clear to the in-service industrial instructors and the sponsoring agency. Also the programme seems to be achieving its set goals and objectives as reported by the former trainees who have gone through the programme.

The subjects covered in the course are relevant and suitable and are meeting the instructors' training needs. However, the curriculum could still be improved to keep pace with the changes in training; and the industry in general.

The resource persons (lecturers) in the Industrial Instructor Training Department at the college are competent and their performance is above average. Also the training facilities are quite adequate for the training programme being offered at the college.

Accommodation, meals and general administration of the college is quite acceptable to the course participants. However, such facilities could still be improved in the future.

The training programme is helping the in-service industrial instructors to perform a better job as instructors which include preparation, presentation, and evaluation of students' performance.

5.3. RECOMMENDATIONS FOR FURTHER RESEARCH

Due to almost infinite list of possible variables affecting the behaviour of participants from a course, further research could be conducted preferably with homogenous and control groups in order to establish more accurately the impact such training programmes have on the change of **behaviour** and attitudes of the participants.

The researcher also recommends that with availability of more time and other resources, a similar study could be done with instructors both before and after the training programme. The results of such a study could be used to establish the effect of the training programme.

It is also recommended that further studies could be conducted especially using the Behavioural Criterion so as to establish the contribution of the training programme to the performance of the former trainees on the job environment. This could mean that the researcher(s) have to spend more time with the former trainees in their planning rooms; classrooms, and workshops when the sessions are on. This way, it could be more accurate to study the practical application of the acquired knowledge, skills and attitudes in the job environment.

Further research could also be done using the Result Criterion to measure the total organizational effect of the training programme. This is, however a difficult area since even when such data as quality and quantity of production, reduced accidents and good examination results are available, it is often difficult to determine whether such changes can be attributed to training or other factors unrelated to the training programme.

For the academics and practitioners, similar studies could be conducted in other institutions benefiting from this programme; or to evaluate other professional and general courses.

APPENDIX A

Questionnaire for Former Trainees.

APPENDIX A

21/3/87

Dear Respondent,

Evaluation of training programmes is an important exercise since it enables the trainers and sponsors of such training programmes to obtain information which can be used to assess the effectiveness of such programmes as well as improving them in the future.

Since you have attended the Industrial Instructors' Course at KTTC, I am calling on you to participate in this exercise which is also my Management Research Project as a partial fulfilment of the requirements for the degree of Master of Business and Administration of The University of Nairobi. The title of this project is "A Survey of the Reaction to and Application of Kenya Technical Teachers College Industrial Instructors' Training Programme: The Case of Former Trainee Instructors of The National Youth Service.

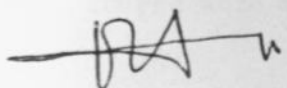
The attached questionnaire is specifically designed to obtain information which will shed light on some of the ways in which this programme can be improved and so will be of benefit to both KTTC and your organization - The NYS.

The information you provide will be collated with that obtained from others and you as an individual will not be identified with the results of the study in any way. In fact you are not required to write your names or any form of identification on this questionnaire.

So, please respond to this questionnaire to the best of your knowledge, experience and honesty.

A copy of the findings and recommendations will be sent to your organization. I would like to thank you sincerely for your contribution to this exercise.

Yours sincerely,



D.O. Ochero
Faculty of Commerce (MBA)
UNIVERSITY OF NAIROBI.

Questionnaire for Former Trainees.

1. Had you attended any other Instructor Training Course before coming to Kenya Technical Teachers College (KTTC) ?

Yes

No

If yes, please state where, and for how long ? _____

2. On joining the Industrial Instructors Course at K.T.T.C. were the objectives of the course clear to you ?

Yes

No

If no, please state why not _____

3. After attending the course, do you think the objectives of the course were achieved ?

Yes

No

If no, please explain why not _____

4. The Instructors' Course at KTTC covered six broad subject areas. How would you rate the subjects taught ?

Subject Area	Very Difficult (4)	Difficult (3)	Average (2)	Easy (1)
Effective Communication				
Educational Media				
Training Methods and Techniques				
Scheme of Work Development				
Psychology of Learning				
Micro-Teaching Exercises.				

5. Below is a list of various training methods and techniques covered in the course. Please rate their relevance to your instructional assignments.

Method & Technique	Very Relevant (3)	Relevant (2)	Not Relevant (1)
Lecture			
Demonstration			
Group Discussion			
Questioning			
Role Playing			
Case Study			
Business Games			
Experimental/ Learning by Discovery			
Field Trips/Visits			
Independent Study/Projects			
Programmed Instruction			

6. For the same list of training methods and techniques in number (5) above, please indicate how frequently you apply them during training.

Method and Technique	Frequently (4)	Occasionally (3)	Rarely (2)	Never at all (1)
Lecture				
Demonstration				
Questioning				
Role Play				
Case Study				
Business Games				
Experimental/ Learning by Discovery				
Field Trips/ Visits				
Independent Study/ Project				
Programmed Instruction				

7. During the course at KTTC, you were trained in the preparation and use of the following training aids. Please rate their relevance to your instructional assignments.

Training Aid	Very Relevant (3)	Relevant (2)	Not Relevant (1)
Chalkboard			
Charts and Posters			
Flip Charts			
Overhead Transparencies			
Photographs/ Camera Use			
Sound Films			
Slide Tapes			
Models & Cutaways			
Opaque Projectors			
Video-Cassettes Recording & Playback			
Preparation of Handouts or Notes			

8. For the same list of training aids in number (7) above, indicate how frequently you use them during training.

Training Aid	Frequently (4)	Occasionally (3)	Rarely (2)	Never at all (1)
Chalkboard				
Charts & Posters				
Flip Charts				
Overhead Projector & Transparencies				
Photographs/ Camera				
Sound Films				
Slide-Tapes				
Models and Cutaways				
Opaque Projectors				
Video-Cassettes Playback				
Issue of Handouts or Notes				

9. How would you rate the length of the course ?

- Too long (4)
- Long (3)
- Satisfactory (2)
- Short (1)

10. How would you rate the competence of resource persons (Lecturers) who trained you during the course ?

- Excellent (4)
- Good (3)
- Average (2)
- Poor (1)

11. How would you rate the performance of resource persons (Lecturers) who trained you during the course ?

- Excellent (4)
- Good (3)
- Average (2)
- Poor (1)

12. How would you rate overall the training facilities at KTTC e.g. training rooms, course materials, audio-visual training aids etc ?

Excellent	(4)	<input type="checkbox"/>
Good	(3)	<input type="checkbox"/>
Average	(2)	<input type="checkbox"/>
Poor	(1)	<input type="checkbox"/>

Any suggestions for improvement _____

13. How would you rate accommodation, meals, and general administration of KTTC when you attended the course ?

	Accommodation	Meals	General Administration
Excellent	(4) <input type="checkbox"/>	(4) <input type="checkbox"/>	(4) <input type="checkbox"/>
Good	(3) <input type="checkbox"/>	(3) <input type="checkbox"/>	(3) <input type="checkbox"/>
Average	(2) <input type="checkbox"/>	(2) <input type="checkbox"/>	(2) <input type="checkbox"/>
Poor	(1) <input type="checkbox"/>	(1) <input type="checkbox"/>	(1) <input type="checkbox"/>

Any suggestions for improvement:

(a) Accommodation _____

(b) Meals: _____

(c) General Administration: _____

14. On the overall did you find the course:

- | | | |
|------------------|-----|--------------------------|
| Very Difficult ? | (4) | <input type="checkbox"/> |
| Difficult ? | (3) | <input type="checkbox"/> |
| Fair ? | (2) | <input type="checkbox"/> |
| Easy ? | (1) | <input type="checkbox"/> |

15. Considering everything, how would you rate this Industrial Instructor Training Programme ?

- | | | |
|----------------|-----|--------------------------|
| Outstanding | (3) | <input type="checkbox"/> |
| Satisfactory | (2) | <input type="checkbox"/> |
| Unsatisfactory | (1) | <input type="checkbox"/> |

16. To what extent has the programme helped you do a better job as an industrial instructor ?

- | | | |
|-------------------|-----|--------------------------|
| To a large extent | (4) | <input type="checkbox"/> |
| To some extent | (3) | <input type="checkbox"/> |
| Very little | (2) | <input type="checkbox"/> |
| Not at all | (1) | <input type="checkbox"/> |

17. Please indicate your:

(I) Sex Male Female

(II) Age _____ years

(III) Highest Educational qualification;

Form II or below
Form IV(Ordinary) level
Form IV (Advance) level
Diploma
Degree

(IV) Number of years experience as an industrial instructor prior to attending KTTC course.

1 - 2 years

3 - 4 years

5 - 6 years

Above six (please state) _____

(V) Please tick the courses you have attended at KTTC:
and the year

		Year
Course	C	_____
Course	B	_____
Course	A	_____
Part	I	_____
Part	II	_____

18. Any other suggestions for improving the training programme
not included in the questionnaire. _____

APPENDIX B

Questionnaire for Students.

[Faint handwritten text, possibly a signature or initials]

APPENDIX B.

19/3/87

Dear Respondent,

Evaluation of training programmes is an important exercise since it enables the trainers and sponsors of such training programmes to obtain information which can be used to assess the effectiveness of such programmes as well as improving them in the future.

One of the objectives of this study is to evaluate application of Instructors' knowledge and skills by your trainers who have attended Industrial Instructors' Course at Kenya Technical Teachers College.

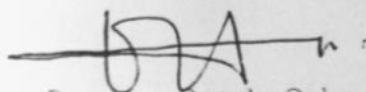
I am, therefore, calling on you to participate in this exercise by responding to the questionnaire attached. This exercise is also my Management Research Project as a partial fulfilment of the requirements for the degree of Master of Business and Administration of The University of Nairobi.

The information you provide will be combined with that obtained from other students and you as an individual will not be identified with the results of the study in any way. In fact you are not required to write your names or any form of identification on this questionnaire.

So please respond to this questionnaire to the best of your ability and honesty.

I would like to thank you sincerely, for your contribution to this exercise.

Yours sincerely,



Duncan Outah Ochoro
Faculty of Commerce (MBA)
UNIVERSITY OF NAIROBI.

Questionnaire for Students

1. Below is a list of the most common training methods and techniques used by instructors in the classroom or workshop. Please rate how frequently these methods and techniques are used by your instructors ?

Method & Technique	Frequently (4)	Occasionally (3)	Rarely (2)	Never at all (1)
Lecture				
Demonstration				
Group Discussion				
Questioning				
Role Playing				
Projects				

2. Below is a list of training aids commonly used by instructors in the classroom or workshop. Please rate how frequently these aids are used by your instructors ?

Training Aid	Frequently (4)	Occasionally (3)	Rarely (2)	Never at all (1)
Chalkboard				
Charts & Posters				
Flip Charts				
Overhead Transparencies				
Sound Films				
Slide Tapes				
Models & Cutaways				
Issue of Handouts or Notes				

3. Please rate your Instructor's performance (on the average) on each of the following points according to your observation and experience.

Item/Behaviour

	Yes (3)	Sometimes (2)	No (1)
1. Communicate simply and clerical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. State lesson objectives at start of lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Usually prepared and ready to teach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Emphasize key points in the lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ask questions and allow questions in the lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Emphasize safety in handling materials and machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Encourage you to learn even difficult points/ steps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Give assignments and test continuously	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes
(3)

Sometimes
(2)

No
(1)

9. Are humble and friendly

10. Control class disturbances

11. Recognise and reward good performance

12. Summarise lessons before closing

4. Below are several techniques instructors use to motivate trainees to learn. Please rate how frequently these techniques are used by your Instructor ?

Technique	Frequently (4)	Occasionally (3)	Rarely (2)	Never at all (1)
Recall from the last lesson				
Asking Questions				
Use of Examples				
Demonstra- tion				
Explaining Importance of the topic				
Allowing trainee partici- pation				
Oral Praising				

APPENDIX C

Observation (Inspection) Check Sheet

Date	Time	Average	Quality	Cost

APPENDIX C

Observation (Inspection) Check Sheet

APPENDIX C

Observation (Inspection) Check Sheet.

Item	Well Prepared (4)	Averagely Prepared (3)	Poorly Prepared (2)	Not Prepared (1)
Lesson Plans				
Training Aids				
Schemes of Work				
Training Notes/ Handouts				
Trainees' Performance Records				

APPENDIX D

Kenya Technical Teachers College Industrial

Instructors Course Syllabus

APPENDIX D. 1:

EFFECTIVE COMMUNICATION SYLLABUS.

The purpose of Effective Communication Subject is to enable the instructors to develop skills in oral, written and non-verbal communication, as well as discussing those aspects of communication which are relevant to their operational responsibilities as instructors. The broad topical areas are:

- The Communication Process
- Barriers to Effective Communication
- Oral Communication Skills
- The Art of Listening and use of Non-verbal Cues
- How to Use the Library
- Giving Effective Instructions
- Report Writing and Presentation
- Role Playing
- Group Discussions
- Business Correspondence
- Filing Systems and Information Retrieval for Decision Making
- Abstracting Information from Catalogues, Writing Specifications and Requisitions
- Interpreting and Using Technical Data
- Writing equipment or Instrument Operational Manual
- Behavioural Patterns - Individual and groups
- Committee Organization
- Conducting Meetings
- Problem Solving Techniques

APPENDIX D. 2:

EDUCATIONAL MEDIA SYLLABUS

This subject is designed to familiarize the trainee instructor with the importance of using various instructional/teaching aids. The subject also helps instructors to identify the different types of instructional aids, and their availability. The preparation and use of such aids to make training effective is emphasized in the subject. The topics covered are:

- Importance of using Training Aids.
- Sources of Training Aids.
- Chalkboard as a Training Aid.
- Preparation and Use of Charts and Posters.
- Preparation and Use of Overhead Transparencies, and Projector.
- Preparation and Use of Different Types of Handouts.
- Acquisition and Use of Models, Prototypes, Cutaways and Simulations.
- How to Use Opaque, Filmstrip and 16mm. Sound Projectors; and Handling Trouble Shooting.
- The Use of 35mm. camera as a Training Aid.
- Preparation and Use of Slide-Tape Training Packages.
- Preparation and Use of video-Cassette Training Packages.

APPENDIX D. 3:

TEACHING METHODS SYLLABUS

This subject is designed to expose the trainee instructors to the methods and techniques of instruction that increase the effectiveness of the learning experience. It also helps the instructor to develop skills in planning, presenting, managing and evaluating the teaching/learning process. The broad topical areas are:

- Definition of Teaching and Learning.
- Principles of Teaching and Learning.
- Qualities of a Good Instructor.
- Developing Instructional Objectives.
- Types of Lessons and Lesson Planning.
- Trainee/Learner Motivation.
- Instructional Methods and Techniques.
- The Art of Questioning.
- Programmed Instruction/Learning.
- Trainee Performance Evaluation.
 - Purpose of Evaluation.
 - Types of tests (evaluation tools)
 - Construction of Test Items.
 - Administration of Tests.
 - Assessment and Grading Methods.
 - Statistical Analysis of Test Data
 - Attitude Assessment.
 - Course Evaluation Methods.

APPENDIX D. 4:

PROGRAMME DEVELOPMENT SYLLABUS

The subject is designed to develop the planning skills of the trainee instructors so that they can design effective schemes of work and lesson plans. The subject also aims at advancing the trainee instructors skills in programme design, planning, implementation and evaluation including follow-up. The topics covered in this subject are:

- Purposes of Instructional Planning.
- Terminologies used in Instructional Planning.
- Training Needs Analysis.
- Job Analysis.
- Tasks Analysis and Classification.
- Training Classification.
- Identification and sequencing of Lesson Titles.
- Lesson Planning.
 - Writing Lesson Objects
 - Identifying Key Points.
 - Listing Training Aids.
 - Lesson summary and Trainee Evaluation.
- Scheme of Work Development.
- Administration of a Training Programme.

- Budgeting for Training.
- Organizing Training Facilities and Materials.
- Identifying and Inviting Resource Persons.
- Time-tabling.

- Evaluation of a Training Programme.
- Follow-up of a Training Programme.

APPENDIX D. 5:

PSYCHOLOGY OF LEARNING SYLLABUS

This subject is designed to develop the trained instructors' awareness of the learning processes and show how teaching can be adapted to the learning processes and principle. The subject also aims at introducing the participants to psychology of adult learning, theories of learning and internal and external factors affecting learning and behaviour modification. The topics covered are:

- Process and Principles of Learning.
- Theories of Learning.
- Learning Domains.
- Learning Rates and Curves.
- Memory - Retention and Retrieval.
- Transfer of Learning.
- Psychology of Adult Learning.
- Theories of Motivation.
- Hereditary and Environmental Influences on Learning.
- Attitude Change.

LESSON ASSESSMENT SHEET

Name	Form	Date	Time	
School	Class	No. of Students		
Lesson Title		Subject		
		Marks		
		Max.	Actual	
1. LESSON PLAN		15		
2. INTRODUCTION (Topic clearly stated. Motivation. Objectives stated. Recall for lesson development.)		5		
3. QUESTIONING TECHNIQUE (Quality. Handling response. Not repeating student answers. Distributing questions around. Handling student questions.)		10		
4. LESSON DEVELOPMENT (Logical sequence. Pace. Class involvement.)		15		
5. MASTERY OF SUBJECT (Accuracy. Typical Examples. Depth of information. Adequacy.)		10		
6. SELF PRESENTATION (Enthusiasm. Appearance. Speech clarity. Gesture. Handling interruptions and Disturbances.)		5		
7. TEACHING AIDS/EQUIPMENT (Readiness and effective use of tools and aids.)		7		
8. ENVIRONMENT (Classroom management. Arrangement of students.)		8		
9. SUMMARY (Effectiveness. Student involvement. Handling and evaluating assignments.)		5		
10. OVERALL PERFORMANCE (Assessor's feelings about lesson effectiveness. Other striking features.)		20		

% Total

GRAND

NAME OF ASSESSOR _____

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