

AN EVALUATION OF TWO APPROACHES TO TEACHER EDUCATION  
IN JORDAN

Thesis submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy

Mohammad S. Khattab

Department of Child Development  
and Educational Psychology

University of London  
Institute of Education

September, 1984

A B S T R A C T

The study was an evaluation of two approaches to teacher education, namely a behaviouristic/teaching skills approach and a humanistic/personal development approach, in Jordan. The study focused on determining the effects of these two approaches on teacher effectiveness during training.

The population of the study consisted of 60 university-graduate newly-recruited teachers in UNRWA/UNESCO schools in Jordan.

The independent variable was the approach to training while the dependent variables were three instruments: (a) Classroom observation schedule as measured by educational supervisors and headteachers (b) Teacher performance scale as measured by the teacher-trainees, by their pupils and headteachers and (c) Self-concept scale as measured by teacher-trainees (pre and post).

The time allocated for the implementation of the treatment extended for three months and instructional materials relevant to both approaches were selected, prepared and made available to two groups who were randomly distributed in advance.

Analysis of data indicated that trainees improved roughly equally under both approaches. There was

continuous improvement in teaching performance as assessed in the classroom visits conducted six times for each teacher-trainee during the treatment. Their self-concept also grew with training on both approaches. The outcomes of the approaches were compared and each examined in its own right.

The study intended to enrich the methodological approach developed and applied by the UNRWA/UNESCO Institute of Education, which is called the "Integrated Multi-Media Approach" whereby different media are applied, in an integrated manner, in the in-service teacher education programmes. The study proposed and used a theoretical background and framework that might be a basis for the programme design and development in teacher education.

The analysis of data suggested that certain methodological issues merited further investigation, but that neither approach had <sup>been</sup> shown to be detrimental to the overall training.

A C K N O W L E D G E M E N T S

I would like to sincerely thank Professor Hazel Francis, Department of Child Development and Educational Psychology, University of London Institute of Education, for her thorough supervision of this thesis. Her positive suggestions, untiring patience and interest are very warmly appreciated.

Dr Fitz Taylor, also, of CDEP, must be firmly included in this special acknowledgement, for his invaluable advice throughout the course of this study.

Help was also given by Dr O. Jibrin and Dr O. El-Sheikh, of the University of Jordan, during the implementation of the treatment; and by Mr Clifford Jaques, of the University of London Computer Centre in the statistical treatments for the analysis of data, and for which gratitude is expressed.

I would like to thank the Director of UNRWA/UNESCO Department of Education and the UNRWA HQs specialists (Amman office), the educational supervisors, field tutors, at EDC, Amman, the headteachers, teacher-trainees and pupils, all of whom were involved in this study.

Last, but not least, I thank my three children, Hani, Mazen and Zahi, who have given every possible support to me in this endeavour; especially in accepting my absence for two years.

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C H A P T E R I: THE RESEARCH PROBLEM: ITS BACK-  
GROUND, RATIONALE AND SIGNIFICANCE

1. BACKGROUND INFORMATION

The United Nations Relief and Works Agency (UNRWA) took over, in 1950, the work of international voluntary agencies concerned with the Palestinians who were scattered into five fields i.e. Gaza, Jordan, Lebanon, Syria and the West Bank. In 1950, there were 42,000 Palestinian pupils already attending 39 schools which were run by the Red Cross. Since then, primarily through natural increase, but also due to a significant growth in the attendance of girls, UNRWA's general education programme for boys and girls, at elementary and preparatory level, has been developed and run with the professional guidance of UNESCO. It has expanded to accommodate, in the 1983/1984 school year, more than 336,000 pupils in the 651 UNRWA/UNESCO elementary and preparatory schools.

To meet the need for better-qualified teachers, and in order to prepare teachers for the general education programme, UNRWA developed its own pre-service teacher training centres. Later it introduced a programme of in-service training operated by the UNRWA/UNESCO Institute of Education, which was established in 1964, to tackle the problem of

qualifying professionally an estimated 90% of the teachers in UNRWA/UNESCO schools. The high percentage was due to the fact that in the early years of UNRWA's existence, in the 1950s, the vast majority of the teaching staff employed had little experience and no professional training.

Most of the in-service training efforts were devoted to up-grading and certification of unqualified or underqualified elementary and preparatory teachers. Other training courses were initiated for other categories of educational personnel such as educational supervisors, school headteachers and teacher training instructors. Substantial curricular changes have been and are still being introduced in Jordan, Lebanon and Syria. Hence, training programmes have been organized to enable teachers to tackle the changes, particularly in mathematics and English.

The UNRWA/UNESCO Institute of Education, has developed, over the last two decades, a system of on-the-job training which is now called the Integrated Multi-Media Approach (IMMA). Training through IMMA does not require the withdrawal of teachers from their school duties and has the value of being economical, effective and flexible. The approach uses a variety of teaching methods, both direct (face-to-face) and indirect (distance),

not in a simple additive fashion but in an integrated manner. The various activities are planned so as to be mutually complementary with adequate provision for follow-up throughout the duration of each course. The components of IMMA include self-study of work assignments and other educational materials, learning through the use of various audio-visual and closed-circuit television media, participation in weekly seminars and residential summer courses, practical training activities and the conduct of action research (study conducted by participants to identify their problems and find solutions to them with a view to improving school practices) and simple experiments to improve school practices. There is systematic follow-up and improvement of performance throughout the use of these activities with the inclusion of individual and group conferences, feedback and self-evaluation. Behind this development is a rationale that is practically rather than theoretically oriented.

## 2. RATIONALE

The training programmes organized by the Institute comprise a set of courses attempting to meet the needs of the target groups. The components of these courses include prospectus (course title, duration, nature, rationale, general objectives and target groups), enrolment requirements, syllabus,

training units (learning objectives, content, learning activities and formative evaluation), proposed resource centres, summative evaluation and graduation requirements, and follow-up. There is a detailed time-table of the sequence of activities during the training year(s) and in the summer courses. Course designers are asked to take into consideration the following, while trying to propose the details of the training programme,

- (i) Biennial Work Plan of the UNRWA/UNESCO Dept. of Education,
- (ii) similar training programmes,
- (iii) proposals of specialists at UNRWA headquarters,
- (iv) curricula of pre-service teacher training centres,
- (v) what is available of the following sources pertaining to the needs of the trainees:
  - (a) reports of examination committees of previous years on similar training programmes,
  - (b) seminar reports on activities of similar training programmes,
  - (c) attitude measurements and questionnaires concerning trainees' professional needs,
  - (d) educational leaders' comments as reflected in classroom visit reports, interviews, questionnaires and special reports,
  - (e) survey reports and research pertaining to target educational personnel,
  - (f) any relevant sources that the course tutor deems suitable and
  - (g) supervisors' and teachers' responses in special questionnaires on training needs.

Moreover, course designers are provided with some principles that formulate guidelines for them while preparing the training programmes. These principles include:

- (i) Integration between methods and content in the units of the training programmes.
- (ii) Beginning, wherever possible, with special methods of teaching subject matter.
- (iii) Beginning, wherever possible, with practical aspects in such a way as to develop theoretical bases out of relevant actual experiences.
- (iv) Showing integration among the different media in training (seminars, demonstration lessons, classroom visits, individual and group tutorials, self-study, periodic tests) in order to achieve target competencies.
- (v) Practicability in the context of available human and material resources.
- (vi) Concentration on basic teaching skills.
- (vii) Integration and complementarity between in-service and pre-service training programmes.
- (viii) Incorporating in the programmes detailed time-tables of activities.
- (ix) The teaching competencies required by the practice teaching supervisors (UNRWA/

UNESCO, 1982a, pp 39-44).

LACK OF A THEORETICAL BASE

The progress achieved by the Institute in the training methodology context, in design and implementation, as specified above, did not seem to be associated with a similar and parallel advancement on the theoretical side. Programme designers, in actual practice, develop their courses in the light of educational needs as communicated by the local education authorities in the five fields of UNRWA's operations, by feedback the specialists get out of their regular field visits, by the experiences gained by the Institute during the last twenty years, and sometimes by international and regional conferences and workshops.

A review of the training programmes organized by UNRWA/UNESCO Institute of Education, over the last two decades, indicates changes in their design, content, implementation and assessment procedures. However, the methodology applied in organizing the in-service training courses is based on the IMMA. IMMA specifies mainly method implementation and assessment procedures to be applied in an in-service training course. It provides neither a psychological nor a theoretical foundation for programme design.

3. PURPOSE OF STUDY

This study attempts to develop and evaluate theoretically justified approaches within the Integrated Multi-Media Approach (IMMA). The IMMA had emphasized teaching methodology in training without specifying content of teacher education programmes or the psychological approach behind them. This study attempts to introduce and evaluate two alternative approaches that require two different kinds of content to the teacher education programme. They may be described as 'teaching skills' and 'personal development' approaches.

4. RESEARCH QUESTIONS

This study evaluates both approaches by determining the effects of two teacher training units, formulated on the two target approaches, on teacher effectiveness during training. Specifically the questions the study tried to answer are:

- (i) Do teacher-trainees undergoing training based on the teaching skills approach differ from teacher-trainees receiving training based on the personal development approach on:
  - (a) teaching performance as specified by educational supervisors, their head-teachers, their pupils and themselves and

- (b) growth of their self-concept?
  
- (ii) Are the two teacher education approaches equally effective for teacher trainees according to their (a) sex and (b) degree qualification?

## 5. SIGNIFICANCE OF STUDY

This study is significant in the following domains:

- (i) Design of UNRWA/UNESCO teacher education programmes.

This study is an attempt to enrich the methodology applied by the UNRWA/UNESCO Institute of Education (IMMA) by evaluating possible theoretical frameworks as a basis for formulating the curricula of in-service training programmes.

- (ii) Arab in-service teacher education projects.

Arab in-service teacher education projects, applying the Integrated Multi-Media Approach in their training, might benefit from this study as it sheds light on theoretical and psychological principles that might underlie the design, implementation and assessment of teacher education programmes, and hence enriching the IMMA.



C H A P T E R    I I :    D E S C R I P T I O N   O F   U N R W A   E D U C A T I O N A L  
S Y S T E M

After specifying the research problem, it is useful to describe the context in which the research is located, i.e. UNRWA's educational system. This chapter may also be important for commenting on the literature and the interpretation of results. It covers a brief history of UNRWA, the UNRWA/UNESCO Department of Education, its main Divisions and the UNRWA/UNESCO Institute of Education.

1.    E S T A B L I S H M E N T   O F   U N R W A

The Palestine refugee problem emerged as a tragic consequence of the Arab-Israeli conflict in Palestine in 1948. Since then, the Middle East has been rent by a succession of wars, political upheavals and civil disturbances. The just and lasting peace in the Middle East long sought by the United Nations has not yet been achieved and the refugee problem remains unresolved. It is in this context the United Nations Relief and Work Agency for Palestine Refugees in the Near East (UNRWA, the Agency) operates as a subsidiary organ of the United Nations General Assembly.

When UNRWA began operations in 1950, the main emphasis of its programmes was on food, shelter

and health care for the refugees. In 1950, only \$398,000 was allocated to education. With the passage of time, more and more attention and funds were devoted to the education and training of the young refugees. Of UNRWA's three main programmes today - relief, health, and education - education is the largest in scope, the most constructive in nature, the most dynamic in development and, above all, the most significant to the Palestine refugees, no matter what the future may hold for them.

The number of Palestinians nowadays is more than four millions but the number of Palestine refugees registered with UNRWA in 1984 exceeds two million people. Table 1, below, specifies the number in 1983 distributed in the five Fields of the Agency's operations, i.e. Lebanon, Syria, Jordan, and the Israeli-occupied West Bank and Gaza. Providing education for Palestine refugee children means operating a programme extending over a wide area and comparable with a national system of education, in size, scope, and complexity (UNRWA/UNESCO, 1982b).

T A B L E 1: DISTRIBUTION OF TOTAL REGISTERED  
PALESTINE REFUGEE POPULATION AS IN  
1983

LOCATION	TOTAL REGISTERED POPULATION
Jordan	759,160
Gaza Strip	380,863
West Bank	344,449
Lebanon	243,761
Syria	224,851
TOTAL	1,953,084

2. THE UNRWA/UNESCO DEPARTMENT OF EDUCATION

2.1. OVERVIEW

In 1950, following an appeal launched by the UN General Assembly, UNESCO undertook activities on behalf of Palestine refugees in the Near East. An agreement was signed between the Commissioner-General of UNRWA and the Director-General of UNESCO, marking the birth of the UNRWA/UNESCO Department of Education.

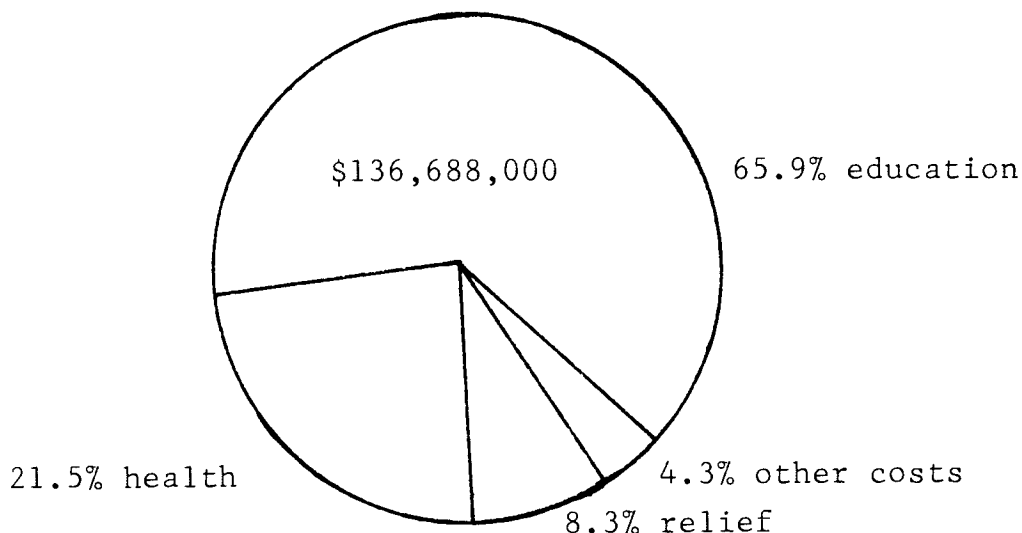
The overall aim of the Department is to provide, within the framework of the curricula prescribed by the Host countries, general education, teacher and higher education and vocational and technical education for Palestine Arab refugees in

accordance with their educational needs, identity, and cultural heritage, and to maintain continuous improvement at all levels in the UNRWA/UNESCO education system.

The UNRWA/UNESCO education programme included in 1983 general education for some 336,207 children at elementary and preparatory levels in 651 UNRWA/UNESCO schools; vocational and teacher training for nearly 5,260 trainees in 8 UNRWA/UNESCO training centres; in-service teacher training through the Institute of Education for 13,801 trainees and the annual award of about 350 university scholarships. Figure 1, below, shows that the education budget was 65.9% of UNRWA's budget in 1983 (US\$ 207,493,000). Figure 2, below, shows the organizational structure of the Department.

A significant event in the education programme was the production, by the Department, of three Biennial Work Plans for 1980-1986. Following the successful completion of the first two Biennial Work Plans (1980-1984), the third Work Plan followed a similar pattern (1984-1986) except for some slight modifications indicated in the light of experience in implementing the first two Work Plans. These Work Plans provide:

F I G U R E 1: UNRWA BUDGET IN 1983



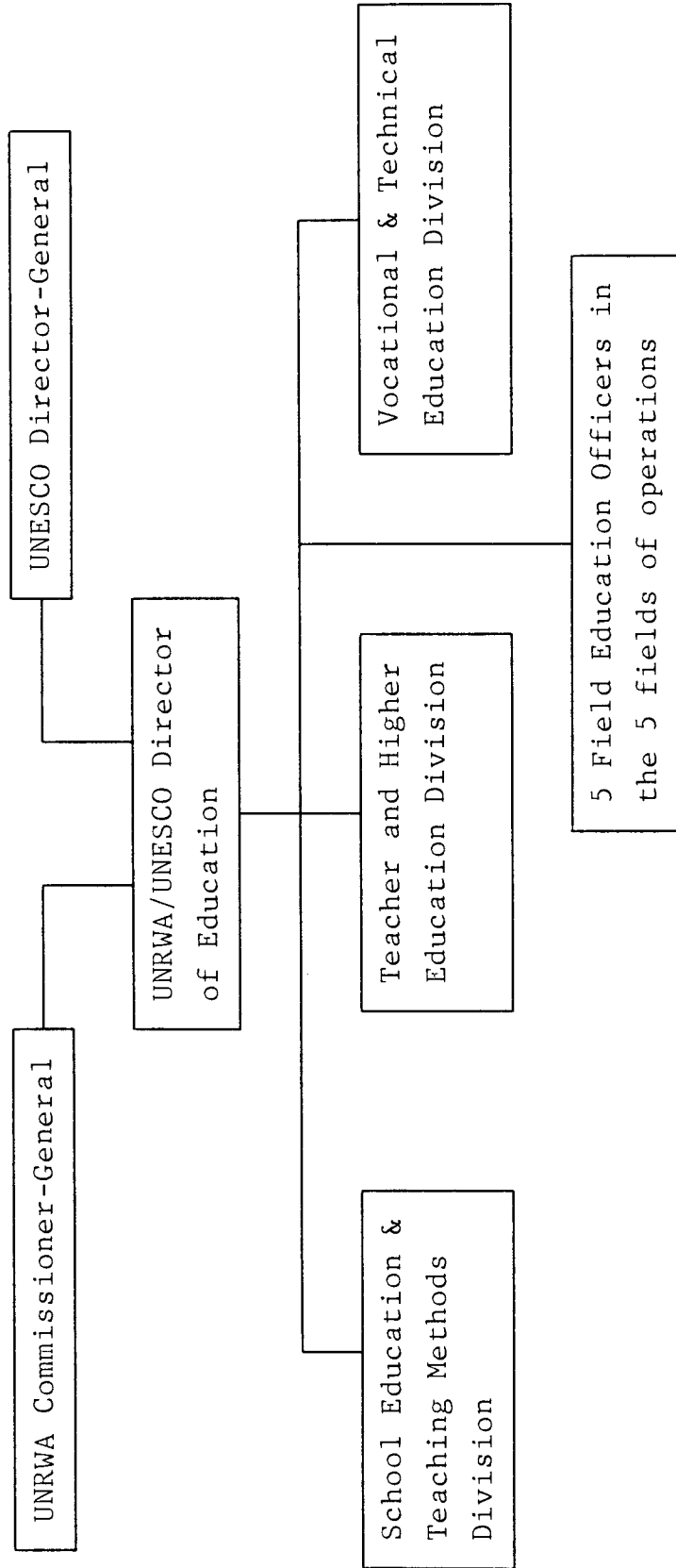
objectives, and activities required to achieve these objectives, for each part of the Department's programmes over the two-year period; they also provide machinery for effective follow-up and feedback.

Herebelow is a resume of the objectives, functions and activities of the various Divisions in the Department.

## 2.2. SCHOOL EDUCATION

The objective of the Division is to provide general education for Palestine refugee children within the framework of the Host Government curricula and in accordance with their educational

F I G U R E 2: ORGANIZATIONAL STRUCTURE OF UNRWA/UNESCO DEPARTMENT OF EDUCATION



needs, identity and cultural heritage while endeavouring continuously to improve the quality of this education (UNRWA/UNESCO, 1982c, p. 3).

From the beginning, the Agency schools in each host country have conformed as closely as possible to the government education systems of the host countries, i.e. Jordan, Lebanon, Syria, and Egypt (for the Gaza Strip). This policy obliges the Department to operate four allied but different systems, with four curricula and four sets of text-books, but it has the overwhelming advantage of permitting Palestine refugee children in UNRWA/UNESCO schools to take State examinations at the end of each cycle, and thus to qualify for upper secondary and university education in the regions on terms of educational equality with the indigenous populations.

UNRWA now provides six years of elementary (primary) education and three years of preparatory (lower secondary) education (four in Lebanon). Total enrolment in UNRWA/UNESCO schools rose from 42,000 pupils in 74 schools in 1950 to 336,207 pupils in 651 schools in 1983, while the teaching staff rose from 700 to 9,858. They exceeded 10,000 in 1984. When the education system started in the early 1950s many schools were

accommodated in tents. Gradually, these tents were replaced by buildings specially constructed for the purpose, though many schools are still in rented premises.

In 1951, only 23% of the pupils in the schools were girls. Today there is virtual equality of enrolment between the sexes in both the elementary and the preparatory cycle.

With the aim of improving the quality of instruction in UNRWA/UNESCO schools in the respective Fields, through closer coordination of teaching and supervisory staff, the Department established as of mid-1970's Education Development Centres (EDC's). These EDC's were intended to facilitate in-service training and engage in curriculum enrichment activities.

Despite improvements achieved in the system, it is still handicapped by over-crowding where the number of students per classroom might reach 50 or more. The pupil/teacher ratio is also high, ranging from 30 to 40 in the elementary cycle and decreasing slightly in the lower secondary cycle. Double-shifting of schools continues to be unavoidable. Because of the steady natural growth in the school population and the Agency's lack of funds for school construction on the



scale required, double-shifting was necessary in 493 schools (75.7% of the total) during 1983. In Jordan and Syria, double-shifting affected 95 and 94.8 percent of the pupils, respectively.

Education is a basic human right. No measure is taken, however, to compel Palestine refugee children to attend schools, and indeed there is no need. At the time of privation immediately after the 1948 hostilities, Palestine refugee parents even offered to accept reduced food rations if this would provide funds for their children's education. This awareness of the importance of education to the Palestine refugee has, if anything, increased since then. For them the education and the professional achievement of their children represent not only a vital practical necessity but also a form of moral support and a source of pride, the pride of a people who have little else. The problem, therefore, is not that of forcing education on those who do not want it, but of providing sufficient and adequate educational services for all those who do. (UNRWA/UNESCO, 1982b).

### 2.3. TEACHER AND HIGHER EDUCATION

The Teacher and Higher Education Division is responsible for pre-service and in-service teacher

education. The general objective of the UNRWA/ UNESCO teacher education programme is to provide and promote activities designed to help student-teachers to acquire requisite competencies that will enable them to become efficient and committed promoters and organizers of children's learning in UNRWA/UNESCO schools. This entails personal, social and professional development, facilitating their acquisition of the knowledge, skills and attitudes required for teaching and their ability to adapt to fast-changing conditions with flexibility.

(i) Pre-Service Teacher Education

The pre-service teacher education centres aim at producing graduates who possess skills and competencies considered necessary for effective teaching at the elementary level according to the curricula prescribed by the Host governments. Student-teachers for the lower elementary level are trained to teach all subjects in grades one to three, while those for the upper elementary level are trained to teach special subjects or possible combinations of subjects in grades four to six. The period of training is two years.

UNRWA operates four teacher education centres, one in Jordan, one in Lebanon and two in the

West Bank, which take 50 per cent of their enrolment from the Gaza Strip. Total enrolment in the two year course at the four teacher education centres in 1983 was 1291 student-teachers (631 men and 660 women).

Table 2 below shows details of the enrolment in the four centres.

Essential resources, human and material, in the form of instructors, supporting staff, equipment, laboratories, classrooms and libraries have been provided in the centres to enhance the quality of a new and varied programme, and the curricula are subject to constant revision. More emphasis is being placed on practical issues such as life-long education, education for international understanding, special education, parallel education and the basic services approach. Practice teaching, an important component of the programme, receives special attention, and a manual has been issued for use mainly by instructors, practice teaching supervisors and headteachers.

About 600 teachers graduate from the centres each year. They are provided with skills to be competent teachers who try to give their best to foster the development of pupils in the UNRWA/ UNESCO school system and in other schools in

T A B L E 2: TRAINING PLACES IN UNRWA TRAINING CENTRES IN 1983

CENTRE	JORDAN	W.B.	LEBANON	SAR	GAZA	TOTAL
1. Vocational & Technical Education	1040	872	712	720	604	3,948
2. In-Service Teacher Training	550	650	110	-	-	1,310
TOTAL	1590	1522	822	720	604	5,258

some of the Arab countries.

(ii) In-Service Teacher Education

Within a similar context, the aim of in-service teacher education courses is to improve the quality of education in UNRWA/UNESCO school system. In-service teachers' training courses are organized in a variety of formats whose specific objectives differ according to the needs of schools and teachers, the requirements of curricular changes and other relevant factors.

In the early years of UNRWA's existence, the vast majority of teachers in UNRWA schools had little experience and no professional training. Despite summer vacation courses, teachers' individual studies, and the teacher training centres, efforts to remedy the situation were largely lost through the constant influx of new and untrained teachers to meet the natural growth in enrolment and a steady drift of experienced teachers towards better paid jobs in the Gulf states and elsewhere.

By 1963, an estimated 90 per cent of UNRWA/UNESCO school teachers were professionally unqualified, which was a major obstacle in the way of developing satisfactory education programmes. The Department of Education recognized that an

innovative approach to teacher training was needed because the traditional method of withdrawing teachers from their classrooms and placing them in teacher training centres would temporarily deplete the ranks of UNRWA/UNESCO teachers and be too expensive and time consuming because of the numbers involved. Instead, the UNRWA/UNESCO Institute of Education, a specialized institution for in-service training which has focused on introducing modern teaching methods on a wide scale throughout the UNRWA/UNESCO education programme, was created and began operating in 1964, with the aim of improving the quality of education in UNRWA/UNESCO schools.

#### 2.4. VOCATIONAL AND TECHNICAL EDUCATION

The vocational training courses are designed to train young Palestine refugees for a skilled industrial pursuit, trade, craft, or occupation which directly functions in the designing, producing, assembling, servicing or repairing of any manufactured products. Accordingly vocational training is defined as instruction which is planned for the purpose of developing basic manipulative skills, technical knowledge and related occupational information. Similarly, the curricula for technical education courses are

designed to develop special competencies in marketable skills and techniques, such as business and office practice, land surveying, pharmacy, etc.

In the field of vocational and technical education, the Department of Education has been an innovator. While the trend in many state-school systems in the Middle East has been to provide technical education (conceived of as a combination of vocational and academic education), the UNRWA/UNESCO training programme places emphasis on practical vocational training courses. The programme trains young Palestine refugee men and women, thereby augmenting the supply of craftsmen for the developing Arab World, craftsmen with skills that are essential to the progress of the area. Thus, in addition to becoming self-reliant and useful members of society, the graduates from the training centres are able to contribute constructively to the industrial development of the Middle East.

The vocational courses are mainly of a practical nature and the bulk of the training is spent in the workshops. The theoretical subjects include trade theory, which is closely integrated with the practical work, and stress is laid on workshop applications. Applied mathematics and

general science are taught to supplement the general education of the trainee. English is taught in those courses where it is considered necessary, bearing in mind the types of employment the trainees are likely to obtain and the technical terminology and literature they will be expected to read and understand.

Some 2000 male and female trainees graduate from UNRWA's vocational training centres annually, each with a skill needed in the developing Arab World. More than 30,000 have graduated since the training programme began in 1953. Most of them work in the Middle East and the majority of the graduates of these courses obtain employment at the artisan or technical level, depending on the type of the course they have followed.

### 3. UNRWA/UNESCO INSTITUTE OF EDUCATION

#### 3.1. INTRODUCTION

In the first stage of its operation, in the sixties, the Institute devoted most of its efforts to the up-grading of professionally unqualified elementary school teachers. Later, in-service courses were organized for preparatory school teachers. With the decline in the number of unqualified teachers in UNRWA/UNESCO schools



in the 1970s, it was possible to diversify the activities of the Institute to include courses for headteachers, educational supervisors and other key educational personnel, refresher courses for qualified teachers, and ad hoc courses to meet curricular changes in the host government schools.

### 3.2. TYPES OF COURSES

Table 3 below shows types of in-service teacher education courses organized by the Institute during the last two decades. The table provides, also, the number of years of each course, number of trainees enrolled until 1983 and the number of graduates until 1982.

It was necessary during the first decade of the Institute's history to devote in-service training efforts to the training of unqualified elementary and preparatory teachers (types 1-5 in Table 3 below), who could only be trained through an emergency scheme, enabling them to be qualified while on-the-job. Types 6-9 were introduced mainly during the second decade of the Institute's history (i.e. 1974-1984).

As regards content, basic certification elementary courses comprise self-study assignments and

T A B L E 3: TYPES OF IN-SERVICE TRAINING COURSES,  
DURATION, ENROLMENT AND GRADUATES:  
1964-1983

No	TYPE OF IN-SERVICE TRAINING COURSE	DURATION IN YEARS	TRAINEES ENROLLED 1964/83	GRADUATES FROM 1964 TO 1982
1.	Basic certification courses for unqualified elementary teachers.	2	3509	3253
2.	Basic certification courses for unqualified elementary teachers.	3	505	458
3.	Professional courses for university graduate preparatory courses.	1	1440	1191
4.	Specialized courses for preparatory teachers.	2	1802	1489
5.	Specialized courses for preparatory teachers.	3	135	107
6.	Courses for key-education personnel (school Supervisors and teacher training instructors.)	1	973	652
				Contd/...

T A B L E 3 - Continued

No	TYPE OF IN-SERVICE TRAINING COURSE	DURATION IN YEARS	TRAINEES ENROLLED 1964/83	GRADUATES FROM 1964 TO 1982
7.	Ad hoc courses to meet special needs of teachers.	1	2393*	
8.	Special courses to meet school curricular changes.	1	2112*	
9.	Refresher courses for lower elementary teachers.	1	932*	
			13801	7150

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\* Graduation not applicable.

weekly seminars covering subjects such as: educational psychology, education, teaching methods of subjects such as Arabic, English, Mathematics, Science, Social Studies, Art Education and Home Economics. In addition, summer courses are organized for special activities including practical training and audio-visual workshops, while an action research study is required from each teacher/trainee during the school year.

Courses for certification as subject teachers in the preparatory cycle are mainly of two kinds (a) a two year course for non-university graduates who have completed a basic pre-service, or in-service, course for elementary teaching, and (b) a one-year professional course for university graduates. Courses of the first type have a common core of further self-study assignments and seminars on education and educational psychology emphasizing the principles and characteristics of preparatory level education and the psychology of adolescents. However, the major content of each course in this category is related to the specialization chosen, e.g. Mathematics, Science, Arabic, English, Art Education, Physical Education, Handicrafts, Home Economics and Social Studies in each of which most of the assignments and seminars cover academic content and teaching methods. The second type is mainly

professional, and includes education, educational psychology, with emphasis on organization of learning and the methods of teaching the subject of specialization. Here again summer courses and action research studies are required (UNRWA/ UNESCO, 1977, pp 3-4).

Courses for key educational personnel (supervisors, headteachers and instructors) concentrate on principles and methods of school supervision, administration and the latest trends, practices and theories in teacher education.

Refresher courses, ad hoc courses and courses for curricular changes are all of one year's duration at most and their content is determined according to the specific objectives of each course.

### 3.3. INSTITUTE'S METHODOLOGY IN TRAINING: THE INTEGRATED MULTI-MEDIA APPROACH (IMMA)

The methodology developed and used by the Institute is the Integrated Multi-Media Approach (IMMA) which depends on the integration of various educational media within the framework of systematic in-service courses, with adequate provision for follow-up action throughout the duration of each course. In IMMA, indirect methods comprising

self-study assignments, reference material and audio-visual media, including closed-circuit television, are combined with direct methods of weekly seminars, tutorial guidance and practical training carried out by the Field tutors and subject supervisors who are in charge of implementing the training activities. The direct methods are complemented by action research projects and intensive summer courses, which are normally held in UNRWA teacher training centres on a residential basis (NASHIF, 1982).

An example of integration among the various media might shed light on IMMA as applied by the Institute in the context of in-service teacher training courses. The teacher/trainee is asked to read a self-study assignment, for example, on "motivating pupils for learning". This is followed, one week later, by a 2-3 hour seminar where difficulties in concepts are explained and where implications for classroom practices which motivate pupils for learning are discussed. In the same seminar, participants are shown a special videotape on "motivating and supporting behaviours" recommended to be practised by the teacher in the classroom. Since the teacher/trainees are practising teachers, they will have the immediate opportunity of putting the theory into practice under the guidance of tutors. In the

summer-course, they also have the chance of watching and discussing live demonstration lessons on the same skill, i.e. promoting motivation. In this approach several media are used, in an integrated manner, to assist the teacher/trainee in acquiring the target skill or competency.

#### 3.4. INSTITUTE SERVICES IN THE ARAB WORLD

The Institute activities, during the last two decades, have not been limited to the UNRWA/ UNESCO school system, but have been extended to the Arab World.

##### Types of Services Rendered to the Arab World

Herebelow is a list of the types of technical services provided by the Institute to the Arab countries in the domain of in-service training of educational personnel:

- (A) Organization of orientation courses related to IMMA for in-service teacher training for senior officials of Arab Ministries of Education responsible for the training of educational personnel. The programmes usually extend for 6 to 10 days.
- (B) Organization of training courses for those

responsible for planning, implementation and evaluation of training programmes for educational personnel, in order to develop their competencies in the above domains within the context of IMMA. These programmes usually extend for 2 to 4 weeks, and are organized completely at the Institute Headquarters in Amman, in the requesting Arab country, or partially at the Institute Headquarters and partially in the requesting country.

- (C) Provision of Arab Ministries of Education with sample programmes for training teachers, head-teachers, educational supervisors and other categories of educational practitioners, samples of instructional materials and evaluation tools used within the context of these courses and references related to certain innovative trends in the domain of in-service training.
- (D) Review of training programmes, instructional materials and evaluation tools received by the Institute from Arab countries, and providing them with relevant comments when asked to do so by the country concerned.
- (E) Organization of conferences and workshops for the directors and senior staff of Arab projects for the training of educational personnel.
- (F) Missions by Institute Specialists to Arab countries, based upon requests received from them, to provide consultancy services related



to the establishment of projects or training programmes or the evaluation of such projects and programmes, and to participate in the implementation of training programmes for educational leaders.

### 3.5. APPRECIATION OF INSTITUTE ACTIVITIES

More than half of the Arab countries have expressed their interest in the IMMA developed by the Institute. Eight Arab countries have actually adopted the Institute's IMMA after adapting it to their requirements. These countries are Sudan, S.A.R., Iraq, Bahrain, Jordan, North Yemen, Oman and Somalia. Other Arab countries have benefitted from the Institute's approach in their training programmes. These countries are: The United Arab Emirates, South Yemen and Lebanon. Most Arab countries benefited from the principles on which the approach is based and received copies of Institute programmes and instructional materials. These countries sent representatives to participate in the conferences, organized by the Institute, for the directors of in-service teacher training projects. Fourteen Arab countries, including those of North Africa, participated in the third conference in 1978 in Beirut.

United Nations organizations, also, expressed their interest and appreciation of the Institute's approach. These are UNESCO, UNICEF, and UNDP. They supported the Institute technically and financially in the establishment of the Unesco Extension Services Unit in 1971. This Unit extended the Institute services to Arab in-service teacher training projects on the basis of the experiences the Institute has been gaining through the application of IMMA.

### 3.6. CONTINUITY OF IN-SERVICE TRAINING

From the point of view of the UNRWA/UNESCO school system, in-service training of teachers is necessary for the upgrading of untrained teachers and for solving the problems of curricular changes which are now frequent and considerable in the Arab World. But even under less variable conditions the retention of in-service training should continue to be important. The role of the teacher has changed and expanded and will continue to follow the same trend in the future. The teacher should be made aware of the new patterns of his tasks and responsibilities and should be provided with such training as will enable him to perform them.

3.7. CONTINUING EFFECTS OF THE INSTITUTE'S WORK

The effects of the Institute's work are still growing in the 1980's. An Institute for the in-service training of Somali refugee teachers was established, in Africa, in the early 1980's, adopting the Institute's IMMA. Arab in-service teacher training projects have benefited from the Institute's innovations in teacher education, such as preparation of individualized instructional materials for training, functional use of videotapes and other Audio-visual media, pre-formative, formative and summative evaluation tools, feedback instruments and application of IMMA to in-service teacher training.

In his book on Jordan, Gubser stated that "UNRWA developed an innovative in-service teacher training program to upgrade the teachers hired during rapid expansion of its school system in the 1950's. This successful program was copied by Jordan - and numerous other Arab countries in subsequent years.". (Gubser, P., 1983, pp 41-42)

4. EPILOGUE: AGENCY, DEPARTMENT & INSTITUTE

In the course of the past 34 years, more than 850,000 Palestinian children have received education in UNRWA/UNESCO institutions. This

educational system has significantly contributed to the preservation of the cultural identity of a displaced and dispersed people. The UNRWA/ UNESCO Institute of Education also played a unifying role among the ten thousand teachers working in Agency schools in Lebanon, Syria, Jordan, West Bank and Gaza. The same in-service training programmes were implemented in the five Fields of UNRWA's operations. This is an increasingly arduous task in a rapidly changing world and in a political climate aggravated by recurring crises.

Despite the financial problems of the Agency, the Institute's IMMA has played, during the last two decades, a pioneering role in teacher education in the Middle East and North Africa. Hence, any empirical research intending to enrich the Institute's approach will have a multiplying effect on in-service teacher education projects in the Arab World, and possibly in many other countries as well.

C H A P T E R III: REVIEW OF RELATED LITERATURE

1. INTRODUCTION: SOURCES AND BACKGROUND

SOURCES

There has been considerable amount of literature in teacher education, more perhaps than is commonly expected. A great deal of the literature is buried in books, journals, periodicals, reports and in higher degree theses. Other types of literature take the form of surveys of course content, case studies, seminar reports or conference publications.

A further source of information is available in journals such as: The American Journal of Teacher Education, the Teachers College Record of Columbia University, the Canadian and Australian Teacher Education Journals and the British Journal of Teacher Education, now renamed the Journal of Education for Teaching. Other sources are journals such as Review of Educational Research, Theory Into Practice and many teacher education journals published by U.N. teacher education institutes and by schools of education in universities.

## BACKGROUND

Traditional models of teacher education leading to a teaching certificate are similar throughout the world. The basic structure of the curriculum for these models includes three components: academic preparation in the disciplines which the trainee will teach; theoretical foundations of professional education such as courses in philosophy and history of education, various courses in psychology, general, and discipline-oriented method courses; practice teaching or some form of internship.

As a rule, teacher education, in most countries, is controlled by regulations which stipulate a list of required courses, some electives and practice teaching. However, in some countries, because of shortage of teachers, there are practising teachers who are professionally unqualified for the job, i.e. teachers who have received no formal professional training. The assumption here being that the teacher will find out most of what he needs to know on the job through trial and error. But, usually the 'price' paid for educating the teacher through trial and error is costly. An Arabic proverb says "the barber learns his trade on the orphan's chin".

It is as a result of dissatisfaction with traditional teacher training courses that attention has been increasingly focussed on several emerging movements, or approaches, in education.

### REFORM MOVEMENTS IN EDUCATION

Three major reform movements in education, which have had an impact on teacher education, have been identified by educators: progressive, behaviouristic and humanistic. The discussion which follows will treat briefly the first one of these reform movements. The last two movements which were developed more recently, and which seem to have had the greatest impact on teacher education (Gage and Winne, 1975), will be discussed in greater detail since they represent the main concern of the research.

### THE PROGRESSIVE REFORM MOVEMENT

The progressive reform movement in teacher education emanated from the social-oriented progressive reform movement in education. The leaders of this movement were John Dewey and his disciples during the latter part of the nineteenth century. Dewey perceived "knowledge as ever changing and the ideal society as an organization of people who

would recognize this and work together to define and attack their most important problem." (Joyce, B., 1975).

According to this movement, the teacher was to lead children to identify and solve problems and learn how to create knowledge. The teacher's task was to organize his class as a democratic group solving problems through scientific methods. These views on the role of the teacher were important to the development of teacher education.

The progressive movement did not succeed in solving the conflict between the 'theory' presented in professional education courses and the reality of the school. Around the 1930's its influence declined, but some of its basic ideas were accepted in education and teacher education. To some extent, a revival of these ideas can be found today in the movements of open education, small group studies, and individualization of instruction; thus having impact on the two major approaches which were developed later on, i.e. behaviouristic/teaching skills and humanistic/personal development.

In order to attempt to contain a potentially unmanageable field, I have had to make some,



perhaps, arbitrary decisions. This review of literature, therefore, will focus on theoretical underpinnings to training programmes and particularly on the two major alternative approaches to teacher education selected for this study. It will aim to provide a basis for a theoretical framework for the design and evaluation of programmes in the present study.

2. ALTERNATIVE APPROACHES TO TEACHER EDUCATION

DEFINITION:

One way to look at alternatives in teacher education is in terms of the concept of "approaches". An approach in teacher education can be thought of as a matrix of beliefs and assumptions about the nature and purposes of schooling, teaching, teachers and their education that gives shape to specific forms of practice in teacher education (Popkewitz, T. et al., 1979, pp 52-60).

TWO MAJOR APPROACHES:

Since the inception of formal programmes for the preparation of teachers in the early part of the nineteenth century in the West, there has been a great deal of controversy and debate

over the ways in which teachers should be prepared and trained. While this debate has sometimes included proposals for action by advocates of different general orientations to the education of teachers (e.g., "behaviouristic" and "humanistic" Teacher Education), most have argued for and against specific strategies for educating teachers within the parameters of a single general orientation or approach. While acknowledging that each approach of teacher education is in itself very diverse and that differences within approaches are not inconsequential, it should be noted that each approach is at the same time held together by a set of common assumptions that distinguishes the basic goals of one general approach from another. There seem to be at least two major approaches that have dominated the discourse of debate in teacher education in recent years: (i) Behaviouristic teacher education and (ii) humanistic teacher education.

PROS AND CONS OF THE TWO APPROACHES:

The debate among the advocates of each approach centres on four critical issues: goals, rationale, instructional procedures and assessment, which are evident in the literature.

GOALS:

"Behaviourists have accused humanists of either refusing to admit that they have goals or stating them so globally they become mere platitudes. Humanists, in turn, have accused behaviourists of trivializing education by relying on only the most easily observable and specifiable objectives. They point to a large pile of behavioural objectives requiring no more than the memorization of unimportant facts." (Hersh, R., 1972, p.173)

A particularly intense debate between humanists and behaviourists concerns the degree to which the affective domain can and should be included in goal statements. Humanists argue that this important domain is neglected by behaviourists, who counter that feeling, values and attitudes are inferences made about a person based on samples of his observed behaviour.

RATIONALE:

"Humanists have accused behaviourists of ignoring the rationale for goals and thus serving as blind handmaidens to the status quo - providing the technology for teachers to implement thin goals, regardless of how vacuous they may be. Behaviorists, on the other hand, have accused humanists of being rhetoricians, not educators: their goals sound nice, but little or no evidence is presented to indicate

they are capable of attainment." (Ibid., p.173)

#### INSTRUCTIONAL PROCEDURES:

Disagreements between both advocates also occur in questions about instructional procedures.

"Humanists tend to accuse behaviorists of promoting programmed instruction as a panacea and of advocating a lock-step conditioning that smothers individual differences. Some humanists fear that behavioral technology will produce robot-like responses from people incapable of making independent decisions or going beyond the information given. Behaviorists, on the other hand, have depicted humanists as either not concerned with questioning their instructional procedures or incapable of doing so systematically." (Ibid., p.173)

#### ASSESSMENT OF INSTRUCTION:

In the assessment of instruction, humanists have accused behaviourists of trying

"to fit the world into a multiple choice format. Behaviorists counter by saying that humanists evaluate their instructional effectiveness according to whether they feel good about it, or they don't evaluate it at all because they feel that the very evaluation process itself is dehumanizing. Humanists claim that behaviorists are content to measure only the trivials; behaviorists reply that all decisions are based on observed behavior and that rather than deny the measurement of human behavior

one should strive to improve the range and skill of human assessment.". (Ibid., p.174)

It is believed that humanists have voiced compelling rationales for change in direction of teacher education. They wish to break the pattern of fear, boredom, dependency, and alienation fostered in schools. In essence, they have indicated the ideology and the rationale of this ideology. Their traditional weakness has been their inability to specify assessable goals and to use assessment in evaluating instructional strategies. Where the humanists have been strong (direction of goals and rationale), the behaviourists have been weak; where the humanists have been weak (stating measurable goals and assessment), the behaviourists have been strong.

Herebelow is a review of some of the related literature pertaining to the above two major approaches to teacher education.

3. BEHAVIOURISTIC/TEACHING SKILLS APPROACH TO  
TEACHER EDUCATION

Probably the most influential of the approaches to the education of teachers rests upon the foundations of behaviouristic psychology and emphasizes the development of specific and observable skills of teaching which are assumed to be related to pupil learning. Behaviouristic approach to teacher education has dominated the literature in teacher education. As Kliebard (1973) points out, the behaviouristic approach has been present in one form or another since at least the turn of the century. The emergence of Competency (Performance)-Based Teacher Education (C/PBTE) in the 1960's is clearly the most recent and influential manifestation of this perspective. While there is a great deal of diversity among the advocates of this approach (e.g. McDonald, 1973, Stevens, 1976), there is at the same time a common thread that links together all of its variations and which distinguishes this approach from the humanistic approach.

The teaching skills to be taught to teacher-trainees in the context of this approach are those that are felt to be most relevant to their teaching role, and are specified in

advance. Furthermore, the criteria by which success is to be measured are made explicit, and performance at a pre-specified level of mastery is assumed to be the most valid measure of teacher competence. The fact that the same behaviour may be governed by quite different motives, the development of the teacher as a person over and above mastery of teaching skills and content knowledge, and the desire to have teachers critically reflect upon the purposes and consequences of their work in terms of such issues as social continuity and change are not central concerns within this approach.

One guideline for programme design consistent with this approach suggested that teacher education be built around generic competencies - teaching skills - based on answers to two questions:

What should beginning teachers know and be able to do?

And at what level of proficiency? (National Education Association, U.S., 1980).

Basing teacher education designs on generic competencies, however, have a way of generating diversity. Comparison of more than 20 competency lists provided in a chronological survey (Denmark, G. & Nelli, E., 1980) shows

great variety in perspectives and objectives. The variety is evident in two characteristics that distinguish between types of teacher competencies (Turner, 1973) - i.e., the functions and tasks of teaching, and the behaviour and actions of the teacher.

Underlying this approach to teacher education is a technological metaphor of "production" (Kliebard, 1972), a view of teaching as an "applied science" and a view of the teacher as primarily an "executor" of the laws and principles of effective teaching (Tom, 1980). Teacher-trainees may or may not proceed through the teacher education curriculum at their own pace and may participate in varied learning activities, but that which they are to master is limited in scope (e.g. to a body of professional content knowledge and teaching skills) and is fully determined in advance by others, often on the basis of research on teacher effectiveness. The teacher-trainee is viewed, primarily, as a passive recipient of this professional knowledge and plays little part in determining the substance and direction of his teacher education programme.

Because of the multitude of resources in teacher education literature pertaining to teaching



skills, a decision had to be taken to limit the review to a few prominent sources, some of which have been introduced on a limited scale in UNRWA/UNESCO teacher education programmes in particular and on the Arab in-service teacher training programmes in general. The review of the first approach, therefore, will be limited to five sources only.

3.1. DERIVING TEACHING SKILLS FROM MODELS OF TEACHING: COLUMBIA UNIVERSITY TEACHERS COLLEGE (CUTC)

The derivation of teaching skills from teaching models\* emerged at the CUTC teacher training programme in that its conceptual framework and initial instructional core were built around a series of teaching strategies called the models of teaching. Two design concerns in particular had shaped the derivation of teaching skills. First the belief that a training programme ought to have a high degree of conceptual or substantive unity among its various

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\* "A model of teaching is a coherent pattern, an abstract plan, which can be used to shape a curriculum or a course, develop instructional materials or guide the teacher's actions." (Joyce & Weil, 1972, p.8)

components. The frames of reference a teacher-trainee explores, as philosophies of education or theories of learning, ought to be translated into sets of behaviours throughout the training programme, as interactive teaching skills.

Second is the belief that teaching skills come in different "sizes". For example, a skill in a particular teaching strategy was considered to be much larger and more complex unit of behaviour than the skill of asking questions at a certain cognitive level or pausing three seconds (Joyce, 1972).

CUTC distinguished a strategy from a skill.

"Teaching strategies" were defined as complex behavioural events in which the teacher carries out a sequence of activities designed to implement particular educational objectives and goals. Teaching strategies were considered to involve the possible combination of hundreds of communications (moves) between teacher and pupil. "Teaching skills", in contrast, were considered to be smaller, more discrete units of teaching, often a single teacher move. They are essentially instructional techniques and procedures that may be used in different combinations in the flow of teaching.

CUTC believed that the models of teaching

represented an attempt to operationalize a particular theory of learning, or philosophy of education, into a teaching strategy (patterns of activities) that teachers could be trained to perform. CUTC invented a set of four concepts for extrapolating and describing any teaching strategy: syntax, principles of reaction, social system and support system. Each concept might be a source for teaching skill derivation.

In the process of operationalizing a model of teaching and identifying teaching skills CUTC proposed that the following four steps ought to be followed:

- (i) initial extrapolation,
- (ii) basic teaching skills,
- (iii) instructional system development, and
- (iv) clinical assessment and revision (Joyce, 1972)

3.2. A MICROTEACHING MODEL ON TEACHING SKILLS:  
STANFORD UNIVERSITY

The Teacher Education Programme (TEP) at Stanford University, specified, in 1969, a microteaching model for teacher training comprising five clusters and eighteen teaching skills. The clusters were prepared in the

form of teacher manuals. These manuals were accompanied with a supervisor's manual to indicate the usage of the teacher-manuals on the five clusters.

Eighteen 16-mm microteaching videotapes were prepared by TEP, Stanford University, on 18 specific teaching skills that were considered basic for teacher training. Each videotape consisted of a theoretical introduction on the concept and rationale of the target teaching skill, followed by a microteaching lesson presenting a teaching/learning situation whereby the teacher demonstrates the target teaching skill.

Herebelow is a list of the five clusters and the eighteen teaching skills incorporated under them, as developed by TEP (Allen, 1969):

Cluster 1: Stimulating student enthusiasm and  
creating student involvement: 3  
teaching skills:

1. Set induction
2. Stimulus variation, and
3. Closure.

Cluster 2: Presentation skills (i.e. skills  
involved in presenting information  
and developing concepts): 4 teaching

skills:

4. Completeness of communication
5. Lecturing
6. Use of example, and
7. Repetition.

Cluster 3: Increasing student participation:

4 teaching skills:

8. Reinforcement
9. Recognizing attending behaviour
10. Silence and non-verbal cues, and
11. Cueing strategies.

Cluster 4: Questioning skills: 4 teaching

skills:

12. Asking probing questions
13. Higher order questions
14. Divergent questions, and
15. Fluency in questioning.

Cluster 5: Building up a response repertoire:

3 teaching skills:

16. Verbal responses
17. Non-verbal responses, and
18. A combination of verbal and non-verbal responses.

The development of a microteaching model, based on 'technical skills' of teaching, represented a significant departure from traditional kinds

of teacher training programmes. It was assumed prior to that time that a long period of student observation and teaching was necessary before the aspiring teacher could become comfortable and capable in a classroom. Microteaching was seen as a way of acclimatizing trainees to teaching over a shorter time period, and early studies indicated a favourable comparison with traditional student teaching, presumably because of the use of nurturant and continuing supervisory feedback, the development of a group of 'technical skills' of teaching and the reduction of the complexity and scope of normal classroom variables (number of pupils, length of lesson, etc.) to provide a scaled-down, yet realistic, teaching environment (McKnight, P.C., 1980).

The microteaching model is based on the conception of teaching as a complex information processing activity, perhaps better described as an orchestration of skills. Thus, an adequate framework of teaching skills is a prior condition to adopting a microteaching model in teacher education.

However, microteaching has its limitations. The cost of the videotape equipment is expensive and difficult to maintain. If the cost is to

be justified, then a cost-effectiveness study must be conducted on the use of microteaching, as a technique within the "teaching skills" approach, as a training medium. Another limitation is that microteaching creates "unreal" situations. Socio-cultural norms may make the medium irrelevant or unsuitable. Another limitation is the tendency to adopt the teaching skills developed at Stanford University, as a whole package, without regard to their relevance to the target teacher-trainees. Microteaching, also, might be criticized for its mechanistic nature. The provision of positive models might lead to slavish adherence to modelled behaviour which might lead to compliance and reliance on others.

Microteaching seems to have potential use as a training medium in teacher education programmes provided adaptations pertaining to costs and socio-cultural norms were introduced. Specifically, microteaching has been introduced in UNRWA/UNESCO Institute of Education, in Jordan and many other Arab countries, adopting the teaching skills developed at Stanford. There is a need to develop contextually relevant skills and to assess the effectiveness of the use of microteaching as a training medium in producing competent teachers.

3.3. STONE AND NIELSEN TEACHING SKILLS MODEL

Stone and Nielsen (1982) proposed five major clusters of factors, or variables, influencing learner behaviour which were considered to be needed by skilled teachers. Related to each cluster were specific kinds of teaching skills which have to be developed by the teacher to enhance the learning behaviours of each pupil in the school. These clusters and teaching skills are presented in a text-book which

"reflects the substantial body of topics which have developed in the discipline of educational psychology supported by carefully selected items from clinical, general, social and industrial psychology into a viable source of instructional principles." (Stone, D.R. and Nielsen, E.C., 1982, p. xv).

Herebelow is a list of the clusters and teaching skills proposed by Stone and Nielsen.

Cluster 1: Situation: 4 teaching skills. Teacher behaviours related to the situation (learning environment):

1. Social environment (interpersonal interaction)
2. Physical environment (space, time, and materials)
3. Cultural environment (cultural-curriculum)



4. Stimulus

Cluster 2: Readiness: 3 teaching skills.

(Teacher behaviours related to the readiness of the learner - three domains: sensory-motor, cognitive, affective):

5. Sensory-motor health

6. Intellectual aptitude

7. Personality

Cluster 3: Ideation: 2 teaching skills. (Teacher

behaviours related to ideation - the process of thinking):

8. Perception

9. Cognition

Cluster 4: Trial: 2 teaching skills. (Teacher

behaviours related to learning activities - response to stimuli):

10. Transfer

11. Mode of work

Cluster 5: Feedback: 3 teaching skills. (Teacher

behaviours related to response-produced cues):

12. Affective feedback

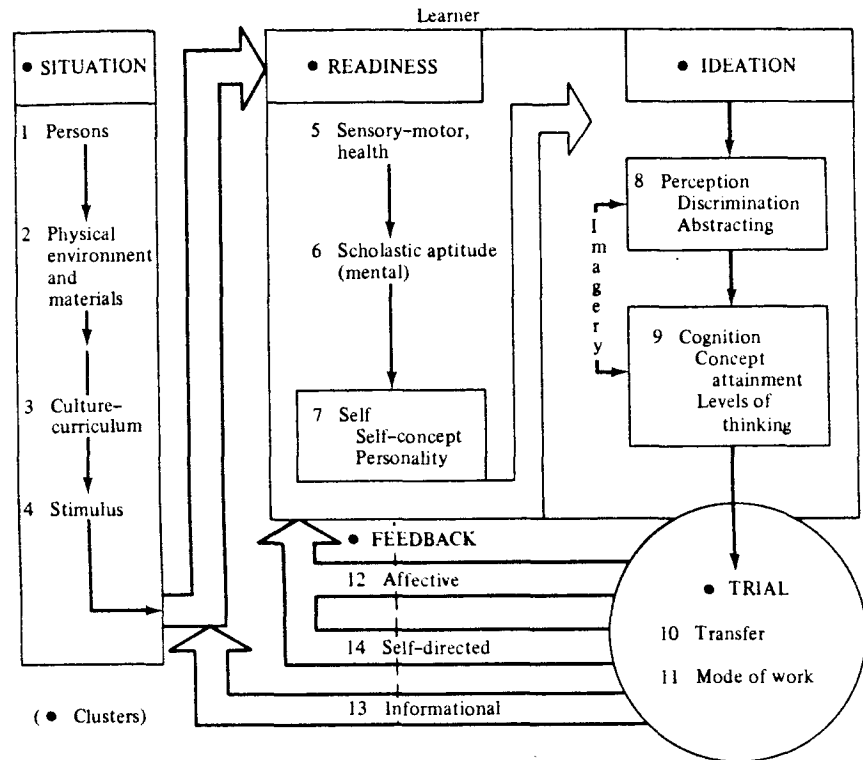
13. Informational feedback

14. Self-directed feedback

Figure 3 below presents the teaching skills

model showing cluster and skill areas:

F I G U R E 3: A SKILLS MODEL SHOWING CLUSTERS AND SKILL AREAS (Stone & Nielsen, 1982)



The above figure indicates the relationship among different teaching skills. Skills, in practice, do not exist in isolation from each other. A given skill has meaning to a teacher only in the context of given skill patterns. Combinations of skills can emerge in the life of each teacher as those skills are selected which fit one's own style and the learner's needs.

It is worth noting that skill 7 on 'personality' in cluster 2 in the above-mentioned model is specified by Stone and Nielsen as a teaching skill. Many resources in literature do not categorize skill 7 under a "teaching skills" model. They would rather classify it under the humanistic/personal development approach.

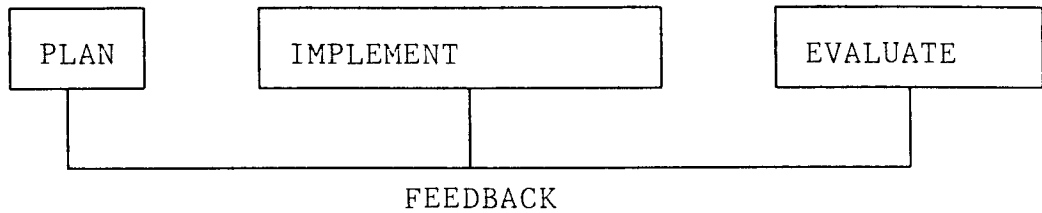
3.4. COOPER'S CLASSROOM TEACHING SKILLS: THE TEACHER AS DECISION MAKER

Cooper et al conceptualized the teacher as a decision maker - one who makes planning, implementing, evaluation and management decisions as part of his instructional role. In order to be able to carry these decisions effectively, the teacher ought to be trained to master certain teaching skills.

The various steps of the decision making model are depicted in Figure 4, as proposed by Cooper et al (1977, p.8)

Within their instructional role, teachers must make decisions related to the three basic teaching functions shown in Figure 4: (1) planning, (2) implementation, and (3) evaluation. The feedback dimension of the decision-making model means that the teacher examines the

F I G U R E 4: MODEL OF THE TEACHER AS DECISION  
MAKER



results of his teaching and then decides how adequately he handled each of these three teaching functions. It is the decision-making system's way of correcting itself.

Cooper et al. propose a repertoire of nine teaching skills that are considered crucial to the decision-making process. Without such a repertoire, the teacher's decision-making alternatives are severely reduced. The nine skills are complex, not simple ones. Their acquisition require both careful study and diligent practice.

The following list comprises (1) the three functions which are considered basic elements of the decision-making model, and (2) the nine teaching skills that are considered important to carry out these functions (Cooper et al., 1977, p.14):

<u>Functions</u>	<u>Teaching skills</u>
I. PLAN	1. Planning 2. Writing instructional objectives
II. IMPLEMENT	3. Presentation skills 4. Questioning 5. Teaching concepts 6. Interpersonal communication 7. Classroom management
III. EVALUATE	8. Observation 9. Evaluation

To master these complex teaching skills, a teacher should be trained within the context of a teacher education programme that facilitates the teacher's (1) cognitive understanding, (2) practice, and (3) knowledge of performance (feedback). Any teacher-education materials aimed at developing such skills should incorporate these three conditions into their design.

Cooper et al assume that the trainee's probability of success will be greatly increased if he first develops a thorough understanding of the teaching skill and its elements, if he undertakes controlled practice situations which are reality-based, and if he receives feedback in order to adjust his performance in necessary

ways.

3.5. TEACHING SKILLS INVENTORY: FLORIDA LEON COUNTY  
TEACHER EDUCATION CENTRE

In order to identify and build a teacher education programme of in-service training activities that were both desired and needed, the Florida Leon County Teacher Education Centre sought the opinions of the teachers, through an inventory, consisting of 52 teaching skills and concepts which were believed to be important for effective classroom instruction. The results of the survey intended to answer the following three questions:

- (i) Which of the teaching skills do teachers believe they needed?
- (ii) In which of the teaching skills do teachers believe they were currently competent?
- (iii) In which of the teaching skills would teachers like in-service activities?

The Teaching Skills Inventory comprised the following clusters and teaching skills (Carey, L.M., 1975):

Cluster 1: Interaction skills: 11 teaching skills.

Interaction skills are those skills used during actual lessons and/or learning activities and include any exchange of ideas or interaction between the teacher and students. These skills included:

1. Encouraging student participation in activities
2. Improving verbal and non-verbal communication
3. Interacting with students
4. Conducting group discussions
5. Presenting verbal instructions clearly
6. Using questioning skills
7. Establishing order without threatening the desired environment
8. Analyzing and helping students with problem behaviour
9. Initiating activities that encourage students to become self-directed
10. Judging when to "stay out" and when to become involved in student discussions and activities
11. Recognizing ineffectual instructional activities and modifying them during the lesson

Cluster 2: Planning Instruction: 13 teaching skills.

Planning skills are those skills used to plan,

select, develop, evaluate, or revise instructional materials, lessons, lesson plans etc.

12. Up-dating subject matter
13. Developing student self-awareness through classroom procedures
14. Determining and stating goals
15. Identifying skills and knowledge to achieve objectives
16. Identifying types of learning to reach objectives
17. Breaking down instruction into appropriate size steps to facilitate student learning
18. Sequencing the steps of instruction to facilitate learning
19. Developing appropriate tests
20. Selecting media to communicate content
21. Selecting media appropriate to the learning environment
22. Using collected data to revise instruction
23. Identifying criteria to assess tests
24. Modifying instructional materials to meet capabilities and interests of students

Cluster 3: Evaluating learning: 9 teaching skills.

These skills are used in evaluating student learning performance, attitudes, and growth before, during, and after instruction.



25. Constructing performance classroom tests
26. Constructing attitude assessments
27. Conducting assessments without threatening or intimidating students
28. Developing procedures to synthesize, analyze and interpret data on students
29. Interpreting performance scores
30. Calculating normative scores
31. Teaching students to assess their own work
32. Interpreting each student's performance on specific tasks
33. Interpreting student performance to them, to their parents, and to other teachers

Cluster 4: Communicating with peers and parents:  
7 teaching skills.

These are interaction skills used in communicating the planning, development, and evaluation of the educational curriculum and activities with other school personnel, parents, and occasionally, community members.

34. Using techniques to inform parents
35. Informing parents on ways to assist their children
36. Keeping school personnel informed of classroom needs
37. Cooperating actively in school operation
38. Becoming informed of others' activities
39. Identifying and passing on information

about students to facilitate their transition in other classes

40. Informing tutors, aides, etc. about their duties and performance in the classroom

Cluster 5: Establishing classroom management procedures: 7 teaching skills.

These skills are used in planning, implementing, evaluating, and revising classroom management procedures and management.

41. Establishing procedures to facilitate classroom management
42. Developing student schedules for the classroom to enable adequate time for individualized and group instruction
43. Organizing learning activities to achieve balance among needs and constraints
44. Determining duties for aides, etc.
45. Organizing and establishing procedures for special occasions
46. Organizing small group activities in the same classroom
47. Planning and maintaining a pleasant classroom environment

Cluster 6: Miscellaneous: 5 teaching skills.

48. Evaluating own teaching performance
49. Critiquing other teachers' performance
50. Comparing historical and contemporary

philosophies and principles of education

51. Comparing different models of teaching and the teacher's role in each
52. Comparing theories and principles of how people learn best

The above inventory was used, in 1980, as a basis for the development of a questionnaire on the identification of teacher's training needs. The research was conducted in three Fields of UNRWA's operations, i.e. Jordan, Syria and West Bank. The sample comprised of 100 teachers from each Field. No research findings are available.

#### 4. COMMON TEACHING SKILLS PROPOSED IN LITERATURE

What teaching skills have been common in the review and therefore ought to be incorporated in an in-service teacher education programme?

If the previous sources of literature in teacher education on teaching skills were considered as additive, rather than separate and competitive, several teaching skills might formulate a common list. Table 4 below presents the results of treating the findings of four sources in an attempt to obtain an overall picture of their cumulated findings. There will be no

claim that the result is a complete picture of all that every teacher should be taught, because application limited to U.S. environment might not be appropriate in other localities. Nevertheless, it could be a beginning, minimum list of skills a designer of teacher education programme should consider.

T A B L E 4: SOME TEACHING SKILLS THAT ARE PROPOSED TO BE TAUGHT TO TEACHER-TRAINEES IN A TEACHER EDUCATION PROGRAMME

No.	TEACHING SKILL	STANFORD (1969)	FLORIDA (1975)	COOPER (1977)	STONE (1982)
1.	Behavioural (performance) objectives in classroom teaching.	x	x	x	x
2.	Planning instruction: lesson planning.	x	x	x	x
3.	Maximizing Learning readiness (Entering behaviour).	x	x		x
4.	Mastery of questioning skills.	x	x	x	

Contd/...

T A B L E 4 - Continued

No.	TEACHING SKILL	STANFORD (1969)	FLORIDA (1975)	COOPER (1977)	STONE (1982)
5.	Functional use of Audiovisual media.	x	x	x	x
6.	Applying motivation techniques.	x	x	x	
7.	Teaching & learning of concepts.		x	x	x
8.	Educational evaluation: Achievement testing.		x	x	x

This table provides a useful framework for the development of a teaching skills training programme for the present study. The current manifestations of this approach clearly fall within behaviouristic/technological orientation, where the primary concern is with fostering the development of skill (input) in an actual performance (output) of a predetermined task. Whether the specific task is worth pursuing and whether the context in which the task is to be carried out is appropriate are not primary considerations. The problem of teacher

education within this approach is construed within an educational and social context that is accepted as given.

5. HUMANISTIC/PERSONAL DEVELOPMENT APPROACH TO TEACHER EDUCATION

This major approach to teacher education employs a metaphor of "growth" (Kliebard, 1972). This approach, resting upon the foundations of perceptual and developmental psychologies, subsumes such strategies as "Personalized Teacher Education" (Fuller, 1972), "Deliberate Psychological Education" (Sprinthall & Thies-Sprinthall, 1983) and several strategies to constructing a teacher education programme based upon principles of "open education" (Crook, 1974); while Combs and his colleagues have named the approach as "Humanistic Teacher Education" (Combs, Blume, Newman, & Wass, 1974).

This approach, like the behaviouristic/teaching skills approach, is very diverse. For example, advocates of "Personalized Teacher Education" contend that the content of a teacher education programme should be largely based upon the self-perceived needs and concerns of teacher-trainees and have constructed a personal development model of teacher concerns which has

been used to conceptualize the design of teacher education programmes (Fuller, 1972). On the other hand advocates of "Deliberate Psychological Education" have applied cognitive-developmental theories to the design of teacher education programmes and posit their goals for teacher education on the basis of the characteristics of the more advanced stages of one or more cognitive developmental theories (e.g. Glassberg & Sprinthall, 1980). Finally, advocates of "Humanistic Teacher Education" have constructed their goals for teacher education upon the principles of perceptual psychology and seek to develop the "self" of the teacher in a manner consistent with empirical findings related to the belief systems of effective helpers in a number of occupations (e.g. Combs et al , 1974).

While the differences among these specific strategies are by no means trivial (Fieman, 1980), all of them hold several assumptions in common about the proper focus for a teacher education programme, about the tasks of teaching, and about teachers. Specifically, all these variations within the humanistic/personal development approach seek to promote the psychological maturity of teacher-trainees and

emphasize the reorganization of perceptions and beliefs over the mastery of specific behaviours, skills and content knowledge. Consequently, the knowledge and skills that teacher-trainees are to master are rarely defined in advance to the extent that is the case in the behaviouristic/teaching skills approach to teacher education.

The behaviours of teachers and the environments they create are assumed to result largely from the particular meanings and purposes of teachers; the specification of a particular set of behaviours which teachers should master is viewed as antithetical to the personal development of mature and competent teachers.

"Requiring a teacher education program to define precisely the behaviors it hopes to produce may be the surest way to destroy the effectiveness of its products." (Combs, 1974, p.288)

The concern here is as much with the quality of experience as with the meanings of behaviour, and it is not assumed that similar behavioural expressions reflect similar meanings and intentions (Bussis, Chittenden and Acael, 1976).

Various experiments using experiential forms



of personality development, some transient and modish, others based on long-standing theory and practice, are described in the literature. Fraser and Vetro (1976) investigated the effects of training in empathy. Two experimental groups of teacher-trainees took a five-week course in self-analysis while two control groups received no empathy training. The trained groups subsequently showed higher scores on a test of self-concept.

The notion of self-concept was the subject of an Australian study by Stanton (1978) who investigated the extent to which this changed during a 12-week microteaching course followed by 32 volunteer postgraduate trainees when compared with 84 trainees not having microteaching. Small positive increases in self-concept were noted for the experimental group.

5.1. HUMANISTIC PSYCHOLOGY: THE FOUNDATION OF THE HUMANISTIC/PERSONAL DEVELOPMENT APPROACH TO TEACHER EDUCATION

Carl Rogers, the high priest of the "third force" in psychology - sees the organism as having one basic tendency - to develop - and striving to actualize, maintain and enhance

the experiencing organism.

"We all want and need to develop as persons, not just as professionals. The question is whether personal growth and professional growth are compatible. William Taylor's answer is that any personal growth will lead to professional growth (in its most simple form, the proposition is that a better person is automatically a better teacher) but that professional development activities, imposed from outside rather than coming from within, in many of the models currently espoused, are not necessarily conducive to personal growth and hence to professional growth, nowhere more importantly than in the education of teachers." (Nuttal, D.L., 1982, pp 2-3)

Humanistic psychology - upon which this approach rests - focuses on the thoughts and feelings people have regarding themselves. It proposes that what people think and feel about themselves helps influence or motivate their behaviour. Humanistic psychologists have a positive regard for the nature of human beings. They perceive people as free and unique creatures, who when given a choice, will intuitively choose effective paths of action. They see them as self-directed, capable of setting goals, making choices, and initiating action. They also view them as capable of judging the consequences and effectiveness of their own actions. Humanistic psychologists

also believe that, in order to function in the most effective manner and to maximize individual potential, people must first become aware of their internal thoughts and feelings regarding both themselves (self-perceptions) and the world at large. By consciously describing these thoughts (cognition) and feelings (affect), people may gain an awareness of how such states influence their behaviour. Such an awareness can help them to control their own behaviour (Sokolova, S. et al., 1977, p.239).

Humanistic psychology suggests that the Humanistic/personal development approach to teacher education should investigate the needs of the teacher-trainee as an individual, or as a person, and not just as part of the institution. Professional self-awareness cannot be divorced from personal self-awareness, which is a step on the route to "becoming a person".

According to Humanistic psychology, teacher education, designed in the humanistic/personal development perspective, is a form of teacher's personal development, a process of "becoming" rather than merely a process of educating someone how to teach. The central problem (although not the only one) within this approach is how to bring about appropriate shifts in perceptions

and meanings - such as about oneself as a teacher - rather than merely to promote mastery of a predefined set of behaviours and content knowledge. Competence in teaching is equated with psychological maturity, however defined, and teacher-trainees are encouraged to find their own best ways to function as teachers.

The growth toward psychological maturity is not viewed as an inevitable process, but is seen instead as a personal development that must be stimulated by a secure and supportive environment.

5.2. PHENOMENOLOGICAL PSYCHOLOGY AND HUMANISTIC EDUCATION: ROGERS

Robert Burns believes that in the field of education there is at present a renewed interest in the affective or humanistic dimension of teaching behaviour. This concern for humanism, originating from diverse sources, expresses itself in a variety of moods and philosophies.

"In his collection of writings dealing with this topic, Carl Rogers presents the freedom-to-learn notion and directs special attention to the personal qualities and behaviours of teachers concerned with the accomplishments of such student freedom. He prescribes no

particular pattern and, in so doing, supports Comb's view that each teacher must discover effective ways to use his peculiar talents to maximum advantage, the developing process of teaching rather than the mechanistic and structural approach." (Burns, R., 1982, pp 264-265)

"Rogers drew from his psychotherapy theories to identify guidelines as to what constitute personal involvement and kinds of experimental learning. The most fundamental idea is that one must be oneself, without apologies and defensiveness, but with sensitivity and congruence. Such learning occurs when we keep communicating with our own internal feelings and beliefs and also with those of other people whom we encounter. In a sense, one's own experience must be seen as trustworthy and as one's only criteria against which we assess life's experiences." (Burns, R., 1982, pp 264-265)

Rogers holds that the real challenge of education is to find what it takes to produce whole communities of leaders who maintain their curiosity about life and who thirst for continuing education without any sticks or carrots to motivate them. Education, for Rogers, and for most humanistic psychologists, must be changed so as to

"free curiosity; to permit individuals to go charging off in new directions dictated by

their own interests; to unleash a sense of inquiry; to open everything to questioning and exploration; to recognize that everything is in a process of change." (Rogers, C.R., 1969, p.105).

Rogers criticizes the allegedly common assumptions that the main truths about the world are already known and that education thus consists of accumulating bricks of factual knowledge and that learning is a passive process. He would see learning as occurring when the student participates responsibly in the learning process and when learning involves

"a continuing openness to experience and incorporation into oneself of the process of change" (Rogers, C.R., 1969, p.163).

Rogers contends that instruction should be scheduled and planned in accordance with the manner in which pupils are likely to meet problems.. Once a pupil is aware of a problem requiring a solution, the main role of the teacher is to create a climate in which the pupil will feel free and stimulated to learn. Rogers lists ten guidelines for creating such an emotional and intellectual ethos:

1. The teacher must communicate his trust in the students from the very start.

2. He must help students to clarify and articulate their individual and group objectives.
3. He must assume that pupils have intrinsic motivation that will enable them to pursue their studies.
4. He must act as a resource person who makes available the widest range of learning experiences possible.
5. He should be a resource person for each individual.
6. He should learn to recognize and accept emotional messages expressed within the group.
7. He should be an active participant in the group.
8. He should be open in expressing his feelings in the group.
9. He would maintain emphatic understanding of group members' feelings.
10. Finally, he must know himself. (Rogers, C.R., 1969, pp 164-166)

Proponents of this approach hold that their theory is unlimited in the range of students and subject matter to which it is applicable. This needs to be tested. A criticism is that while we can accept the idea that a person may be 'expert' about his own needs, feelings,

beliefs etc. with regard to psychotherapy, and that the client rather than the therapist should have the major responsibility in the psychotherapeutic relationship, one may question whether the student is 'expert' about educational objectives to the extent that he can know better than professional educators what he should learn. This seems to be one centre of the controversy around which more empirical evidence will be required before we can do more than speculate (Burns, 1982, pp 267-268). This criticism has less force, however, if the approach is used with people who are already professional educators.

5.3. TEACHER EDUCATION AND INTEGRATING THE HUMANITIES

Carrol Grabo advocates integrating the humanities in in-service courses of teacher education. She proposes a model which is no more than a somewhat eccentric list of characteristics for training teachers along this approach. The following 10 characteristics are given.

1. A desire to synthesize by seeking similarities, formulating generalizations, drawing parallels.
2. A profound interest in the whole student.
3. A belief that experience precedes



structure.

4. A tendency toward egalitarianism and non-authoritarian classroom management.
5. A fascination with seeing things from as many vantage points as possible.
6. An inclination to seek relationships between seemingly disparate forms of experience.
7. A respect for the uniqueness of phenomena.
8. A tendency to extreme individualism.
9. An evangelical fervour regarding the value of humanities teaching.
10. An insatiable desire to teach themselves about the subjects they integrate.

In sum, educating a teacher to be an integrator of experience, one who is expert in relating humanistic objects of study through the integrative process and act, is a step toward educating a successful teacher and a whole person.

Every institution involved in teacher training will have its own notions of the structure appropriate for developing a cadre of humanities teachers, and all of the specifics need to be determined in the particular setting. But whatever plan a teacher education institution

adopts, something along the previous characteristics needs to be done - not just for the teacher or the movement, but for the culture. Something essential to human beings in their late twentieth century cultural and individual lives presents itself to us and asks for recognition (Grabo, C., 1974, pp 17-25).

5.4. HUMANISTIC EDUCATION: THE EDUCATION OF THE EMOTIONS

Probably the major thrust of humanistic education is the recognition of the importance of the emotions in education. While emotions are seen, from a Freudian perspective, as interfering with cognition, humanistic psychologists are more likely to stress the benefits of education of the emotions. The importance of the emotional, or affective domain, is one of the strongest characteristics of humanistic educators. Since thinking and feeling almost always accompany each other, neglecting the proper education of feelings is stunting one of the greatest <sup>human</sup> potentials.

Instead of seeing human behaviour only in terms of sickness, or in terms of motivation that applies also to lower animals, humanistic psychologists emphasize the human view based on

"... the prime reality - human experience and human needs, goals and values" (Maslow, A.H., 1975, pp 304-313). Thus, humanistic psychology starts with human behaviour, not with the behaviour of other species.

One of the results of starting with human behaviour in psychology is a humanistic view of motivation. Maslow's needs hierarchy theory of human motivation posits the desires for being with others, for competence and recognition, and for self-actualization as parts of human motivation, as well as the lower desires for physiological needs and security.

Teacher educators should consider these higher needs and plan their individual courses and the curricula of training programmes to meet these higher needs. Some humanistic psychologists see a human being as having a natural desire for growth, improvement, learning and development. Teachers should be careful not to force children to learn about topics before they are ready.

"In summary, a humanistic approach to educational psychology emphasizes possibilities for positive growth. The human potential approach looks for abilities people can develop. These include a wide range, and especially

concern the social, interpersonal abilities and methods for self-development. The emphasis is on enriching and enjoying oneself, one's life, and society." (Maslow, A.H., 1975, p.292)

5.5. COMBS: A HUMANISTIC APPROACH TO TEACHER EDUCATION

5.5.1. THE NEED FOR A PERSONAL APPROACH

Combs believes that the need for a humanistic movement in teacher education is but another expression of a world-wide trend in human thought brought about by our increasing interdependence in a rapidly shrinking planet. He believes that the causes of behaviour lie in people's belief systems, especially their feelings, attitudes, values, hopes, desires and beliefs about themselves in the world. He advocates the importance for teachers of such human dynamics as self-concept, personal meaning, feelings of belonging, identification, challenge, and threat. Learning, itself, is a deeply human phenomenon. For all these reasons, it seems that education, as a whole - and not only teacher education - must seek to make its institutions and practices humanistically oriented. Humanistic education -

advocated by Combs - is defined as

"a commitment to educational practice in which all facets of the teaching-learning process give major emphasis to the freedom, value, worth, dignity and integrity of persons."

(Combs, A.W., 1982, p.33).

The implications of Comb's views on the teacher's professional practice might be stated in the form of the following goals.

- (i) Teacher's acceptance of self and others
- (ii) Deciding what's important
- (iii) Authenticity
- (iv) Continuing growth
- (v) Identification and support
- (vi) Keeping perspective

#### 5.5.2. HUMANISTIC EDUCATION

Combs believes that humanistic education, as a movement, is a way of organizing or administering. It is a point of view about the nature of human beings and the processes of learning with vast implications for every aspect of educational thought and practice. It is a person-oriented frame of reference for education made necessary by three basic facts (Combs, A.W., 1975, p.115):

- i) The greatest problems of humanity, now and, in the foreseeable future, are primarily human ones.

For a million years the greatest problems of human kind have been the control and acquisition of things - food, clothing, shelter, power. Today the people problem has become transcendent. Everything we can foresee about the future confirms that the trend will continue with ever increasing prominence. Already the greatest problems we face are people problems, overpopulation, poverty, terrorism, war, peace, human rights, prejudice, distribution of goods and services, ecology, energy, and health, to name but few. To prepare youth for a future filled with such problems requires an educational system with high priorities for the personal growth of students in particular and concern for human welfare and interrelationships in general. To prepare for adequate living in an increasingly interdependent world calls, at the very least, for responsible, caring people, capable of achieving satisfying levels of personal fulfilment, willing and able to pull their own weight in society, and skilled in techniques for living effectively with one another.

ii) Behaviour is only a symptom.

Humanists believe that educational programmes solely directed toward the production of specific behaviours are no more satisfying than would be going to a doctor who did no more than treat one's symptoms. A truly effective school system must deal with the causes of behaviour - personal meanings and perceptions. How people behave or misbehave is determined by the beliefs they hold about themselves and the worlds in which they live, especially by their feelings, attitudes, understandings, loves, fears, likes, dislikes, hopes, values, and aspirations. These are also the characteristics which make us human. Humanists believe an adequate curriculum must broaden its goals beyond the production of specific behaviours to include concerns for the inner life of students and the dynamic qualities that determine behaviour and personal growth.

iii) Learning, itself, is a personal, human process.

Modern perceptual-humanistic psychology has defined learning as the personal discovery of meaning. Learning, we are told, is an experiential process requiring active involvement of learners in the exploration and discovery

of personal meaning. It is more than stimulus response or behaviour and consequents. The process is both cognitive and affective. It requires knowledge or new experience, of course, but feeling and emotion about these experiences as well. It is deeply influenced by such human factors as: beliefs about themselves (self-concept), need to know, experiences of threat, challenge, belonging and relevance. This broader conception of learning calls for humanistic planning and teaching, not because humanists simply want to be nice to students, but because it is a surer road to excellence. People will learn anything better if the human factors controlling learning are included in educational planning and practice. Education must move in more humanistic directions because the very nature of learning - the school's primary business - is a deeply human problem. If the humanist movement did not exist, Combs believes that we would have to invent it.

### 5.5.3. CRITICAL FEATURES OF HUMANISTIC TEACHER EDUCATION

Combs, being one of the main ideologists of the personal development movement in teacher education, outlined the critical features of a humanistic teacher education programme as follows:



- a) effective teacher education is highly personal and dependent on the prospective teacher's development of an appropriate system of beliefs;
- b) educating effective teachers is a process of promoting the 'becoming' of a teacher, rather than one of educating a person in how to teach;
- c) 'becoming' an effective teacher has its origins in security and acceptance;
- d) teacher education should emphasize meanings rather than behaviours; and
- e) teacher education should focus on the teachers' subjective impressions, with less emphasis on objectively gathered information about the processes and effects of teaching (Lewis, R. et al , 1979, pp 263-281).

5.6. NASH: A HUMANISTIC PERSPECTIVE IN TEACHER EDUCATION

Nash advocates humanistic programmes that focus on the personal development of teachers. He believes that, in the coming decades, teacher education programmes will have to address the issue that teachers, like students, are whole persons, who have fears, anxieties, feelings of incompetence, a need for support, and

sources of joy and hope, and that all these emotions and desires affect what goes on from moment to moment in the educational process.

Nash believes that humanistic/personal development approach to teacher education need to focus on a serious and sustained process of self-exploration and self-understanding. Each teacher-trainee should be invited systematically through a series of basic questions: Who am I? What do I want? What do I think, feel, sense? What is my personal history? What are the features of my unique way of perceiving the world? What is my unique learning style? What are my strengths and limitations? What goals are worthy of my life's effort? What am I good for? In other words, the emphasis will be on those experiences that bring increased awareness of the self as unique being in the world, increased sensitivity to one's special way of perceiving the world, and greater clarification and strengthening of one's personal values (Nash, P., 1979, pp 323-329).

Humanistic teacher education, as Nash sees it, views the teacher in his wholeness. There is a danger that a concern with accountability will lead to atomization of experience, a

separation of cognition from affect, of skill from attitude, of fact from value. A concern for accountability may encourage an emphasis on small, short-term isolated gains rather than in significant long-term, integrated growth. The humanistic teacher education, as Nash sees it, seeks to foster the integration of experience and reflection, which a narrow approach to accountability may threaten by breaking things down into small, measurable units. Behaviouristic/teaching skills approach to accountability

"is concerned with external control of behaviour. When this control is achieved through reward, punishment, manipulation, or coercion, it tends to develop dependence, opposition, sabotage, or passive resistance, rather than personal accountability. A major goal of humanistic education is progressively to emancipate the learner from the need for external props and goals, so that it becomes increasingly his own personal images of potentiality that pull him forward toward realization." (Nash, P., 1979, pp 328-329).

5.7. HOUSTON TEACHER EDUCATION CLUSTER: AFFECTIVE

University of Houston Teacher Center developed an instructional cluster on "Affective" consisting of three modules. These were:

1) Module 1: Awareness of Self

A. Rationale:

Teachers do more than teach subject matter; they teach people. Therefore, there is a need for teachers to understand human behaviour. If a person desires to increase his knowledge of others, he must first come to understand himself. A beginning point of self-understanding is self-awareness.

B. Purpose:

Since self-awareness is an important part of the understanding of human behaviour, the module is designed to provide opportunities for the teacher to discover more about himself.

C. Overview of module:

- i) Form seminar group (12-16 persons) and set time for 2-hour seminar.
- ii) Attend seminar and participate in Statement of Self.
- iii) Individually complete the following activities:
  - a) Personal inventory
  - b) Who am I?
  - c) Where am I? and
  - d) Collage

- iv) Form a group of 4 and share the meaning of your collage.
- v) Make brief written statement that captures the essence of your collage and submit it to the seminar instructor.

D. Terminal objective:

The terminal objective is exploratory in nature. Upon completion of the module the teacher-trainee would have attended a seminar and participated in activities designed to increase self-awareness (Ward, G.R. & Borgers, S.B., no date).

2) Module 2: Awareness of Self in relation to Others

A. Rationale:

A teacher must be able to work with others. If a teacher is to relate to others successfully, he must not only be aware of his experiences, but he must also be able to make others aware of them.

B. Purpose:

The module is designed to provide an opportunity for the teacher-trainee to become more aware of self and to share this awareness with others.

C. Overview of the module:

- i) Choose a partner and participate in the following activities:
  - a) Sharing experiences,
  - b) I am,
  - c) I should,
  - d) Blind walk, and
  - e) Description of self and another.
- ii) Teacher-trainee submits to instructor (tutor) his name, his partner's name, and a brief statement to him as a trainee.

D. Terminal Objective:

The terminal objective is exploratory in nature. Upon completion of the module the teacher-trainee would have participated in activities designed to increase his awareness of self and to provide an opportunity for him to share this awareness with someone else (Borgers, S.B. & Ward, G.R., no date).

3) Module 3: Sharing Self with Others

A. Rationale:

Frequently human relationships are hypocritical and superficial; relationships are often tolerated rather than being events of happiness. If the teacher-trainee is to adjust both to

himself and others, he needs to know himself and his real feelings and desires.

B. Purpose:

A teacher-trainee needs to determine his own attitudes and life style rather than relying solely on others. He needs to decide whether he will be open or closed depending on the situation. In order to do this, he must be willing to know himself and let himself be known to others.

C. Overview of the module:

- i) Form seminar group (12-16 persons) and set time for 2-hour seminar.
- ii) Attend seminar and participate in group activities.
  - a) First impressions,
  - b) The Brown Sack, and
  - c) Giving and receiving coins.

D. Terminal objective:

The terminal objective is exploratory in nature. Upon completion of the module the teacher-trainee would have attended a seminar and participated in activities designed to increase his awareness of his attitudes and life style. He will have also shared with

others (Ward, G.R. & Borgers, S.B., no date).

The Houston cluster on the affective domain comprises three skills that are thought to be needed by a teacher undergoing training within the context of the humanistic approach to teacher education. Each skill is presented in a brief instructional module which comprises specific activities relevant to each target skill. However, all the three modules, comprising the cluster, lack a cognitive map of the skill the trainee is to learn. The rationale and the purpose do not help the trainee to form a concept of what is contained in the target humanistic skill, and how his present knowledge and experience can contribute (that is, transfer positively) to what the trainee is to learn.

5.8. AFFECTIVE EXPERIENCES LEADING TO PERSONAL DEVELOPMENT

Roberts presents seven educational goals that can be served by affective teaching methods leading to personal development (Roberts, T.B., 1975, pp 330-335).

i) Personal development:

The goal of this type is the individual,



personal growth of learners. Such phrases as self-awareness and self-insight apply here. The learner becomes more in touch with himself and knows more about himself.

ii) Creative behaviour:

This goal values originality, creativity, imagination, new interpretations, novel meanings and so forth.

iii) Interpersonal awareness:

The emphasis here is on how people influence each other. Social interaction, group processes, leadership, and communication are classic topics of this field.

iv) Subject or discipline orientation:

The focus here is on a student's feelings about a whole subject or broad field of study.

v) Specific content:

The goal of this type of technique is humanistic learning (both affective and cognitive) of a specific bit of course content.

vi) Method of teaching:

What are the affective possibilities for

different ways of conducting a class and for in-classroom and out-of-classroom experiences?

vii) The focus here is on the educator as a growing person and a model for students.

6. COMMON HUMANISTIC/PERSONAL DEVELOPMENT ISSUES  
PROPOSED IN LITERATURE

Considering the previous review of literature pertaining to this approach as additive, rather than separate and competitive, herebelow are eight major issues discussed in the various sources. Table 5 below gives a picture of the cumulated findings on issues proposed to be incorporated in a teacher education programme whenever designed along the parameters of this approach. It will be used as a framework for the design of the humanistic approach in this study.

As was the case in the behaviouristic/teaching skills approach, the problem of teacher education is defined within an educational and social context that is largely accepted as given. Success within the humanistic/personal development approach is measured primarily in terms of effects upon individuals and not in

T A B L E 5: SOME ISSUES THAT SHOULD BE INCORPORATED IN A HUMANISTIC

TEACHER EDUCATION PROGRAMME

No.	HUM./PERS. DEV. ISSUES	SOURCES				
		HUMANISTIC PSYCHOLOGY (ROGERS) 1969	MASLOW 1975	NASH 1979	COMBS 1982	
1.	Professional growth of teachers.	x	x	x	x	
2.	Cultural identity of teachers & students.	x		x	x	
3.	Self-concept & self-actualization.	x	x	x	x	
4.	Values and attitudes of teachers.	x	x	x	x	
5.	Teachers' awareness of pupil problems.	x	x	x	x	

Contd/....

T A B L E 5 - Continued

No.	HUM./PERS. DEV. ISSUES	SOURCES			
		HUMANISTIC PSYCHOLOGY (ROGERS) 1969	MASLOW 1975	NASH 1979	COMBS 1982
6.	Constructive education of teachers and their pupils; developing the integrated personality.	x	x	x	x
7.	Mental health of teachers and pupils.	x	x	x	x
8.	Ethics of the teaching profession.				

terms of effects upon social systems.

The literature referred to in this chapter has taken into account philosophical positions underlying different approaches but has essentially been context free. However, it is clear from Chapter II that any development and evaluation study must take account of the cultural, economic and social conditions in which it will be carried out. The need for a theoretical framework for the present study is apparent. It should systematically relate philosophical, cultural, social and economic factors to the selection of curriculum content and practice. Such a framework will be developed in the next chapter.

C H A P T E R IV: A THEORETICAL FRAMEWORK FOR  
TEACHER EDUCATION CURRICULUM  
DESIGN AND EVALUATION

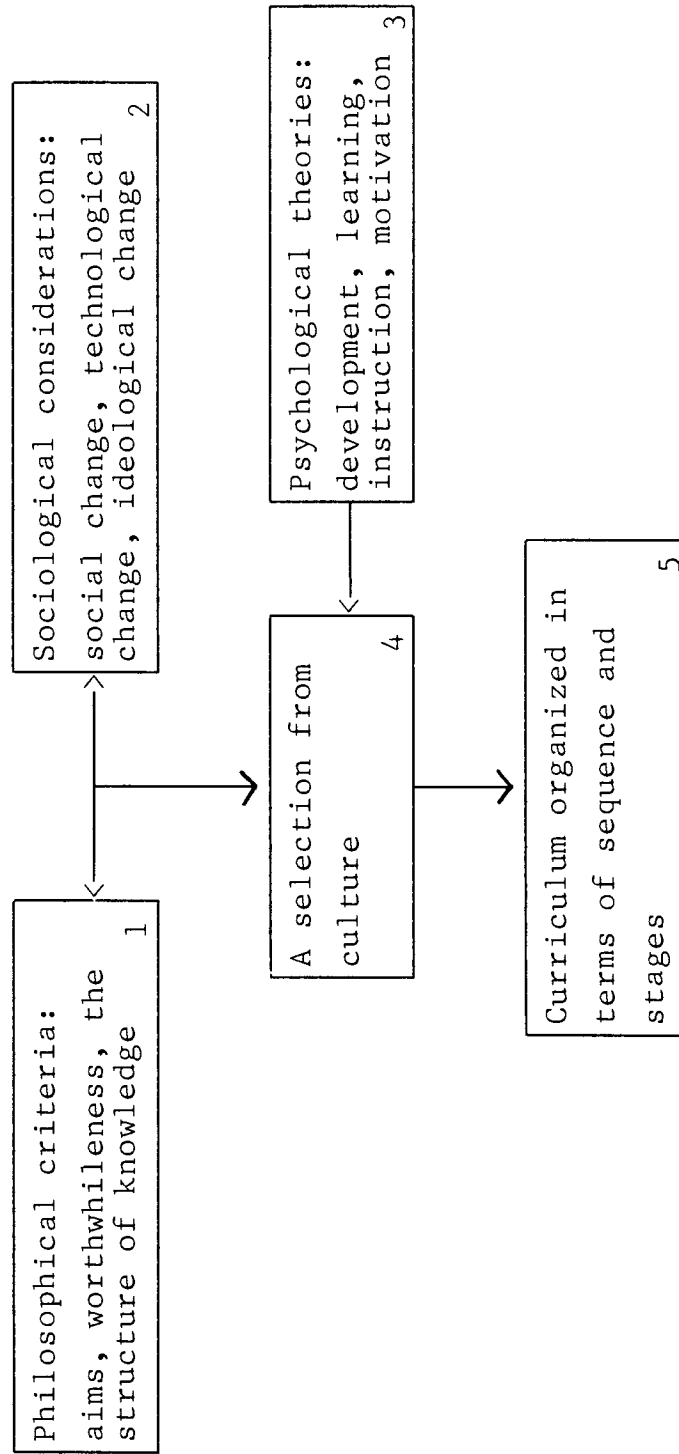
1. INTRODUCTION

The review of literature on teacher education has so far treated two approaches independently and not in a context of a framework of curriculum design and evaluation. A theoretical framework is needed which allows underlying philosophies and cultural/social/economic conditions to be discussed. Lawton (1978) seems to be a useful starting basis because he attempts to do this with respect to the school curriculum in the U.K.. His model can be adapted for other curriculum development.

2. LAWTON'S MODEL

Lawton proposes the following model as a basis for curriculum planning:

FIGURE 5: A MODEL FOR CURRICULUM PLANNING (Lawton, D. et al , 1978)



Lawton states that neither philosophy, nor sociology, nor psychology, can on its own justify a curriculum or be used as the sole basis for curriculum planning. He believes that although the model is still oversimplified, it illustrates the complexity of the task. The model might be considered as a basis for a comprehensive theory of curriculum planning which would recognize the individual nature of the pupils, and also recognize the value of education in its own right. Lawton explains that philosophical criteria (box 1) enable teachers to have ideas about what is worthwhile, or the structure of knowledge, but most would benefit from rethinking these ideas systematically. Teachers will also need to examine the relationship between the more permanent questions in (box 1) and society now (box 2): in particular the fact that there is a commitment to the ideology of equality of opportunity in education. The interplay between (box 1) and (box 2) enables curriculum planners to make some kind of ideal selection from the culture, e.g. that everyone should have some knowledge of mathematics, science, the humanities, etc.. At this stage, Lawton states that the ideal selection can be considered in the light of psychological theories and practicalities. After all these stages, the curriculum planner gets to the stage of organizing a curriculum in the practical terms of a time-table.

However, in his model, Lawton does not link philosophical



and sociological considerations with psychological theories and methodologies of curriculum implementation. It is clear from chapter III in this thesis, with its two psychological approaches to teacher education, that such links must be made.

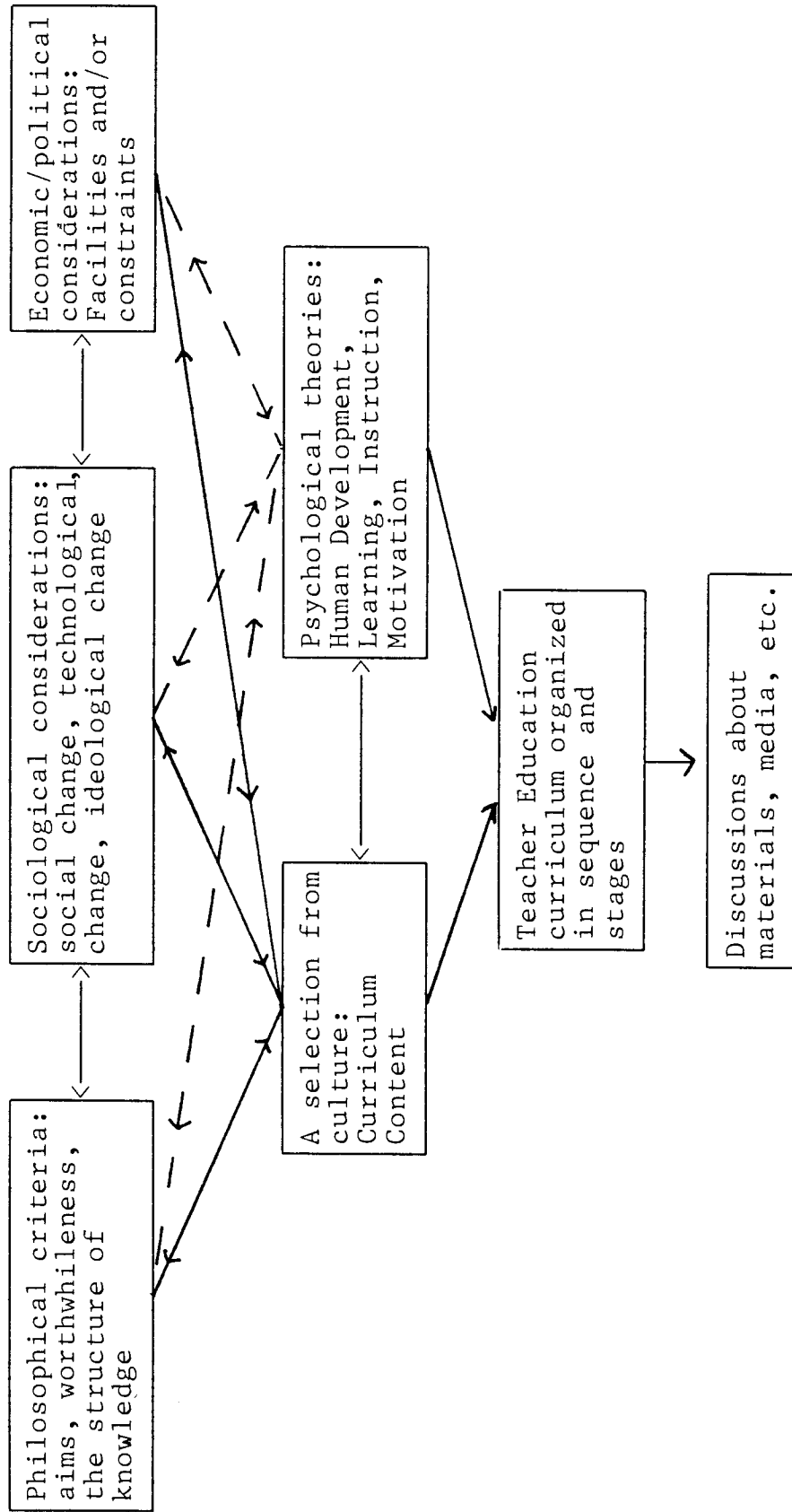
### 3. A THEORETICAL FRAMEWORK

Based on the Lawton model, the following diagram is proposed as a basis for a theoretical framework for teacher education curriculum design and evaluation.

The theoretical framework, presented in figure 6 emphasizes a key role for the selection of psychological theories and methods in any attempt to design a teacher education curriculum and evaluation. Thus the psychological theories box was attached through dotted arrows to the underlying selection factors, indicating the necessity of selecting methodologies of training as well as curriculum content. Moreover the relationship between content and methodology is shown to be interactive, there being possibilities of match or mismatch.

To what extent would this theoretical framework be applicable to the design of teacher education curricula and evaluation in UNRWA/UNESCO situation in particular and in the Arab countries in general?

F I G U R E 6: A THEORETICAL FRAMEWORK FOR TEACHER EDUCATION



#### 4. CONTEXTUAL FACTORS

##### PHILOSOPHICAL CRITERIA

Philosophical criteria might be the most significant contextual factor affecting teacher education curriculum design and evaluation. In the context of this study, in UNRWA/UNESCO system, there are possibly four major sources for philosophical criteria in teacher education. The first is the international literature in teacher education in general and the Western literature in particular. This source is emphasized due to the fact that teacher education for the Palestinians, in Jordan and elsewhere, is being organized by a U.N. office. This international source has a strong influence on shaping curriculum design and evaluation of teacher education programmes. Thus the content of the UNRWA/UNESCO training programmes undergo continuous changes in order to incorporate new issues under discussion in the international arena. Within the Western tradition aims of education may reflect conflicting values (House, 1980 and Warnock, 1977).

The second source is Islamic religion. Muslim thinkers have specified a 'modelling' role for a teacher hundreds of years before Bandura and Walters. A teacher in the Islamic culture is conceived as an educational leader, facilitator of learning, organizer of instructional activities and therefore has a prestigious role

in society (Al-Afendi, 1980). The unique role of the teacher as a 'model' for his pupils and in society is emphasized in Islamic thought, a matter which is sometimes emphasized in literature on teacher education prepared by teacher training specialists for use in teacher education programmes organized by UNRWA/UNESCO Institute of Education.

The third source is the Arab educational thought. In the late 1970's, the Arab Educational, Cultural and Science Organization (ALESCO) was able to develop, after several years of work, a strategy for the development of Arab education, approved by the Arab Ministers of Education in the early 1980's. The strategy emphasizes the role of the teacher in life-long education, his characteristics and the need for continuous training and professional development. Arab thinkers in the past have specified a leading role for the teacher in the community. Arab educational thought, as a third source for the selection of philosophical criteria in teacher education curriculum design and evaluation, had impact mainly on the content of some instructional materials in teacher education in the training schemes which formed the context of this study.

The fourth source of philosophical criteria pertaining to UNRWA/UNESCO teacher education programmes is the Palestinian culture, heritage and ambitions. Palestinians aspire to national identity, survival, cultural

identity and a need for professional competitiveness. These issues have impact on the selection of content by curriculum designers in teacher education programmes.

However, the UNRWA/UNESCO experiences in in-service teacher education during the last two decades, though having a leading role in the Arab World, as specified earlier in chapter II, could not make use of all these sources in the design of teacher education curricula and evaluation. The unique situation of being a UN agency, serving a population scattered in many host countries did not allow for a clear-cut underlying philosophy to be developed. That is why the teacher education programmes have incorporated in them all kinds of issues, sometimes, in the form of a hotchpotch consistent with the "vaccination theory", i.e. a dose of everything for everyone.

UNRWA/UNESCO teacher education designers try to avoid conflict by emphasizing preparation of instructional materials, in various shapes and formats, rather than specifying the philosophical assumptions and the role of the teacher, in order to try to be "value-free". By adopting this notion, instructional materials can 'travel across borders' and be disseminated in many countries where the Palestinians live, thus maintaining the running of the teacher education programmes.

Recently UNRWA/UNESCO Department of Education felt the need to specify curricula for the various teacher education programmes being organized for the Palestinians. In its third biennial plan (1984-1986), it was specified that an attempt will be made to specify concrete in-service teacher training curricula. Thus, the proposed framework in this chapter might have utility for the committees that intend to design in-service teacher education curricula and evaluation. Probably other Arab countries share with the Palestinians the first three sources for the selection of philosophical criteria in teacher education curriculum design and evaluation. The fourth source is related to the special conditions under which the target country finds itself. Thus, the framework might be worth consideration as a theoretical framework by Arab in-service teacher training projects and other UN offices interested in teacher education programmes.

In Chapter III, two approaches, with fairly explicit philosophical stances towards the teacher and nature of education, were specified. The implications behind the two approaches affect both content and methodology of teacher education programmes. But in this study, and because implementation was planned through the JMMA approach, the approaches were restricted mainly to differences in content.

SOCIAL/ECONOMIC/POLITICAL CONSIDERATIONS

The social/economic/political context of teacher education programmes emphasize specific considerations that a planner of curriculum design and evaluation ought to consider. These considerations usually bring about contextual restrictions and limitations.

In this study these considerations brought about restriction in four issues i) time ii) personnel iii) instructional materials and iv) methodology. Firstly being part of a training programme, the two approaches in the study were introduced to the groups of teacher-trainees within a limited period of time, i.e. eight weekly seminars for each group only. Secondly, the personnel involved in training on both approaches were limited to those who were newly-recruited in 1983 in Jordan to teach in UNRWA/UNESCO preparatory schools, (n= 60). For practical reasons it was not possible to administer the same experiment on a similar sample in UNRWA/UNESCO schools in Syria. The external observers, also, were limited to UNRWA headteachers and supervisors, most of which were professionally qualified through UNRWA/UNESCO Institute of Education programmes. Thirdly, the instructional materials, which were a basic training medium and the basis of discussions in the weekly seminars, were all selected from instructional materials already available at UNRWA/UNESCO Institute of Education for use in its different training

programmes. However, some of the materials actually used in training both groups on the two target approaches were prepared by the researcher. Fourthly, the training methodology applied in introducing both approaches to teacher trainees in both groups had, for practical reasons, to be along the Integrated Multi-Media Approach which is developed and adopted by the UNRWA/UNESCO Institute of Education.

This study is restricted, therefore, to making differences between approaches a matter of content rather than methodology. The methodology applied by IMMA in training may be in more harmony with the behaviouristic/teaching skills approach than the humanistic/personal development approach.

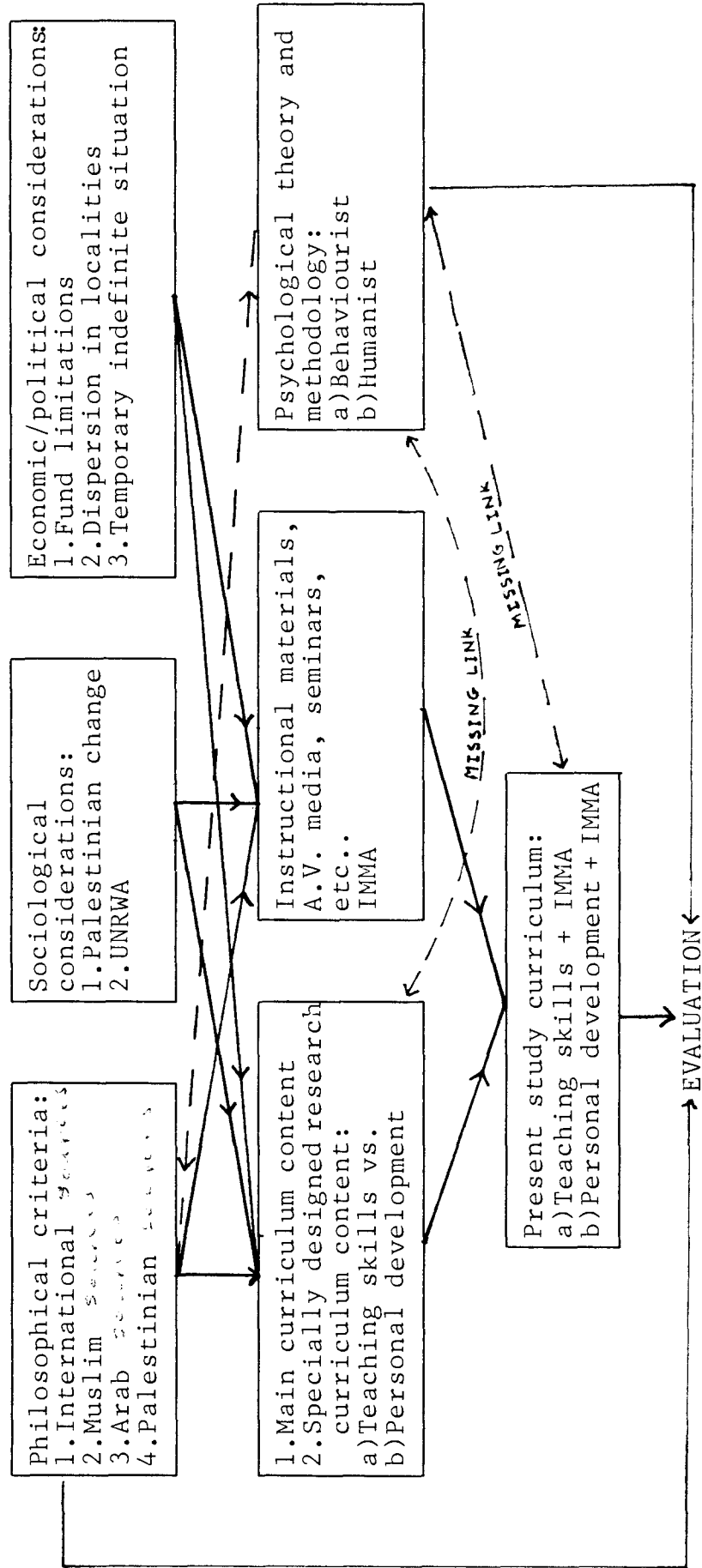
The present study is therefore somewhat limited and cannot be seen as a full evaluation of the two approaches. It could, however, be useful to develop a theoretical model of the applied study.

Figure 7 summarizes the specific issues behind the present study showing how IMMA involves decisions about seminars, instructional materials, A.V. media, etc. at an earlier stage than in Lawton model and how the psychological theories have not yet found a place, either in content or methodology.



FIGURE 7: SUMMARY DIAGRAM FOR TEACHER EDUCATION CURRICULUM DESIGN AND EVALUATION IN

*Jerusalem, 1978-80*



This figure also develops points for consideration in the development of the curriculum by making explicit the effect of making decisions about materials and method without addressing the problem of ~~not~~ matching the content and methodology. It also makes clear the necessity of evaluating the extent to which conflict might be generated in the teacher-trainees as a consequence of clash in the underlying philosophical positions.

For the present study it helps to make explicit the limitation of altering curriculum content according to psychological principles under the constraint of using the IMMA and without using the appropriate related methodology.

C H A P T E R V: THE METHOD OF RESEARCH

The research problem was to evaluate two approaches to teacher education, i.e. behaviouristic and humanistic approaches, against each other and in their own right. It intended to assess teacher effectiveness through assessment of classroom performance as seen by external observers, growth in self-concept and pupil assessment of teacher performance.

1. POPULATION OF STUDY

The population of the study consisted of the university-graduate teachers teaching at the preparatory (lower secondary) schools of the UNRWA/UNESCO school system in the Middle East. All UNRWA teachers totalled 10,583 in 1982/1983, one quarter being the population of this study.

2. SAMPLE OF THE STUDY

The sample of study consisted of all the professionally-unqualified university-graduate teachers in UNRWA/UNESCO schools who were assigned in 1983 in Jordan to undergo a professional basic training course in educational psychology, education and teaching methods. They were sixty in number. The subjects of

the sample were assigned into two groups using the simple random procedure, 30 teacher-trainees in each group. The groups were randomly allocated to the following two classifications/approaches:

- (i) Teaching skills group
- (ii) Personal development group.

Herebelow are tables showing the classification according to sex, academic qualification, teaching experience, subject of specialization and geographical location.

T A B L E 6: DISTRIBUTION ACCORDING TO SEX

GROUP/APPROACH	SEX		
	MALE	FEMALE	TOTAL
TEACHING SKILLS	10	20 *	30
PERSONAL DEVELOPMENT	14	16	30
TOTAL	24	36	60

\* Sex bias should be noted

T A B L E 7: DISTRIBUTION ACCORDING TO ACADEMIC QUALIFICATION

GROUP/APPROACH	ACADEMIC DEGREE		
	B.A.	B.Sc.	TOTAL
TEACHING SKILLS	18	12	30
PERSONAL DEVELOPMENT	17	13	30
TOTAL	35	25	60

T A B L E 8: DISTRIBUTION ACCORDING TO TEACHING EXPERIENCE

GROUP/APPROACH	No. OF YEARS				TOTAL
	<1	1-5	6-10	11+	
TEACHING SKILLS	19	4	5	2	30
PERSONAL DEVELOPMENT	22	2	3	3	30
TOTAL	41	6	8	5	60

T A B L E 9: DISTRIBUTION ACCORDING TO SUBJECT OF SPECIALIZATION

GROUP/APPROACH	SUBJECT MATTER							TOTAL
	ARABIC	RELIGION	ENG.	MATH.	SCIENCE	SOCIAL STUDIES	TOTAL	
TEACHING SKILLS	8	4	3	3	9	3	30	
PERSONAL DEVELOPMENT	5	6	4	4	9	2	30	
TOTAL	13	10	7	7	18	5	60	

T A B L E 10: DISTRIBUTION ACCORDING TO GEOGRAPHICAL LOCATION

GROUP/APPROACH	GEOGRAPHICAL LOCATION					TOTAL
	AMMAN	GREATER AMMAN	BALQA' GOVERNORATE	IRBID GOVERNORATE	TOTAL	
TEACHING SKILLS	5	5	11	9	30	
PERSONAL DEVELOPMENT	3	8	13	6	30	
TOTAL	8	13	24	15	60	

3. RESEARCH DESIGN: TWO RANDOMIZED GROUP DESIGN  
(PRE - POST)

The independent variable was the approach to training. It consisted of two approaches:

- (i) Behaviouristic/teaching skills and
- (ii) Humanistic/personal development.

The dependent variables were three measures:

- (i) Classroom observation schedule as completed by educational supervisors and headteachers (6 times)
- (ii) Self-concept scale: as measured by the teachers themselves (pre- and post-training unit)
- (iii) Teacher performance scale: as measured by teachers themselves, their pupils and their headteachers.

Table 11 shows the design of the research.

In addition to comparisons between groups, change within each group was to be investigated. The training scheme precluded use of a control group.

T A B L E 11: RESEARCH DESIGN

PHASE		
GROUP / APPROACH	PRE-TEST	POST-TEST
TEACHING SKILLS PERSONAL DEVELOPMENT	1) Self-concept scale 2) Pupil assessment of teachers	1) Self-concept scale 2) Pupil assessment of teachers 3) Teacher performance by HT's, pupils & by themselves
	OBSERVATION DURING TREATMENT	Classroom observation schedule (6 times)



4. SELECTION AND PREPARATION OF INSTRUCTIONAL MATERIALS OF THE TREATMENT

SELECTION

Two factors were decisive in selecting the components of both teacher education approaches, i.e. teaching skills and personal development. The first factor was that more than two sources in the literature advocated the component as being required in the professional training of teachers. The second factor was the availability of instructional material (in the form of auto-instructional materials, instructional modules, documents, working papers, videotapes, etc.) on the component, or related to it, at the UNRWA/UNESCO Institute of Education. Eight components were selected for each approach.

PREPARATION

The researcher had to prepare instructional materials to supplement the available materials in order to make sure that the seminar activity was suited to the target approach. The weekly seminars were geared to enrich the trainees' background in the specific component of the teacher education approach.

Herebelow are two tables indicating the components of both approaches and some of the sources advocating them, as have been indicated in Chapter III.

T A B L E 12: TREATMENT 1: TEACHING SKILLS APPROACH: COMPONENTS AND SOURCES ADVOCATING THEM

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
1.	Behavioural (performance) objectives in classroom teaching.	-Houston, W.R., 1974, p.159 -Cooper, J.M., et al., 1977, pp 76-121 -Florida Inventory, 1975, pp 5-6
2.	Planning instruction: Lesson planning workshop.	-Houston, W.R., 1974, p.160 -Cooper, J.M., et al., pp 20-75 -Florida Inventory, 1975, pp 7-8
3.	Learning readiness (Entering Behaviour).	-Florida Inventory, 1975, p.6 -Stone, D.R., et al., 1982, pp 111-139 -Gage, N.L., 1972, pp 188-206
4.	Mastery of questioning skills.	-Hargreaves, In NFER Ed. Res. J., Vol 26, 1, 1984 -Florida Inventory, 1975, p.4 Contd/...

T A B L E 12 - Continued

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
5.	Functional use of A.V. media.	<ul style="list-style-type: none"> <li>- Cooper, J.M., et al., 1977, pp 156-193</li> <li>- Journal of R. &amp; Dev. in Ed., Vol. 17, No. 2, 1984, pp 31-35</li> <li>- Stanford University, cluster 4, skills, pp 12-15</li> <li>- JET, Vol. 7, No. 1, 1983, pp 46-54</li> <li>- J.R. &amp; Dev. in Educ., Vol. 12, No. 1, 1982, pp 1-36</li> <li>- Florida Inventory, 1975, p.7</li> <li>- Cooper, J.M., et al., 1977, pp 238-283</li> </ul>
6.	Applying motivating techniques.	<ul style="list-style-type: none"> <li>- Stone, D.R., et al., 1982, pp 87-110</li> <li>- Gage, N.L., 1962, pp 492-505</li> <li>- Cooper, J.M., et al., 1977, pp 112-155</li> </ul> <p style="text-align: right;">Contd/...</p>

T A B L E 12 - Continued

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
7.	Teaching and Learning of concepts.	<ul style="list-style-type: none"> <li>-Stanford University, Cluster 3, skills, pp 8-11</li> <li>-JET, Vol. 9, No. 1, 1983, pp 68-96</li> <li>-JER, Vol. 77, No. 3, pp 139-146 &amp; 178-183</li> <li>-J. of Exp. Educ., Vol. 52, No. 1, 1983, pp 11-23</li> <li>-Cooper, J.M., et al., 1977, pp 414-458</li> <li>-Florida Inventory, 1975, p.6</li> </ul>
8.	Educational evaluation: Achievement testing.	<ul style="list-style-type: none"> <li>-Stone, D.R., et al., 1982, pp 307-331</li> <li>-Florida Inventory, 1975, p.9</li> <li>-Cooper, J.M., et al., 1977, pp 414-458</li> <li>-Gage, N.L., 1962, pp 247-447</li> <li>-Paisey, A., 1983, pp 135-150</li> </ul>

T A B L E 13: TREATMENT 2: PERSONAL DEVELOPMENT APPROACH: COMPONENTS AND SOURCES  
ADVOCATING THEM

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
1.	Teachers' continuous and professional growth.	<ul style="list-style-type: none"> <li>-JET, Vol. 7, No. 1, 1981, pp 57-69</li> <li>-Combs, 1982, pp 170-176</li> <li>-Paisey, A., 1983, pp 204-223</li> </ul>
2.	Cultural identity: Educational implications.	<ul style="list-style-type: none"> <li>-Simon, S.B., et al., 1977, p.31</li> <li>-Stone, D.R., et al., 1982, pp 65-86</li> <li>-Int. Conf. on cultural policies, Unesco, Final Report, 1982</li> </ul>
3.	Self-concept & self-actualization of teachers.	<ul style="list-style-type: none"> <li>-Combs, Phi D. K., Feb. 1981, pp 446-449</li> <li>-Shavelson, R.J., et al., Rev. of E.R., 1976, Vol. 46, 3, pp 407-441</li> <li>-Burns, R., 1982</li> <li>-Maslow, A.H., 1970</li> <li>-Combs, 1982, pp 45-54</li> </ul> <p style="text-align: right;">Contd/...</p>

T A B L E 13 - Continued

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
4.	Values and attitudes: Teaching and learning.	-Gage, N.L., 1962, pp 508-522 -Combs, 1982, pp 127-132 -Texas A & M Univ., Affective Antenna, 1974, p.116
5.	Dealing with problems (adjustment)	-Gage, N.L., 1962, pp 534-547 -Paisey, A., 1983, pp 93-109 -Combs, 1982, pp 115-116
6.	Constructive education for teachers & pupils.	-Combs, 1982, pp 1-16 -Stone, D.R., et al., 1982, pp 160-185 -Phenix, P.H. in T.C. Record, Vol. 84, 2, 1982, pp 301-316 -Wall, W.D., 1977
7.	Mental health & mental hygiene.	-Pers. & Guid. J., Vol. 62, No. 1, Sept. 83, pp 41-42 Contd/...

T A B L E 13 - Continued

No. OF COMPONENT	TITLE OF COMPONENT	SOURCES ADVOCATING THE COMPONENT
8.	Ethics of the teaching profession.	-Stone, D.R., et al., 1982, pp 131-135 -Combs, 1982, pp 17-22 -Paisey, A., 1983, pp 171-180 -Paisey, A., 1983, pp 203-214 -Combs, 1982, pp 2-16 & pp 165-176 -Stone, D.R., et al., 1982, 377-385



5. TREATMENT CONTENT AND METHODOLOGY

Appendix 1 contains two tables which indicate the sub-titles of the topics of issues discussed under each component in each teacher education approach, i.e. behaviouristic/teaching skills and humanistic/personal development. This content was disseminated to the two groups, on a weekly basis, through the Integrated Multi-Media Approach adopted by the UNRWA/UNESCO Institute of Education in its in-service teacher training programmes. The target groups were provided with the relevant instructional materials one week in advance, participated in seminar discussion for two hours weekly, watched relevant videotapes, and applied what they learned in actual classroom performance with their pupils.

The methodology in training, therefore, was the same for the two groups even though the content of training was different. In theory, both groups should have undertaken training on the different approaches through different curriculum content and methodology. Such an enterprise would have reflected each approach more effectively. The training methodology would possibly focus on the trainees' formative acquisition of the teaching skills for the first group and on

activities which will bring about personal development of trainees for the second group. Such activities might include, among others, problem-solving techniques, inquiry approach, role-play, socio-emotional approach in facing problems etc.. Literature on the humanistic/personal development approach does not specify precise techniques for its dissemination. Probably, leaving the door open for humanistic educators to use techniques and strategies that might be ecologically valid and context-bound to the target trainees is in itself an attribute of the approach.

However, as the teacher-trainees of both groups were actually in-service teacher-trainees teaching in UNRWA/UNESCO schools in Jordan, they were supposed to undergo a one-year professional training course organized by the UNRWA/UNESCO Institute of Education. The training programme had to be organized according to the Integrated Multi-Media Approach which was described earlier in this thesis. It was possible to incorporate the content of both approaches in the training programme as two independent units in educational psychology, of 8 seminars each. But it was not possible, for practical reasons pertaining to IMMA, to adopt two different training methods.

An in-depth look at the implementation of the treatment through IMMA - i.e. self-study materials, weekly seminars, formative assessment, classroom observation, videotapes, etc. - would probably indicate a bias towards the behaviour-istic/teaching skills approach rather than the humanistic/personal development approach. This might have been brought about through the prior impact of a skill-oriented approach on IMMA, on the instructional materials being prepared for training, on the external observers who evaluated teacher performance and on the headteachers and schools where the teacher-trainees of both groups work.

This limitation on methodology in implementing the treatment was a constraint that could not be avoided in the context of UNRWA/UNESCO training in Jordan. However, other researchers, in further studies, might be able to avoid this constraint, thus enriching the overall comparison between the two approaches.

## 6. INSTRUMENTS FOR EVALUATION

The following three instruments were used to evaluate teacher effectiveness in the study:

- (i) Report on a classroom visit

- (ii) Self-concept scale
- (iii) Pupil assessment of teacher performance scale.

The instruments are discussed herebelow indicating the purpose, content, development and use of each.

(i) INSTRUMENT 1: REPORT ON CLASSROOM VISIT

Purpose of the First Instrument

The report is a classroom observation schedule comprising items indicating teacher and pupil activities in the classroom. The items were designed to cover both teacher education approaches, i.e. behaviouristic/teaching skills and humanistic/personal development. The instrument was intended as an observation schedule, to be used by educational supervisors and head-teachers, to assess teacher's competence in practical classroom teaching. The instrument is attached as Appendix 2.

Content of the Instrument

The instrument consisted of items developed to be appropriate for the following three scales:

- (i) teaching skills: 25 items
- (ii) personal

development: 27 items (iii) pupils learning: 6 items. All these 58 items were rated on 7-point scale where 7 was considered outstanding, 6 very good, 5 good, 4 pass, 3 poor, 2 very poor, 1 extremely poor. The instrument included three open-ended questions.

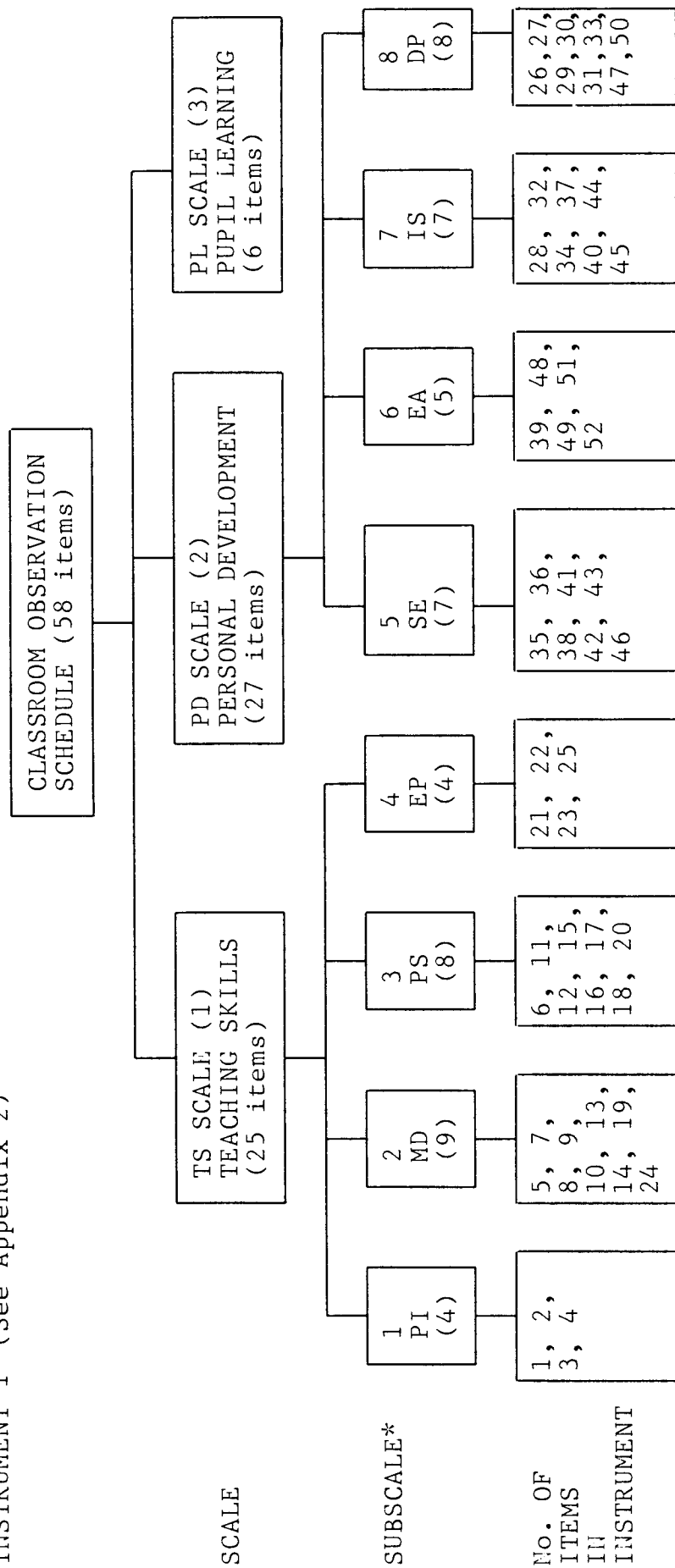
#### Development of the Instrument: Validity and Reliability

The instrument was developed to comprise items on two scales covering both teacher education approaches and four subscales under each approach. It also comprised a brief scale that focused on pupil learning. It was intended to construct items which formulate a repertoire demonstrating teacher competence, as indicated in Figure 8.

The instrument was translated into Arabic and passed to a jury of experts. The Arabic translation was put in a final shape and the instrument was piloted on the observers who were scheduled to use it. Amendments were introduced in the wording of some items in order to make them clearer and more precise for observation. The instrument was reviewed item by item and the final version of the instrument was used in moderation visits whereby the supervisors and

F I G U R E 8: THE CONTENTS OF THE CLASSROOM OBSERVATION SCHEDULE: SCALES AND SUBSCALES

INSTRUMENT 1 (See Appendix 2)



\* See next page for key to Fig. 8.

KEY TO FIGURE 8

Names of subscales

- (1) PI: Planning instruction
- (2) MP: Motivating pupils for learning
- (3) PS: Presentation skills
- (4) EP: Evaluating pupils and instruction
- (5) SE: Promoting pupils' self-esteem
- (6) EA: Engaging affect in learning
- (7) IS: Involving self in teaching
- (8) DP: Developing personal and creative competence in pupil learning

the researcher had to complete the report on the same visit independently. Then, they compared their assessments and drew conclusions. The Arabic version of this instrument is attached under Appendix 5a. The reliability of the instrument will be reported in chapter VI. The classroom observation schedule was applied six times for each trainee, i.e. 360 visits for all trainees. The observers who were trained were two categories: supervisors and headteachers. The participation of the headteachers was necessary not only because they were considered resident supervisors in their schools, but, also, because the observers noted that some items in the instrument could not be observed by a supervisor in every classroom visit, but might be

observed by the headteacher during a day or more.

#### Description of Its Use

The instrument was used by educational supervisors and by headteachers during the period of implementing the treatment as a formative assessment procedure, for six times regarding every teacher-trainee. The supervisors and the headteachers were accompanied at random by the researcher. Twenty supervisors were selected to carry out the classroom observation schedule, in coordination and cooperation with the headteachers and the researcher. Each supervisor had three trainees allocated to him, and thus conducted 18 classroom visits during the period of the experiment.

#### (ii) INSTRUMENT 2: SELF-CONCEPT SCALE

##### Purpose of the Second Instrument

The purpose of this instrument was to measure growth in the self-concept of teacher trainees as a result of being exposed to two different approaches in training. It was to be used as both pre- and post-test.



Development of the Instrument: Validity and Reliability

The instrument, which consisted of 28 items, was actually a simplified version of a self-concept questionnaire developed by Marsh et al. in the British Journal of Educational Psychology in 1983 (Marsh, W., et al , 1983). The subscales of this instrument were the same as the ones incorporated in the original scale. Herebelow is a table indicating the four subscales and the number of items under each. The instrument, in English, is attached under Appendix 3.

Prior to its use in the experiment, the instrument was administered twice on two pilot groups of 20 trainees each similar to the ones involved in the experiment. The instrument was administered on the 40 trainees under the same conditions with two weeks interval. Items were explained, and later, translations of some items were amended, were made clearer and not susceptible to various interpretations. The items were considered by a jury of experts as being unambiguous and reliable. The test-retest reliability index of the instrument was 0.88. The Arabic version of this instrument is attached under Appendix 5b.

T A B L E 14: SUBSCALES OF INSTRUMENT 2: THE SELF-CONCEPT SCALE (See Appendix 3)

No. OF SUBSCALE	SELF-CONCEPT SUBSCALES	No. OF POSITIVE STATEMENTS	No. OF NEGATIVE STATEMENTS	Nos. OF ITEMS IN INSTRUMENT	TOTAL
1.	Academic Self-concept	4	3	1, 5, 11, 15, 17, 24, 28	7
2.	Physical Self-concept	3	3	4, 7, 10, 23, 26, 27	6
3.	Social/emotional Self-concept	4	5	2, 3, 6, 8, 9, 12, 13, 19, 25	9
4.	General Self-concept	3	3	14, 16, 18, 20, 21, 22	6
OVERALL SELF-CONCEPT		14	14		28

(iii) INSTRUMENT 3: PUPIL ASSESSMENT OF TEACHER  
PERFORMANCE SCALE

Purpose of the Third Instrument

Initially, the purpose of this instrument was to assess teacher performance by their pupils. Later on, the instrument was applied as a self-assessment measure to the trainees and as an observation measure of teacher performance by the headteachers.

Content of the Instrument

The instrument consisted of 19 items forming four major subscales in teacher performance. The following table indicates the subscales and the number of items under each.

T A B L E 15: SUBSCALES OF THE PUPIL ASSESSMENT OF  
TEACHER PERFORMANCE SCALE

No.	COMPONENT	No. OF ITEMS
1.	Subject matter	4= 1-4
2.	Teaching style	5= 5-9
3.	Relations with pupils	5= 10-14
4.	Teacher attitudes	5= 15-19
TOTAL		19= 1-19

Development of the Instrument: Validity and Reliability

The instrument was a slightly amended version of Redfern's tool entitled "student assessment of teacher performance" developed in 1980 and consisting of the same four subscales (Redfern, G., 1980, pp 157-158). It is attached as Appendix 4.

The instrument was translated into Arabic, passed to a jury of experts and piloted on 10 classes for each group (i.e. 20 classes, 10 pupils of each, total 200 pupils). The test-retest reliability index of the instrument was 0.92. The Arabic version of this instrument is attached under Appendix 5c.

Description of Its Use

The instrument was used by pupils before the treatment (pre-test) and after it (post-test). A random sample of pupils of second preparatory classes were selected to respond to the items of the instruments in both tests.

The same instrument was used both by headteachers and by teacher-trainees themselves, with minor amendments requesting them to estimate percentages for each subscale in the instrument. This activity was conducted as a post-test immediately

after the observation period.

7. QUALITATIVE DATA

Qualitative data were collected during the treatment and on its completion. The sources of data were the researcher, as a trainer, the external observers and the teacher-trainees themselves.

(i) The trainer

The qualitative data took the form of a day-to-day record of the activities implemented during the training of both groups on the two approaches. The data included audio-tapes of all the 16 seminars (8 seminars for each group), detailed diary of improvements proposed and follow-up procedures agreed upon.

(ii) The external observers

The educational supervisors, who conducted the classroom observation visits, specified in their reports some qualitative remarks on the relevant teaching/learning situation. This procedure was carried out six times per trainee. The headteachers of the trainees gave detailed post-treatment qualitative reports on their

observations pertaining to the skills and personality of each teacher involved in the research.

(iii) Teacher-trainees

Teacher-trainees gave their own assessment of the training they had undergone. This was carried out as a post-treatment activity. Each trainee expressed his own view on the lessons learned and the changes he had undergone as a result of the experiment.

8. DATA COLLECTION

The data were collected in the simplest and most natural way from those in the best position to do so. The subject supervisors visited the teacher-trainees in their subject of specialization. The headteachers visited the teachers in their own schools. The pupils of the teacher-trainees were asked by headteachers to assess the performance of their teachers. The researcher, together with the two field tutors in charge of both groups of teacher-trainees, paid moderation visits and assisted in the implementation of the instruments by the various categories who were involved in the treatment.

The data gathering procedures did not interfere with the implementation of the training programme that the teacher-trainees were undergoing at the UNRWA/UNESCO Institute of Education, due to the fact that the experiment was an integral part of the training programme itself. Actually, both training units on the teacher education approaches, formulated the educational psychology components of the basic training programme. An alternative arrangement was implemented in the training programme. After being exposed to the target treatment for the purposes of this experiment, each group had access to the other treatment also, at a later stage. Practically, in the context of the training programme, both groups were exposed to the content of both approaches. The best time available and the best way of collecting data were maintained in conducting all the activities of the experiment, thus maintaining the efficiency of data collection.

9. TIME ALLOCATION

Time was allocated equally for both groups prior, during and after the treatment was implemented. The following brief table indicates the approximate time allocated for the main activities pertaining to both groups.

T A B L E 16: TIME ALLOCATION OF MAIN ACTIVITIES

No.	DESCRIPTION OF ACTIVITY	No. OF HOURS
1.	Training of educational supervisors	6
2.	Training of headteachers	6
3.	Self-study of instructional materials (per trainee)	32
4.	Weekly seminars (16 x2 hrs)	32
5.	Classroom visits (per trainee)	6

10. PRECAUTIONS AND MEASURES IN THE CONDUCT OF THE STUDY

In order to maximize the effects of the two teacher education approaches, and in order to control the extraneous variables, the following precautions and measures were taken in the conduct of the study.

(i) Involvement of Educational Supervisors

Twenty educational supervisors, attached to UNRWA/UNESCO Educational Development Centre (EDC) in Jordan together with supervisors in the Areas of operations, were trained in the use of classroom observation schedule. They distributed among themselves the teacher trainees in



both groups according to specialization in subject matter and geographical locations. Fortnightly meetings were conducted with the supervisors for collection of data, follow-up and responding to their queries. Field tutors, in charge of both groups at EDC, assisted in follow-up pertaining to implementation of the instrument on classroom visits. They did not know which training approach had been used for each trainee.

(ii) Involvement of Headteachers

Thirty-five headteachers of thirty-five different UNRWA/UNESCO schools in four geographical locations were involved in collection of data. They were the headteachers, highly qualified educational leaders, who were in charge of all the schools of the teacher-trainees involved in the study. The headteachers were trained by the researcher to play their role in the following aspects:

- (A) Joining the educational supervisors in the classroom visits conducted to the teacher-trainees in their schools.
- (B) Conducting the pre- and post-tests of the third instrument on 'pupil assessment of teacher performance' and providing the researcher with

relevant data.

- (C) Reporting on the teacher-trainees in their school qualitatively and quantitatively - through the third instrument - as a post-treatment measure.

They, also, were not aware which course the trainee had followed.

- (iii) Instructional Materials and Instruments of the Study

The instructional materials used in both teacher training units consisted of self-study assignments, instructional modules, videotapes, audiotapes, working papers and documents. All these materials were made available, in sufficient quantities, by UNRWA/UNESCO Institute of Education. The instruments also, in sufficient quantities, were made available, in good time, to all concerned, i.e. supervisors, headteachers, teacher-trainees and their pupils.

- (iv) Conduct of Treatment

The treatment of both teacher education groups, comprised mainly of 16 seminars and the relevant instructional materials, were conducted, mainly, by the researcher. In the case of

assessment, experts were asked to conduct two activities for both groups. Instrument 1, on classroom visits, was conducted mainly by the supervisors, in coordination and cooperation of the headteachers and the researcher. Instrument 2, on self-concept, was conducted both times by the researcher himself. Instrument 3, on pupil assessment of teacher performance scale, was conducted by headteachers and teacher-trainees.

(v) Jury of Educators on Arabic Translation of Instruments

All the instruments were translated into Arabic, passed to a jury of educators from the University of Jordan and UNRWA HQs, comprising two professors and three teacher training specialists, before putting these instruments into the study.

(vi) Systematic Follow-up to Collect Data

Weekly follow-up contacts were made with all concerned to maintain accurate data collection. Letter reminders were sent for the observers to provide the data on schedule.

C H A P T E R VI: ANALYSIS OF DATA

INTRODUCTION

This chapter comprises the analysis of data on the evaluation of two approaches to teacher education, i.e. the behaviouristic/teaching skills approach and the humanistic/personal development approach, as applied in UNRWA/UNESCO training programme in Jordan. These approaches were evaluated through quantitative and qualitative data pertaining to teacher effectiveness. Operationally teacher effectiveness was measured by three instruments, as specified in Chapter V. The statistical analysis, therefore, will concern data on classroom performance as measured by external observers, growth in self-concept of the teacher-trainees and pupil assessment of teacher performance. Post-treatment qualitative data, gathered from trainees and from headteachers, over and above the qualitative data collected by the researcher during the experiment, will be analysed as well.

The analysis of data here is presented in two parts: qualitative and quantitative. The qualitative section gives an overview of the training undertaken for both TS and PD groups. The explanation presented goes beyond the methodology in Chapter V, in order to put the quantitative data into context. The qualitative section also describes the impressions of the trainer and the

evaluation of training as seen by the trainer, the headteachers and the teacher-trainees.

P A R T I: QUALITATIVE DATA

1. THE TRAINER

(i) Training

The trainer arranged for the incorporation of the topics of the two teacher education approaches, as two training units, in the body of the teacher training programme organized for the professionally-unqualified university-graduates by the UNRWA/UNESCO Institute of Education. The contents of the two approaches were specified in the syllabus of the training programme and 16 seminars were allocated in its timetable. Instructional materials, A.V. media and evaluation instruments were made available at UNRWA HQs.

At the Field level, the Education Development Centre (EDC) provided venue for the seminars and assisted in dividing the trainees into two random groups. They were asked to report to EDC, on weekly basis, on two consecutive days. Their headteachers were notified and arrangements were made in the school timetable to ensure

that each teacher-trainee had no classes on the specific day assigned for training.

The content of both approaches, as specified in Chapter III, consisted of instructional materials, prepared by the trainer and other specialists from within or outside Jordan. The EDC arranged for two Field Tutors, who are educational supervisors, to take the administrative responsibility of the two groups. The Field Tutors kept seminar attendance records, distributed the prescribed instructional materials on time, accompanied the trainer in many classroom visits and organized for AV/CCTV media to be functionally used in weekly seminars.

The trainer was mainly responsible for the weekly seminars and the provision of the instructional materials relevant to the topic incorporated under each teacher education approach. These materials were distributed to the teacher-trainees one-week before the seminar date to allow time for careful reading. Trainees were asked, by the trainer, to answer questions incorporated in the instructional materials as self-evaluation activities. They were asked, also, to think of possible practical applications of the theoretical concepts incorporated in these materials to classroom

practice. Trainees were also asked to suggest difficulties which they thought ought to be discussed in the seminars and to discuss with the colleagues issues raised in the instructional materials.

The trainer conducted the weekly seminars for both groups on two consecutive days at EDC. The duration of each seminar ranged from 2 to 3 hours. The trainer used to give an overview of the basic issues of the topic. The presentation was followed by discussions and, sometimes, by videotapes or workshops, as specified in Appendix 1. Videotapes on several teaching skills were presented to the TS group during the seminars. No such videotapes were available to the PD group.

The teacher-trainees in both groups attended all the seminars, read the relevant instructional materials thoroughly and thus participated actively in all forms of group discussions or workshops in the seminars. The training in both approaches, as specified earlier, was part of the overall training programme. Trainees were keen to meet the graduation requirements of the training programme so that they might be considered as professionally qualified by

UNRWA and subsequently be confirmed in their present posts. This arrangement created a strong incentive for taking training on the two approaches very seriously.

(ii) Evaluation

The evaluation of training involved the use of three instruments, as specified in Chapter V, and training of external observers in the use of two. Evaluation involved assessment of trainees' classroom performance, measuring growth in self-concept and pupil assessment of teacher performance.

Training of external observers:

Training of external observers involved training two types of educational leaders from UNRWA/ UNESCO education system, explained in Chapter II, in Jordan, namely: educational supervisors (including the two Field Tutors) and the school headteachers. Both types of external observers were trained on the use of the classroom observation schedule (instrument 1) in order to carry out a systematic assessment of teacher performance over time. The educational supervisors distributed among themselves, according to six subject specializations and four



geographical locations, as indicated in Chapter V, the load of the overall classroom visits over six times. The educational supervisors criticized the classroom observation schedule as comprising some items that were difficult to observe in a classroom visit. Some of them expressed their views that the instrument was a bit too long (58 items). The trainer asked the supervisors to try to answer the items in cooperation with the headteachers who were considered as resident supervisors in their schools. The comprehensiveness of the instrument, it was explained, caused its considerable length.

The headteachers were trained on instrument 1 and were asked to accompany the supervisors in their classroom visits whenever such visits occurred. The trainer accompanied both types of external observers, on a random basis, especially during the first and last classroom visits. The joint committees (comprising trainer, supervisor or Field Tutor and headteachers) discussed every item in instrument 1 and agreed on an average score for each item.

The classroom visits were viewed by the external observers and by the teacher-trainees as practical training activities. These visits were not seen as inspectorial in nature. They

were intended as tutorial and guidance visits designed to improve the trainee's practical training ability through cooperative analysis of the teaching learning situation and solutions to the existing problems. It was extremely important in the study that the joint committees conducted all the classroom visits in such an open environment. Each teacher-trainee regarded the visiting team as educators and cooperative supporters and not merely as evaluators. Thus, these classroom visits were not carried out for evaluation purposes only, but were used to reinforce the trainees' teaching abilities.

The headteachers were trained to use the pupil assessment of teacher performance scale (instrument 3). The 19 items were read and explained by the trainer and the headteachers queries were discussed and answered. It was agreed that headteachers monitor the administration of this instrument on a random sample of 10 pupils from 60 second preparatory (lower secondary) classes in UNRWA/UNESCO schools in Jordan where the trainees actually teach. The headteachers carried out the assessment as a pre-test and a post-test for 1200 pupils. Moreover, they provided qualitative reports on the teacher-trainees in their schools over

the period of training, a matter which will be specified later in this chapter.

The trainer carried out the self-concept scale (instrument 2), as a pre-test and a post-test, to measure the growth in the self-concept of the teacher-trainees. The trainees' self-concept seemed to be improving and their interest in training seemed to be real. Improvement could be noticed during the interaction that took place in the various training activities; classroom-visits, seminars, workshops, conferences after classroom visits and discussions of problems.

(iii) Impressions of the Trainer

The trainer got the impression that the teacher-trainees of both groups were motivated and interested in the training on both approaches. They did not find any conflict between their beliefs and the issues raised during training. They expressed their enjoyment to their school headteachers, to their peers and to their Field Tutors.

The trainer noticed that the teacher-trainees were improving in their teaching competence. This improvement was felt by the trainer, the

headteachers, the supervisors and the pupils. Such improvement was described in terms of skills and enjoyment in the comments made during discussions and visits to schools.

The trainer shared the external observers' views of considering the classroom observation schedule as too long an instrument for classroom observation. The classroom visits, also, were felt to be too many because the period of training was short and the trainees were distributed all over the country. The supervisors had to travel for long distances to carry out the classroom visits.

The integrated multi-media approach, as a methodology in training both groups, kept the trainees quite busy in reading instructional materials, preparing and participating in the weekly seminars, preparing for the classroom visits conducted by the external observers and carrying out their teaching load as full-time teachers. The trainer felt that the IMMA had a powerful impact on their improvement. This matter led the trainer to believe that the contents of both teacher education approaches might have been affected by the methodology in training. To a large extent the IMMA methodology was felt by the trainer to be

compatible with the TS content and approach, but it was felt to be somewhat removed from the interpersonal methods described in the literature in relationship to personal development. However, the trainer noted feedback which conveyed an appreciation by the trainees of the personal relevance of the content of the approach.

2. HEADTEACHERS

The headteachers played a key role in evaluating the teacher-trainees. They participated with the educational supervisors in the classroom visits (instrument 1) and monitored the implementation of pupil assessment of teacher performance of the trainees in their schools using instrument 3 as a post-treatment measure. Moreover, they provided the trainer with confidential qualitative reports on the teacher-trainees in their schools during the period of training.

Many headteachers, as well as the educational supervisors, criticized instrument 1 as being too long and in containing items that would not be assessed in every classroom visit. These items were identified and were found to be mainly among the personal development

scale, i.e. (items 26-52). It was agreed to rate the trainee's performance during the week preceding the classroom visit on the debatable items.

The headteachers selected the ten pupils in each second preparatory class on simple random basis. They commented that most pupils were not familiar with such scales and therefore the headteachers had to explain the items, emphasizing to the pupils that objectivity in responding was necessary for the purposes of research.

The analysis of the headteachers' assessment of teachers' performance (instrument 3) as post-treatment will be analyzed later in this chapter.

The confidential qualitative reports contained precise data on the shortcomings of the teacher-trainees' classroom performance and personality development. It was evident that the reports on TS trainees comprised satisfactory appraisal of progress in the teaching skills incorporated in the programme. Headteachers' reports in the PD group contained positive assessment of teachers' personal relationship with peers, pupils, parents and the school administration. Headteachers also noted that, although they

did not know of differences in training, TS trainees, on the whole, were always on-task in classroom activities while PD trainees were more involved in solving pupil personal problems, participating in co-curricular activities and communicating better with peers and parents. Some of the headteachers' remarks of dissatisfaction, taken from the confidential reports pertaining to the training groups, are:

TS group:

- The teacher had poor personality; he was easily irritated.
- Not cooperative with colleagues and administration; he is not available to participate in co-curricular activities.
- Behavioural objectives: poor in constructing them, requires more training.
- No personal initiative in solving problems of pupils at school.
- Does not show enthusiasm for team-work and school societies.

PD group:

- Biased in relationship with pupils.
- Does not take care of pupils' learning readiness.
- Does not cater to individual differences among pupils.
- Does not listen to guidance and orientation

from administration.

- Poor in formulating behavioural objectives.

There was some indication in these comments that not all trainees responded well to TS 'objectives' training and the PD group showed some lack of TS type skills. Nevertheless, the headteachers indicated in their reports that they had noticed gradual improvements in the classroom teaching skills of both training groups. They stated that the teacher-trainees became more involved in school activities. The headteachers expressed their appreciation to the training programme and looked for more improvement on the trainees' part.

### 3. TEACHER-TRAINEES

The post-treatment qualitative reports submitted by the teacher-trainees expressed mainly appreciation of the training activities they had undergone. They expressed no conflict with the contents of either of the teacher education approaches. The trainees of the TS group specified in their responses the main teaching skills which they considered essential for them, and showed no negative reaction to the behavioural approach.



They identified the following basic teaching tasks in the majority of their responses: specification of instructional objectives; identifying pupils learning readiness; motivating pupils for learning; mastery of questioning skills; use of A.V. media and constructing objective test items. They also expressed their conviction that their training programme had impact on improving their classroom practices. Very few of the TS trainees asked for more emphasis on issues pertaining to teaching methods of specific academic subjects, but one criticized the TS programme, in that 'it has nothing to do with my role in the classroom as a mathematics teacher'.

The trainees of the PD group, expressed their appreciation of the training programme using the humanistic/personal approach. There was no conflict between their beliefs and the issues advocated in the instructional materials and seminars pertaining to this approach. They showed no negative reaction to what might have been seen as having only marginal relevance and as unnecessarily exposing personal feelings.

Most of their reports contained the following issues as being significant to them: Teacher's

commitment to the teaching profession; developing a positive self-concept; striving for self-actualization; taking care of the mental hygiene of pupils; developing an integrated personality and emphasizing the constructive education of pupils. They expressed their belief in the above issues as being basic requirements for effective teachers. Most of them were satisfied with the impact of training and felt that they had personally developed into better teachers.

However, some teachers felt that they needed to know more about issues pertaining to classroom practices such as formulating objectives and constructing test items. (This was a matter of concern to their headteachers as well.) A PD teacher stated in her report that the 'good theories I learned are unworkable to the actual situation of my pupils'. She wanted the programme to meet actual needs of teachers and pupils in her local community.

4. SUMMARY

The training in the two approaches was designed to formulate the educational psychology section in the in-service basic training course organized by the UNRWA/UNESCO Institute of Education in Jordan. The components of each approach were

consistent with those recommended in the review of literature in Chapter III. Though the contents of both approaches differed from each other, the methodology in training was the same in both cases. Teacher-trainees had to undergo their training programme through the Integrated Multi-Media Approach, where a variety of media (instructional materials, weekly seminars, practical training, etc.) were applied in an integrated manner so as to be mutually complementary with adequate provision for follow-up throughout the duration of training. Thus, it might be worth noting whether IMMA did justice to the content of the two approaches.

The trainer carried out the activities, of both groups along the IMMA methodology. Trainees received instructional materials and read them, attended weekly seminars and participated in them, and were paid six classroom visits by a joint committee including the supervisors, the headteachers and, at random, the trainer.

Teacher-trainees were able to follow both teacher education approaches with interest and enjoyment. They expressed no objection to either approach on the grounds of behaviouristic or personal values.

The external observers commented on the considerable length of the classroom observation schedule and that some of its items were not measurable within the duration of a single classroom visit. They reported that the teacher-trainees of both groups improved steadily as indicated in the classroom observations.

However, there might be some methodological issues to consider but no sense of marked difference between groups was noted.

P A R T II: QUANTITATIVE DATA

1. INTRODUCTION

Several statistical techniques using the packages SPSS and BMDP were used to make best use of the raw scores (see Appendix 6) collected from using the evaluation instruments over time. These techniques will now be described in detail with the results obtained.

2. RELIABILITY OF INSTRUMENTS

2.1. INTRODUCTION

As a preliminary, a reliability analysis was done to demonstrate the reliability of the instruments used to obtain the data. In this study Cronbach's alpha (using SPSS) was used as the reliability coefficient (see Kerlinger, 1978). This coefficient has a maximum value of 1.0 which would indicate perfect reproducibility of the instrument's value with no random error. As the size of the random error increases the reliability coefficient decreases. This is not the same as a test-retest coefficient. For the three instruments the overall coefficients were 0.99 (classroom observation schedule), 0.73 (self-concept scale) and 0.94 (pupil assessment

of teacher performance). More detailed results for the subscales will now be given.

2.2. RELIABILITY OF INSTRUMENT 1: CLASSROOM OBSERVATION SCHEDULE

The reliability coefficients of the instrument, its 3 scales and 8 subscales were high. They ranged between 0.77 and 0.99, as indicated below.

T A B L E 17: RELIABILITY COEFFICIENTS OF INSTRUMENT 1, ITS 3 SCALES AND 8 SUBSCALES

No.	INSTRUMENT/SCALE/SUBSCALE NAME	NO. OF ITEMS	ALPHA REL. COEFF.
1	Instrument 1: Classroom observation schedule	58	0.99
2	Scale 1 (TS): Teaching skills	25	0.97
3	Scale 2 (PD): Personal development	27	0.97
4	Scale 3 (PL): Pupils' learning	6	0.93
	<u>TS SUBSCALES:</u>		
5	Subscale 1: PI: planning instruction	4	0.77
6	Subscale 2: MP: Motivating pupils for learning	9	0.94
7	Subscale 3: PS: Presentation skills	8	0.93
			Contd/...

T A B L E 17 - Continued

No.	INSTRUMENT/SCALE/SUBSCALE NAME	No. OF ITEMS	ALPHA REL. COEFF.
8	Subscale 4: EP: Evaluating pupils and instruction <u>PD SUBSCALES:</u>	4	0.87
9	Subscale 5: SE: Promoting pupils' self-esteem	7	0.88
10	Subscale 6: EA: Engaging affect in learning	5	0.92
11	Subscale 7: IS: Involving self in teaching	7	0.91
12	Subscale 8: (DP): Developing personal & creative competence in pupils' learning	8	0.92

2.3. RELIABILITY OF INSTRUMENT 2: SELF-CONCEPT SCALE

The reliability coefficient of the self-concept scale was moderately high (0.73), while those of its component four subscales were of medium reliability; they ranged from 0.37 to 0.59, as indicated in Table 18.

T A B L E 18: RELIABILITY COEFFICIENTS OF INSTRUMENT  
2 AND ITS FOUR SUBSCALES

No.	SCALE/SUBSCALE NAME	No. OF ITEMS	ALPHA REL. COEFF.
1	Instrument 2: Self-concept scale	28	0.73
2	Subscale 1: Academic self-concept	7	0.46
3	Subscale 2: Social/emotional self-concept	9	0.59
4	Subscale 3: Physical self-concept	6	0.48
5	Subscale 4: General self-concept	6	0.37

2.4. RELIABILITY OF INSTRUMENT 3: PUPIL ASSESSMENT  
OF TEACHER PERFORMANCE

The reliability coefficient of the third instrument was high (0.94). Its four subscales, also, had high reliability coefficients, ranging from 0.80 to 0.87, as indicated in Table 19.



T A B L E 19: RELIABILITY COEFFICIENTS OF INSTRUMENT  
3 AND ITS FOUR SUBSCALES

No.	SCALE/SUBSCALE NAME	No. OF ITEMS	ALPHA REL. COEFF.
1	Instrument 3: Pupil assessment of teacher performance scale	19	0.94
2	Subscale 1: Subject matter	4	0.87
3	Subscale 2: Teaching style	5	0.80
4	Subscale 3: Relationship with pupils	5	0.83
5	Subscale 4: Teacher's attitudes	5	0.81

3. ANALYSIS OF DATA ON CLASSROOM PERFORMANCE

3.1. INTRODUCTION

The training on the two approaches to teacher education was measured for its relative impact on the teacher-trainees' classroom performance. Trainees' classroom performance was measured by external observers on six occasions involving direct observation in the classrooms. The two groups, undergoing training in the two approaches, were assessed by the pupils, on two occasions, before and after the treatment. Moreover, the headteachers and the trainees conducted post-treatment assessment of classroom performance.

The external observers who conducted the classroom observation and assessed the teachers' performance in both groups were school headteachers and educational supervisors. The instrument of measurement was a classroom observation schedule comprising of 58 items (composed of three scales and eight subscales, as specified earlier). Factor analysis was applied as a method to test the empirical validity of the classification of the instrument into three scales, and to explore the 58

variables comprising the measurement instrument and to get hints for taxonomic classification. The results are given in section 3.2.

The quantitative data extracted from the six visits relating to instrument 1 (including its scales and subscales) were analyzed by the analysis of covariance (ANCOVA) (using BMDP2V) and trend analysis (using BMDP3D).

In the ANCOVA the six visits were treated as repeated measures. The first visit was used as the covariate. It was found that the subsequent visits had a statistically significant correlation with the first visit and there was a statistically significant difference between the two groups on visit 1.

In the trend analysis an improvement rate is calculated for each teacher-trainee using the linear regression formula. The statistical significance of any difference between the mean improvement rate in the two groups is tested using simple student t-tests. Thus the trend analysis is useful to assess the size and shape for each group in its own right.

The repeated measures analysis makes the assumption that the various visits are equally

correlated with each other, especially visit 1 which is being used as the covariate. This may not be a reasonable assumption.

The trend analysis, however, makes no such assumption. However, in the analysis there is no correction for the covariate. If the linear trend between successive measures (rather than their actual values) is uncorrelated with the first visit this is reasonable. However, if it were the case that the teacher-trainees with higher scores on the first visit make more rapid progress (or less rapid progress - which could be the case when the initial scores are near maximum) then this could distort the results.

The trend analysis and repeated measures analysis may give different results. This is because the repeated measures analysis looks for any sort of variation between the visits (linear, quadratic, or quite erratic). The trend analysis is based on the linear trend over time.

Thus if, for example, in one training group there is a very steady trend upwards and in the other one the means vary erratically about the same trend (e.g. as in the profile for subscale 6) a group x time interaction may be

significant but the trend analysis might show nothing.

On the other hand if there is just a small difference in the linear trends the trend analysis may find it to be significant while the repeated measures would not. This is because the trend analysis is designed to be optimally sensitive to differences in linear trends.

It was thought best to examine the results of both analyses before making any conclusions.

3.2. FACTOR ANALYSIS OF CLASSROOM OBSERVATION SCHEDULE (Using BMDP4M)

In spite of a small sample, factor analysis was carried out to explore the statistical validity of the observation schedule, but the study rests on the built-in content validity. Rather than taking these data from a single period in time, the means across the six classroom visits on each of the 58 parameters were computed, an assumption of stability being made. Factors were extracted using the maximum likelihood procedure. These initial factors were rotated using the varimax rotation method.

The sorted rotated factor loadings (pattern) table which follows indicates that there were two major factors and three minor ones. This finding coincides, mainly, with the theoretical framework designed for the construction of the instrument. Actually, the 58-item instrument comprised two major scales on the two target approaches, i.e. teaching skills (items 1-25) and personal development (items 26-52). The third scale in the instrument was not identified (pupil learning scale, items 53-58). Its items were distributed between the two major scales, both of which would have influenced teacher performance and consequently pupil learning.

The three factors indicated by the factor analysis might be named as follows: (i) teaching skills, (ii) personal development, and (iii) teacher characteristics.

Two unexpected minor factors were revealed from the factor analysis. These accounted for a statistically small portion of variance. Inspecting them, however, for educational implication, it would appear that they could represent the learner's perception and response to the learning process (items 53, 54 and 55, all of which are items in the six-item scale entitled 'pupils' learning') and a unique pattern

of classroom behaviour from the teacher (as seen in items 9, 21, and 49). These factors would prove important for future researchers in the field as they point to issues that have been raised elsewhere as being of particular relevance to performance. However, since the sample size behind the analysis was relatively small interpretation can only be tentative (Guilford, J.P. et al , 1978, pp 439-445).

T A B L E 20: FACTOR ANALYSIS: SORTED ROTATED FACTOR LOADINGS (PATTERN)

ITEM	SCALE CODE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Presentation modes (6)	1	0.82	0.39	0.29	0.00	0.00
Smooth changeover (19)	1	0.82	0.36	0.28	0.00	0.00
Presented material (17)	1	0.80	0.29	0.38	0.00	0.00
Appropriate experiences (4)	1	0.80	0.36	0.37	0.00	0.00
Stated objectives (1)	1	0.79	0.26	0.39	0.00	0.00
Summarized points (18)	1	0.80	0.34	0.35	0.00	0.00
Intellectual potential (10)	1	0.79	0.38	0.32	0.00	0.00
Motivated pupils (5)	1	0.78	0.36	0.34	0.00	0.00
Clarifying the material (15)	1	0.78	0.32	0.39	0.00	0.00
Knowledge of subject (26)	1	0.77	0.31	0.40	0.00	0.00
Reinforced positively (8)	1	0.77	0.39	0.33	0.00	0.00
Identified skills (3)	1	0.77	0.47	0.00	0.00	0.00
Basic concepts (11)	1	0.76	0.40	0.32	0.00	0.00
Moved functionally (9)	1	0.76	0.30	0.32	0.35	0.00
Pupils understood the lesson (58)	3	0.75	0.44	0.29	0.00	0.00
					Contd/...	



T A B L E 20 - Continued

ITEM	SCALE CODE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Previous experience (12)	1	0.74	0.37	0.48	0.00	0.00
Techniques to reinforce pupils learning (14)	1	0.73	0.45	0.34	0.00	0.00
Pupils enjoyed the lesson (55)	3	0.72	0.44	0.23	0.00	0.26
Spoke audibly (16)	1	0.72	0.00	0.48	0.00	0.00
Specified objectives (2)	1	0.71	0.45	0.00	0.00	0.00
Varied stimulus (7)	1	0.71	0.43	0.35	0.00	0.00
Ended the lesson properly (25)	1	0.69	0.53	0.32	0.00	0.00
Pupils were orderly (56)	3	0.69	0.37	0.46	0.00	0.00
Attitude towards knowledge (27)	2	0.64	0.57	0.33	0.00	0.00
Taught with enthusiasm (32)	2	0.64	0.31	0.62	0.00	0.00
Individual differences (13)	1	0.64	0.61	0.00	0.00	0.00
Pupils discussed subject matter (53)	3	0.64	0.50	0.00	0.00	0.36
Formative assessment (21)	1	0.63	0.56	0.00	0.26	0.00
					Contd/...	

T A B L E 20 - Continued

ITEM	SCALE CODE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Consultation with pupils (28)	2	0.62	0.51	0.45	0.00	0.00
Pupils engaged in lesson (54)	3	0.61	0.55	0.00	0.00	0.34
Met situations with confidence (44)	2	0.60	0.43	0.50	0.00	0.00
Emotionally expressive (48)	2	0.60	0.56	0.40	0.00	0.00
Distributed his attention to pupils (37)	2	0.53	0.51	0.52	0.00	0.00
Made references about himself (51)	2	0.00	0.89	0.00	0.00	0.00
Expressed his values (52)	2	0.28	0.82	0.00	0.00	0.00
Showed sincere concern (39)	2	0.28	0.82	0.40	0.00	0.00
Specific difficulties (23)	1	0.39	0.80	0.00	0.00	0.00
Perceived pupils' point of view (50)	2	0.30	0.80	0.27	0.00	0.00
Found out difficulties (30)	2	0.44	0.78	0.31	0.00	0.00
Extracurricular activities (24)	1	0.49	0.77	0.00	0.00	0.00
					Contd/...	

T A B L E 20 - Continued

ITEM	SCALE CODE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Helping students consider moral values and attitudes (20)	1	0.49	0.72	0.28	0.00	0.00
Took account of pupils preferences in seating (43)	2	0.00	0.72	0.37	0.00	0.00
Gave pupils compliments (38)	2	0.39	0.71	0.45	0.00	0.00
Helpful in pupils difficulties (31)	2	0.41	0.70	0.45	0.00	0.00
Used pupils as learning resources (46)	2	0.36	0.69	0.49	0.00	0.00
Pupils were on task (57)	3	0.60	0.67	0.00	0.00	0.00
Modified behaviour in the light of pupils attitudes (47)	2	0.40	0.66	0.45	0.00	0.00
Modified teaching (22)	1	0.63	0.65	0.00	0.00	0.00
Used his emotions appropriately (49)	2	0.50	0.62	0.42	0.31	0.00
Found good things in pupils (36)	2	0.43	0.58	0.57	0.00	0.00
					Contd/...	

T A B L E 20 - Continued

ITEM	SCALE CODE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Concerned with pupils understanding (29)	2	0.55	0.56	0.46	0.00	0.00
Held positive attitudes (34)	2	0.58	0.31	0.71	0.00	0.00
Considerate and courteous (41)	2	0.48	0.37	0.70	0.00	0.00
Pleasant with pupils (35)	2	0.47	0.40	0.70	0.00	0.00
Showed liking (42)	2	0.34	0.52	0.66	0.00	0.00
Fair with pupils (40)	2	0.53	0.39	0.65	0.00	0.00
Established rapport (33)	2	0.59	0.43	0.59	0.00	0.00
Created a warm atmosphere (45)	2	0.57	0.46	0.58	0.00	0.00
TOTAL VARIANCE EXPLAINED BY FACTOR		22.19	16.67	9.79	0.97	0.86

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.50 appear first. Loading less than 0.25 have been replaced by zero.

3.3. EVALUATION OF CLASSROOM PERFORMANCE ON THE TWO APPROACHES BY EXTERNAL OBSERVERS: INSTRUMENT 1

3.3.1. QUESTIONS

The evaluation of classroom performance of teacher-trainees in both groups, trained on the two teacher education approaches, aimed at answering the following questions:

- (i) How did each group (TS and PD) perform across time on instrument 1, its 3 scales and 8 subscales?
- (ii) How did sex and degree influence classroom performance?

3.3.2. METHOD

To answer the above two questions, ANCOVA, as a statistical technique, was applied, as specified earlier under paragraph 3.1 in this chapter. The tables and figures that follow present analyses of covariance for both groups across time and show profiles of adjusted repeated measures. These repeated measures represent continuous classroom visits that were conducted, on a fortnightly basis, by external observers. The adjusted means in the tables indicate the means of all the variables of the

instrument, scale or subscale. The maximum score was 7. Trend analysis was applied also.

(i) EVALUATION OF IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME: INSTRUMENT 1: (58 ITEMS) Appendix 2

Table 21 shows that for the covariate the difference between the means for the first classroom visit was statistically significant (TS = 3.40; PD = 4.05). It shows, also, that the improvement over time was statistically significant. This indicates that both groups improved significantly over time with respect to classroom performance. The gradual improvement could be noticed in the gradual increase in the adjusted means of both groups across time, as indicated in the five repeated measures at the bottom of Table 21. Figure 9 presents a profile of these adjusted means of both groups (TS and PD).

Figure 9 shows that there was a linear improvement over time in both groups. However, the trend analysis (using BMDP3D) conducted on this instrument over time showed that there was a difference between the mean linear gradients in both groups. The mean linear gradient in TS group was 0.24, while that of PD group was 0.17; that is, each individual in the

T A B L E 21: ANALYSIS OF COVARIANCE ACROSS TIME FOR MEANS OF ALL 58 ITEMS FROM THE CLASSROOM OBSERVATION SCHEDULE (INSTRUMENT 1), TOGETHER WITH THE ADJUSTED MEANS

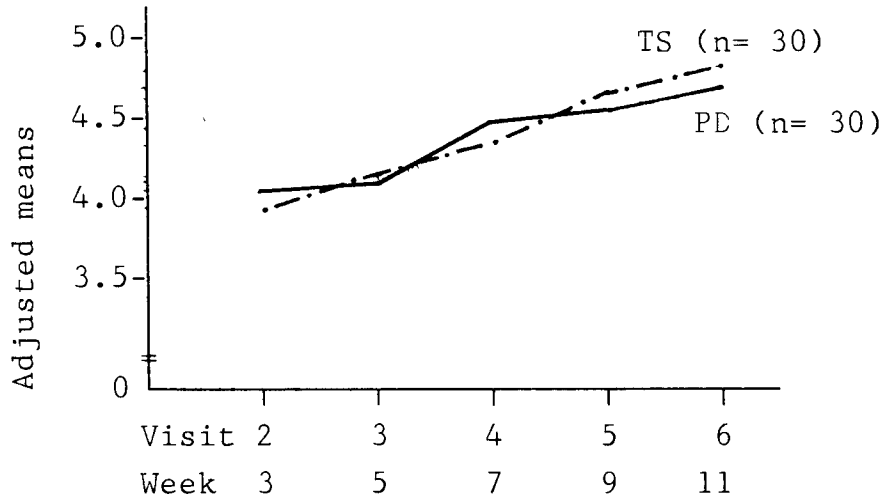
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.03	1	0.03	0.02	0.89
1ST COVARIATE	77.56	1	77.56	60.36	0.00
ERROR	73.25	57	1.29		
TIME	24.19	4	6.05	32.67	0.00
TIME x GROUP	0.71	4	0.18	0.96	0.43
ERROR	42.94	232	0.19		
CELL MEANS ADJUSTED FOR FIRST VISIT					
MEAN OF ITEMS: 1-58					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.92	4.03			
3RD VISIT	4.17	4.08			
Contd/...					

T A B L E 21 - Continued

<u>CELL MEANS ADJUSTED FOR FIRST VISIT</u>		
<u>VISIT</u>	<u>MEAN OF ITEMS: 1-58</u>	
	<u>TS GROUP</u>	<u>PD GROUP</u>
4TH VISIT	4.36	4.44
5TH VISIT	4.62	4.50
6TH VISIT	4.80	4.70



FIGURE 9: ADJUSTED MEANS OF BOTH GROUPS OVER  
TIME ON INSTRUMENT 1: CLASSROOM  
OBSERVATION SCHEDULE



training groups, undergoing treatment on both approaches respectively, improved <sup>on average</sup> 0.24 (for TS) and 0.17 (for PD) over time. So, the trend improvement is in favour of TS group, but the difference between ~~both~~ groups is not statistically significant. (See section 3.3.3 for trend analysis.) The lower value for the PD group cannot be attributed to insufficient ceiling.

(ii) EVALUATION OF IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME BY 1ST SCALE: (TS= 25 ITEMS)

Table 22 shows that the covariate of the first classroom visit, as measured by scale 1 which consisted of items on teaching skills, was statistically significant. The time factor was, also, statistically significant, a matter which indicates that both groups improved significantly over time with respect to classroom performance as measured by the external observers on the items of scale 1. Gradual improvement might be noticed from the adjusted means of both groups over time on the repeated measures. These adjusted means are specified, also, on the following profile in figure 10.

Figure 10 shows that there was gradual improvement of both groups over time as measured by the external observers on scale 1. The trend analysis conducted on improvement over time of both groups, on scale 1, indicated that each teacher-trainee improved 0.25 and 0.19 for TS and PD groups respectively. The mean linear gradient of TS was 0.25 and that of PD was 0.19.

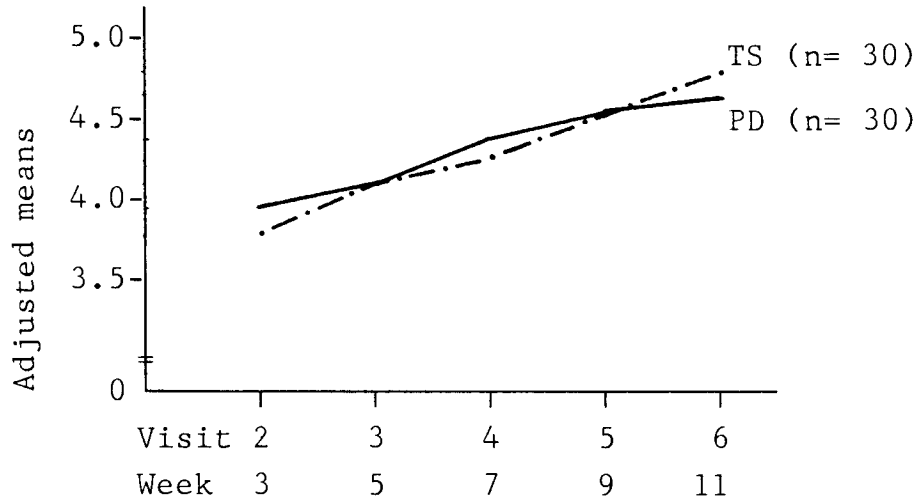
T A B L E 22: ANALYSIS OF COVARIANCE ACROSS TIME FOR MEANS OF ITEMS 1-25  
FROM THE CLASSROOM OBSERVATION SCHEDULE (SCALE 1: TEACHING  
SKILLS), TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.01	1	0.01	0.01	0.93
1ST COVARIATE	76.58	1	76.58	52.74	0.00
ERROR	82.76	57	1.45		
TIME	25.88	4	6.47	27.48	0.00
TIME x GROUP	0.95	4	0.24	1.01	0.40
ERROR	54.62	232	0.24		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
MEAN OF ITEMS: 1-25					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.85	3.95			
3RD VISIT	4.09	4.09			
Contd/...					

T A B L E 22 - Continued

<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>		
<u>VISIT</u>	<u>MEAN OF ITEMS: 1-25</u>	
	<u>TS GROUP</u>	<u>PD GROUP</u>
4TH VISIT	4.25	4.40
5TH VISIT	4.51	4.52
6TH VISIT	4.82	4.64

FIGURE 10: ADJUSTED MEANS OF BOTH GROUPS OVER  
TIME ON SCALE 1: TEACHING SKILLS



The trend analysis on the means of the two groups on the TS scale is presented under section 3.3.3 in this chapter.

(iii) EVALUATION OF IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME BY 2ND SCALE: (PD= 27 ITEMS)

Table 23 shows that both the covariate and time were statistically significant. The time factor indicates that both groups improved significantly over time as measured by the external observers on scale 2. The adjusted means, also, emphasize this finding due to the gradual improvement in classroom performance on both groups. The following figure presents a profile of these adjusted means.

Again, Figure 11 shows that there was gradual gain in the adjusted means of both groups over time. The improvement trend was linear. However, the teaching skills group improved, again, more than the personal development group on scale 2 which comprised 27 items on personal development of teachers. This was indicated by the mean linear gradient of both groups: TS= 0.23, PD= 0.15. The contrary was expected. This surprising finding might be attributed to the nature of the methodology adopted by IMMA, because the previous training of the external observers by IMMA was geared to the behavioural approach, and therefore their assessment might have been influenced by this background.

T A B L E 23: ANALYSIS OF COVARIANCE ACROSS TIME FOR MEANS OF ITEMS 26-52  
FROM THE CLASSROOM OBSERVATION SCHEDULE (SCALE 2: PERSONAL  
DEVELOPMENT), TOGETHER WITH THE ADJUSTED MEANS

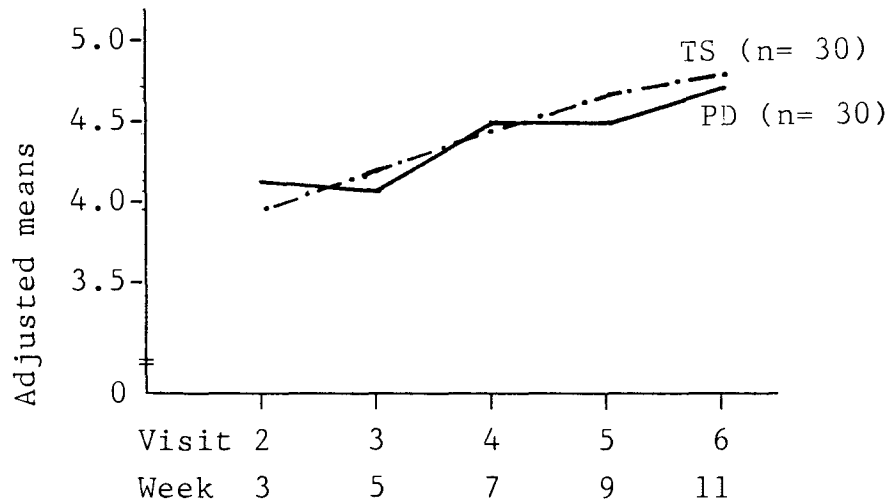
SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.05	1	0.05	0.03	0.85
1ST COVARIATE	81.10	1	81.10	57.66	0.00
ERROR	80.17	57	1.41		
TIME	21.52	4	5.38	23.74	0.00
TIME x GROUP	1.17	4	0.29	1.29	0.28
ERROR	52.58	232	0.23		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
MEAN OF ITEMS: 26-52					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.95	4.12			
3RD VISIT	4.18	4.07			
Contd/....					

T A B L E 23 - Continued

<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>		
	<u>MEAN OF ITEMS: 26-52</u>	
<u>VISIT</u>	<u>TS GROUP</u>	<u>PD GROUP</u>
4TH VISIT	4.42	4.46
5TH VISIT	4.66	4.47
6TH VISIT	4.77	4.73



FIGURE 11: ADJUSTED MEANS OF BOTH GROUPS OVER  
TIME ON SCALE 2: PERSONAL DEVELOPMENT



The trend analysis on the means of the two groups on the PD scale is presented under section 3.3.3 in this chapter.

(iv) EVALUATION OF IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME BY 3RD SCALE: PUPIL LEARNING (PL= 6 ITEMS)

Table 24 indicates the analysis of covariance and the adjusted means.

It also indicates that the covariate and time were both statistically significant. Time factor significance indicates the impact of training on the teacher-trainees of both groups. The trend of the improvement was linear and gradual as indicated by the gain scores of the adjusted means over time. These adjusted means are plotted on the profile in Figure 12.

Figure 12 shows gradual improvement of both groups on scale 3, i.e. pupil learning. The improvement, again, was in favour of the TS group, but the difference on this scale was less than the difference on the previous scales. The mean linear gradient in TS group, on PL scale, was 0.25, and in PD group was 0.21. This time the rate of improvement, seen by the external observers, in the PD group, seems to be closer to that of the TS group than the mean improvement rate in the other scales.

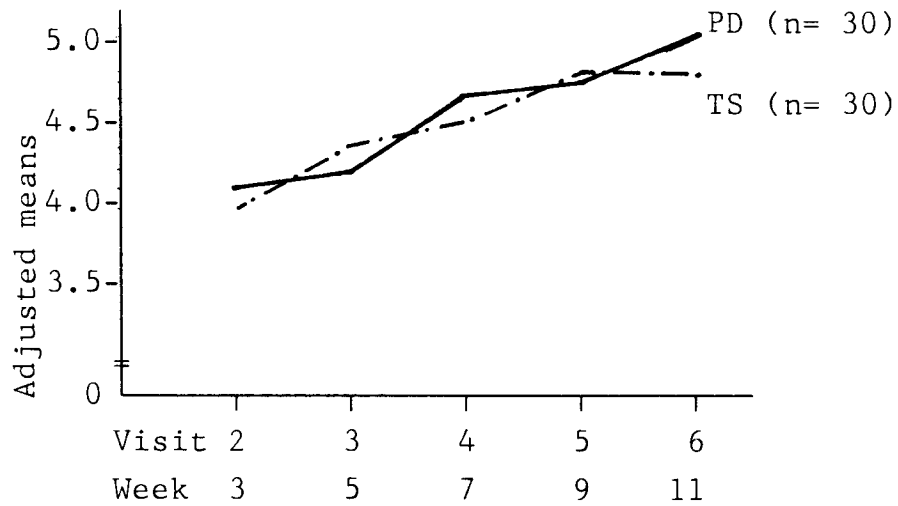
T A B L E 24: ANALYSIS OF COVARIANCE ACROSS TIME FOR MEANS OF ITEMS 53-58  
FROM THE CLASSROOM OBSERVATION SCHEDULE (SCALE 3: PUPIL  
LEARNING), TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.18	1	0.18	0.12	0.73
1ST COVARIATE	53.26	1	53.26	34.74	0.00
ERROR	87.37	57	1.53		
TIME	31.28	4	7.82	25.86	0.00
TIME x GROUP	1.43	4	0.36	1.19	0.32
ERROR	70.15	232	0.30		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
MEAN OF ITEMS: 53-58					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.96	4.10			
3RD VISIT	4.35	4.23			
Contd/...					

T A B L E 24 - Continued

CELL MEANS ADJUSTED FOR 1ST VISIT		
	MEAN OF ITEMS: 53-58	
VISIT	TS GROUP	PD GROUP
4TH VISIT	4.50	4.64
5TH VISIT	4.83	4.73
6TH VISIT	4.81	5.03

F I G U R E 12: ADJUSTED MEANS OF BOTH GROUPS OVER  
TIME ON SCALE 3: PUPIL LEARNING



The trend analysis on the means of the two groups on the PL scale is presented under section 3.3.3 in this chapter.

(v) EVALUATION OF THE IMPACT OF TRAINING ON  
CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED  
OVER TIME ON 1ST SUBSCALE: PLANNING INSTRUCTION  
(PI SUBSCALE= 4 ITEMS IN TS SCALE)

Table 25 below indicates the statistical significance of the F ratio for both the covariate and time. The time factor shows a significant change during training for both training groups. This may be interpreted as a steady and gradual improvement of both groups on subscale 1, as shown in the table of adjusted means. The lack of significance on the group variable showed that the groups performed equally well over the training period.

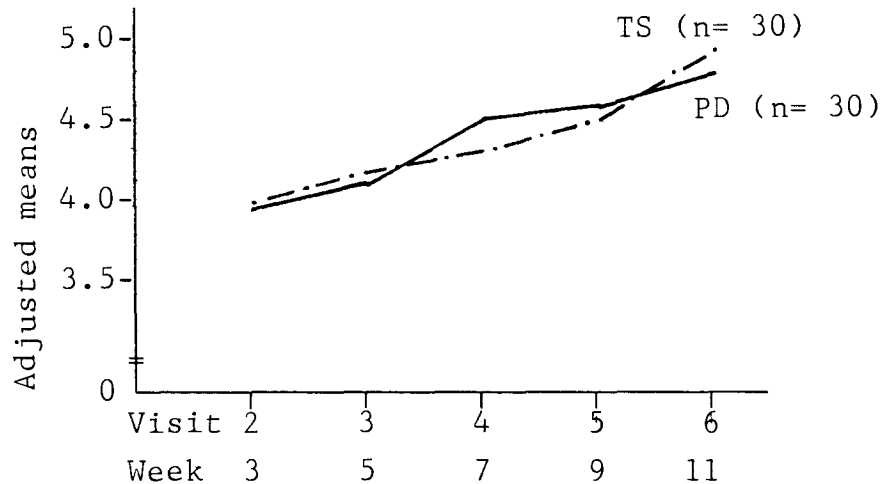
Figure 13 presents a profile of both groups over time on subscale 1.

This figure shows continuous improvement of both groups over time. The trend analysis indicates that the groups improved gradually over the training period and therefore depart significantly from 0 gradient. The improvement coincides with the training period and is likely to be attributed to it. (See Appendix 7)

T A B L E 25: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE FIRST SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.03	1	0.03	0.01	0.91
1ST COVARIATE	49.69	1	49.69	24.81	0.00
ERROR	114.16	57	2.00		
TIME	24.94	4	6.23	19.39	0.00
TIME x GROUP	1.20	4	0.30	0.93	0.45
ERROR	74.61	232	0.32		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	4.01	3.96			
3RD VISIT	4.23	4.16			
4TH VISIT	4.29	4.50			
5TH VISIT	4.48	4.60			
6TH VISIT	4.89	4.77			

FIGURE 13: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 1



(vi) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME ON 2ND SUBSCALE: MOTIVATING PUPILS FOR LEARNING (MP SUBSCALE= 9 ITEMS IN TS SCALE)

The covariate and time F ratios were both statistically significant in Table 26. The time factor indicates significant development during training for both groups over time. Both groups were steadily and gradually improving as indicated in the gain in the adjusted means. The following figure presents a profile of the adjusted means on the assessment of teacher-trainees' effectiveness in motivating pupils for learning, as measured by the external

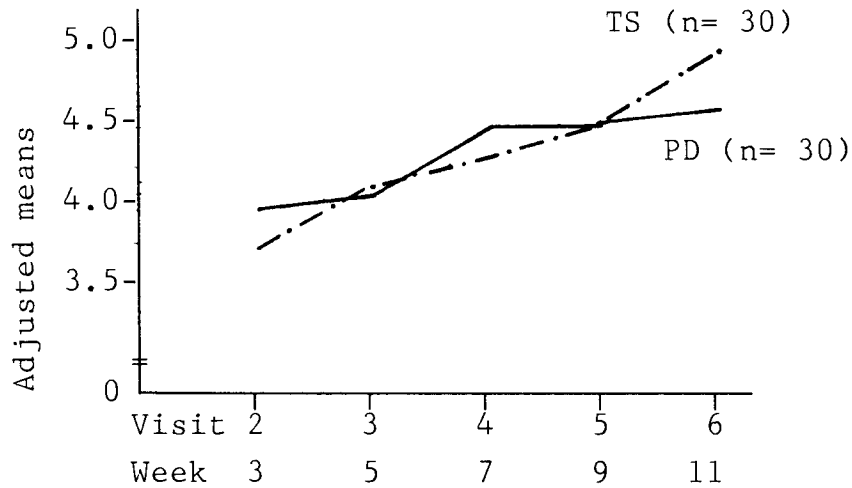


T A B L E 26: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE SECOND SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.00	1	0.00	0.00	0.99
1ST COVARIATE	72.14	1	72.14	44.35	0.00
ERROR	92.72	57	1.63		
TIME	28.49	4	7.12	24.80	0.00
TIME x GROUP	2.22	4	0.55	1.93	0.11
ERROR	66.63	232	0.29		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.78	3.94			
3RD VISIT	4.13	4.05			
4TH VISIT	4.23	4.44			
5TH VISIT	4.51	4.50			
6TH VISIT	4.88	4.61			

observers on subscale 2.

F I G U R E 14: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 2



The above profile indicates gradual improvement of both groups on subscale 2: motivating pupils for learning. The trend analysis indicated that the teacher-trainees of the TS group had a mean improvement rate of 0.26 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.18 per visit over the same period of time. (See Appendix 7)

(vii) EVALUATION OF THE IMPACT OF TRAINING ON  
CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED  
OVER TIME ON 3RD SUBSCALE: PRESENTATION SKILLS  
(PS SUBSCALE= 8 ITEMS IN TS SCALE)

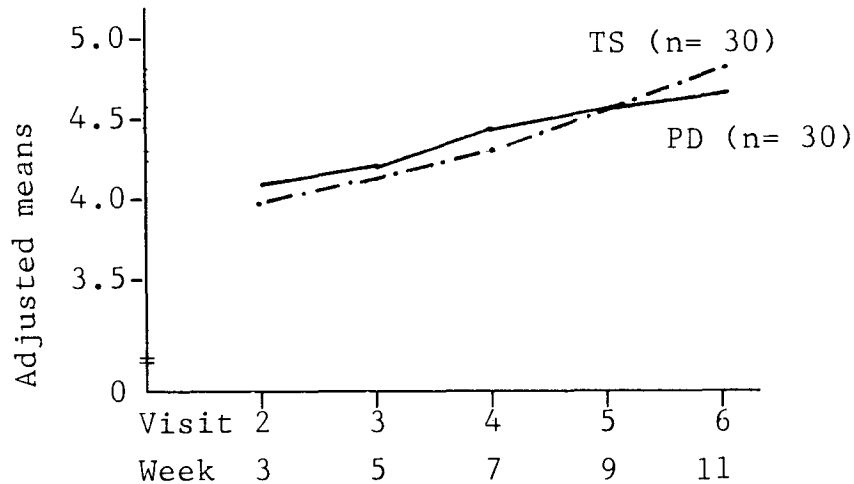
Table 27 indicates that the covariate and the time F ratios were statistically significant. The significance of time indicates a significant development during training for both groups; as indicated, also, in the gradual improvement over time in the adjusted means of classroom performance. The gain in the adjusted mean scores was gradual in both groups, as indicated in Table 27 and as specified also, in the profile of the following figure on the assessment made by the external observers of the teacher-trainees effectiveness in presentation skills.

The profile of Figure 15 shows steady and gradual improvement of both groups over time in their presentation skills as measured on the 3rd subscale. The trend analysis on both groups indicated that the mean linear gradient of TS group was 0.23, while the mean linear gradient of PD group was 0.16. That is, on average every teacher-trainee improved, in his presentation skills, over time, 0.23 and

T A B L E 27: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE  
THIRD SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.18	1	0.18	0.11	0.74
1ST COVARIATE	76.28	1	76.28	46.24	0.00
ERROR	94.04	57	1.65		
TIME	20.18	4	5.05	17.96	0.00
TIME x GROUP	0.81	4	0.20	0.72	0.58
ERROR	65.19	232	0.28		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.98	4.09			
3RD VISIT	4.13	4.25			
4TH VISIT	4.31	4.46			
5TH VISIT	4.61	4.59			
6TH VISIT	4.81	4.69			

FIGURE 15: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 3



0.16 per visit respectively. This finding coincides with the expectation of the TS group performing higher than the PD group on TS subscales. While one's expectation is consistent with the data a larger sample size is needed to demonstrate its validity. However, the difference between the groups was not statistically significant. (See Appendix 7)

(viii) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE BY BOTH GROUPS MEASURED OVER TIME ON 4TH SUBSCALE: EVALUATING PUPILS AND INSTRUCTION (EP SUBSCALE= 4 ITEMS IN TS SCALE)

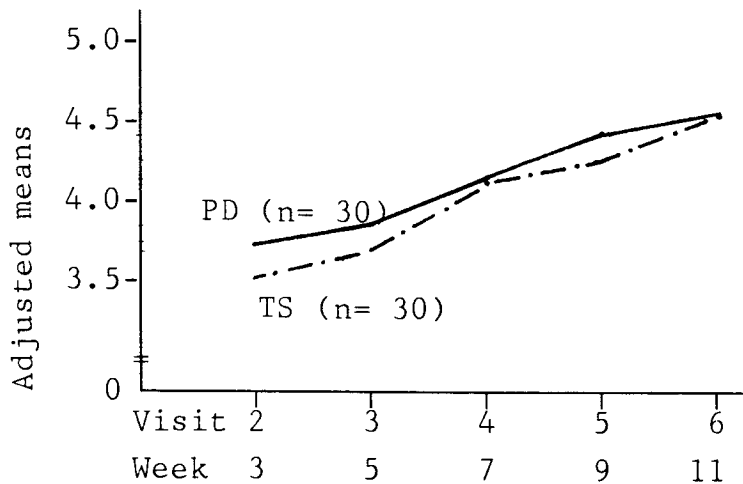
The covariate and the time F ratios in Table 28

T A B L E 28: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE FOURTH SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARE	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.97	1	0.97	0.64	0.43
1ST COVARIATE	90.80	1	90.80	59.57	0.00
ERROR	86.88	57	1.52		
TIME	34.46	4	8.62	19.48	0.00
TIME x GROUP	0.45	4	0.11	0.26	0.91
ERROR	102.59	232	0.44		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.50	3.74			
3RD VISIT	3.74	3.86			
4TH VISIT	4.07	4.16			
5TH VISIT	4.28	4.41			
6TH VISIT	4.54	4.54			

were both statistically significant. The time factor shows significant development during training for both groups. This is clear, also, in the gain indicated in the adjusted means over time. It can be seen that both groups gained in their adjusted mean scores gradually. The following figure presents a profile of the adjusted means of both groups as measured by external observers of trainees' effectiveness in evaluating pupils and instruction.

FIGURE 16: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 4



The above profile indicates gradual improvement in teacher-trainees' effectiveness in evaluating pupils and instruction over time. There was a gradual gain score in their continuous adjusted means. The teacher-trainees of the TS group

had a mean improvement rate of 0.27 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.22 per visit over the same period of time. (See Appendix 7)

(ix) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME ON THE 5TH SUBSCALE: PROMOTING PUPILS' SELF-ESTEEM (SE SUBSCALE= 7 ITEMS IN PD SCALE)

The covariate and the time F ratios in Table 29 were statistically significant. The time factor indicates the significant development of the teacher-trainees as promoters of pupils' self-esteem, as measured by the external observers on the 5th subscale. The adjusted means show a continuous gain over time in both TS and PD groups. As this subscale comprised 7 items within PD scale, it was expected that the PD group would perform better than the TS group. The adjusted means of the PD group were higher than those of the TS group, except for the 5th visit, a matter which coincides with the theoretical expectation envisaged. However, the differences between the groups were not statistically significant.

The following figure presents a profile of the

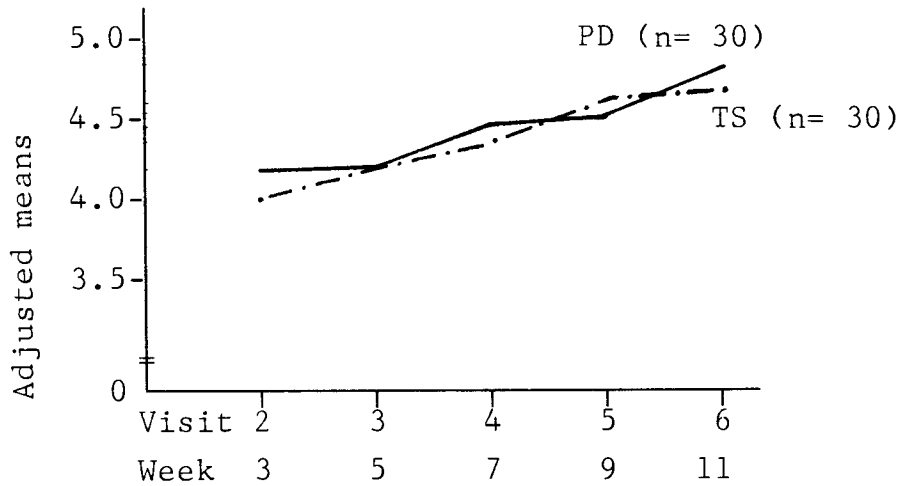


T A B L E 29: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE FIFTH SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.39	1	0.39	0.20	0.66
1ST COVARIATE	64.91	1	64.91	33.20	0.00
ERROR	111.44	57	1.96		
TIME	16.80	4	4.20	14.22	0.00
TIME x GROUP	0.60	4	0.15	0.51	0.73
ERROR	68.53	232	0.30		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	4.03	4.21			
3RD VISIT	4.20	4.20			
4TH VISIT	4.37	4.45			
5TH VISIT	4.61	4.56			
6TH VISIT	4.68	4.84			

adjusted means of both groups.

FIGURE 17: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 5



The above figure indicates gradual improvement in teacher-trainees' effectiveness in promoting pupils' self-esteem over time. There was a steady gain in both groups on the adjusted means. However, the trend analysis on subscale 5 indicated that the TS group had a mean improvement rate of 0.20 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.16 per visit over the same period of time. (See Appendix 7)

(x) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME ON THE 6TH SUBSCALE: ENGAGING AFFECT IN LEARNING (EA SUBSCALE= 5 ITEMS IN PD SCALE)

The covariate and the time F ratios in Table 30 were statistically significant. The time factor indicates significant improvement during training for both groups on the effectiveness of teachers in their attempt to engage affect in learning, as measured by the external observers on subscale 6. It is worth noting that the TS group improved gradually and consistently while the PD group had fluctuating adjusted means.

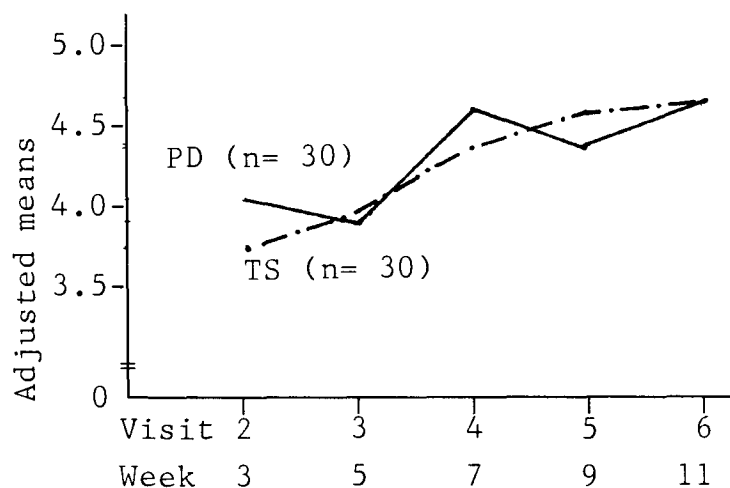
The following figure presents a profile of the adjusted means of both groups.

Regardless of the statistically significant covariate and time factor, Figure 18 highlighted a finding which is contrary to the expected assumption of the PD group performing better than the TS group on the 6th subscale, pertaining to engaging affect. The trend analysis indicated that the mean linear gradient in the TS group was 0.26 and that of the PD group was 0.17; the t-test for which indicated a statistically

T A B L E 30: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE SIXTH SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.15	1	0.15	0.08	0.78
1ST COVARIATE	52.60	1	52.60	28.03	0.00
ERROR	106.96	57	1.88		
TIME	29.96	4	7.49	22.30	0.00
TIME x GROUP	2.65	4	0.66	1.98	0.10
ERROR	77.90	232	0.34		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.77	4.07			
3RD VISIT	3.99	3.93			
4TH VISIT	4.36	4.59			
5TH VISIT	4.62	4.41			
6TH VISIT	4.71	4.70			

FIGURE 18: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 6



significant difference (P value= 0.04). In this case, the trend analysis was probably more sensitive than ANCOVA in showing group differences over time. (See Appendix 7)

(xi) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME ON THE 7TH SUBSCALE: INVOLVING SELF IN TEACHING (IS SUBSCALE= 7 ITEMS IN PD SCALE)

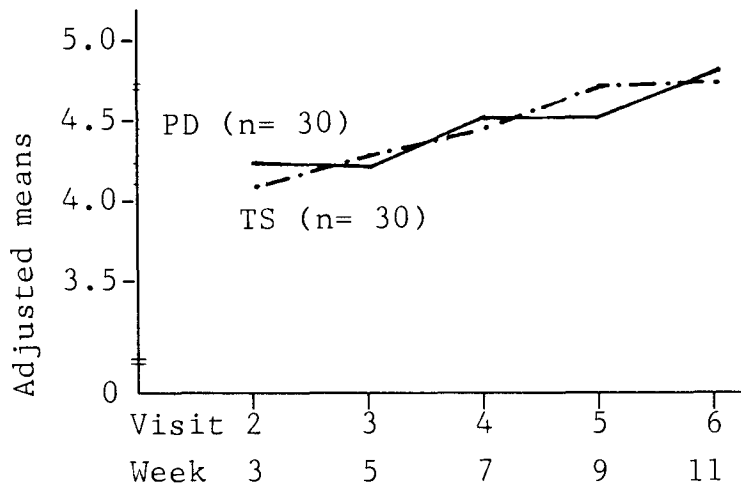
The covariate and the time F ratios were both statistically significant. The time factor indicates significant development during training for both groups. Gradual gain is noticed in the consistent improvement of the adjusted means over time. Teacher-trainees in

T A B L E 31: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE SEVENTH SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.00	1	0.00	0.00	0.10
1ST COVARIATE	90.50	1	90.50	54.15	0.00
ERROR	95.26	57	1.67		
TIME	14.75	4	3.69	13.96	0.00
TIME x GROUP	0.79	4	0.20	0.75	0.56
ERROR	61.32	232	0.26		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	4.10	4.23			
3RD VISIT	4.29	4.24			
4TH VISIT	4.46	4.51			
5TH VISIT	4.70	4.53			
6TH VISIT	4.75	4.80			

both groups, therefore, indicated that they involved themselves in teaching. The following figure presents a profile of the adjusted means in both groups over the 7th subscale.

F I G U R E 19: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 7



The above profile shows gradual improvement over time on subscale 7 in both groups.

Even though there were no significant differences between the two groups, the trend analysis indicated that the trainees of the TS group had a mean improvement rate of 0.18 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.13 per visit over the same period of time. (See Appendix 7)

(xii) EVALUATION OF THE IMPACT OF TRAINING ON CLASSROOM PERFORMANCE OF BOTH GROUPS MEASURED OVER TIME ON THE 8TH SUBSCALE: DEVELOPING PERSONAL AND CREATIVE COMPETENCE IN PUPIL LEARNING (DP SUBSCALE= 8 ITEMS IN PD SCALE)

The covariate and the time F ratios were statistically significant. The time factor shows significant development during training for the teacher-trainees in both groups. Gradual gain is noticed over the repeated visits, except for the 3rd visit for the PD group, as indicated in the adjusted means. This finding suggests that both groups were developing personal and creative competence in pupil learning, as seen by the external observers, repeatedly, on subscale 8.

The following figure presents a profile of the adjusted means in both groups.

Contrary to the theoretical expectation (that the PD group would perform better than the TS group), TS group actually performed better, as indicated in the trend analysis, regardless of the gradual improvement indicated in Figure 20.

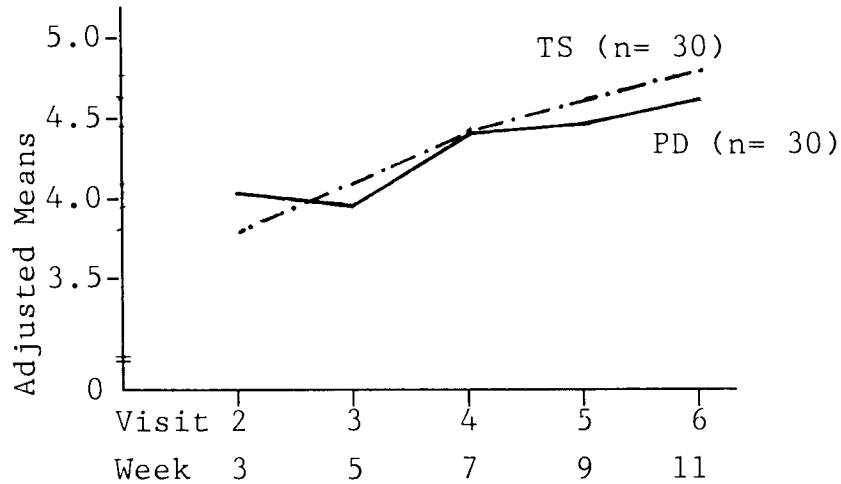
The teacher-trainees of TS group had a mean



T A B L E 32: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE EIGHTH SUBSCALE, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
GROUP	0.13	1	0.13	0.09	0.77
1ST COVARIATE	86.15	1	86.15	58.51	0.00
ERROR	83.93	57	1.47		
TIME	28.86	4	7.21	22.00	0.00
TIME x GROUP	2.12	4	0.53	1.62	0.17
ERROR	76.07	232	0.33		
CELL MEANS ADJUSTED FOR 1ST VISIT					
VISIT	TS GROUP	PD GROUP			
2ND VISIT	3.78	4.04			
3RD VISIT	4.11	3.95			
4TH VISIT	4.40	4.42			
5TH VISIT	4.63	4.45			
6TH VISIT	4.82	4.65			

FIGURE 20: ADJUSTED MEANS OF BOTH GROUPS OVER TIME ON SUBSCALE 8



improvement rate of 0.27 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.16 per visit over the same period of time. However, this difference was not statistically significant. (See Appendix 7)

Similar to Subscale 6, the t-test indicated a statistically significant difference (P value= 0.02). In this case, the trend analysis was probably more sensitive than ANCOVA in showing group differences over time.

3.3.3. EVALUATION OF THE TREND ANALYSIS OF CLASSROOM PERFORMANCE OF BOTH GROUPS ON INSTRUMENT 1 AND ITS 3 SCALES

(i) OVERALL TREND ANALYSIS OVER TIME: INSTRUMENT 1

The trend analysis in Table 33 shows the mean linear gradients of both the TS and the PD group on classroom observation schedule, instrument 1, as measured by the external observers, over time. The TS group was 0.24 while the PD group was 0.17, i.e. trainees in the TS group had a mean improvement rate of 0.24 per visit over time, while their counterparts in the PD group had a mean improvement rate of 0.17 per visit over the same period of time on the same measure.

The trend analyses of both groups on the three scales of the classroom observation schedule are presented hereafter; while those of the eight subscales are attached as Appendix 7.

T A B L E 33: TREND ANALYSIS ACROSS TIME FOR THE MEANS OF BOTH GROUPS ON INSTRUMENT 1: CLASSROOM OBSERVATION SCHEDULE

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	1.72	56.2	MEAN	0.24	0.17	
T (POOLED)	1.72	58	SD	0.16	0.14	
F (FOR VARIANCES)			S.E.M.	0.03	0.03	
LEVENE	0.01	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.62	0.43	
			MINIMUM	-0.19	-0.06	

(ii) TREND ANALYSIS OVER TIME ON SCALE 1: TEACHING SKILLS

The trend analysis in Table 34 highlights the improvement in both groups (as measured, over time, by external observers) on the teaching skills scale comprising items 1-25 in the first instrument. It was anticipated that the TS group would perform better than the PD group on this scale. Table 34 confirms this anticipation. The mean linear gradient of the TS group was 0.25, while that of the PD group was 0.19. However, this difference was not statistically significant.

(iii) TREND ANALYSIS OVER TIME ON SCALE 2: PERSONAL DEVELOPMENT

Contrary to scale 1, it was anticipated that PD group would perform better than TS group on the second scale which comprised 27 items, in instrument 1, pertaining to personal development. However, the trend analysis, Table 35, contradicts the expectation. Again, the TS group performed higher than PD group. The mean linear gradient of TS was 0.23, while that of PD was 0.15.

T A B L E 34: TREND ANALYSIS ACROSS TIME FOR THE MEANS OF BOTH GROUPS  
ON SCALE 1: TEACHING SKILLS

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATED)	0.14	57.7	MEAN	0.25	0.19	
T (POOLED)	0.14	58	SD	0.17	0.16	
F (FOR VARIANCES)			S.E.M.	0.03	0.03	
LEVENE	0.10	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.59	0.51	
			MINIMUM	-0.28	-0.08	

T A B L E 35: TREND ANALYSIS ACROSS TIME FOR THE MEANS OF BOTH GROUPS ON SCALE 2: PERSONAL DEVELOPMENT

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATED)	1.93	54.5	MEAN	0.23	0.15	
T (POOLED)	1.93	58	SD	0.17	0.13	
F (FOR VARIANCES)	0.81	1, 58	S.E.M.	0.03	0.02	
LEVENE	0.37		SAMPLE SIZE	30	30	
			MAXIMUM	0.64	0.41	
			MINIMUM	-0.09	-0.06	

(iv) TREND ANALYSIS OVER TIME ON SCALE 3: PUPIL LEARNING

The trend analysis performed on the third scale, over time, indicated the same trend that previous measures indicated. However, the gap between the two groups became less on this scale pertaining to pupil learning. The mean linear gradient in the TS group was 0.25 and the mean linear gradient in the PD group was 0.21.(Table 36)

3.3.4. QUESTION 2: HOW DID SEX AND TYPE OF DEGREE QUALIFICATION INFLUENCE CLASSROOM PERFORMANCE?

(i) SEX

With regard to the effect of sex differences on the outcome of training, the ANCOVA table below indicates that the covariate and time were statistically significant. The females (n= 36) were higher in the beginning and ended almost with the same adjusted mean for the last visit. This is indicated in Table 37 of the adjusted means below. However, the trend analysis on sex differences over time indicated marginal differences in favour of the male sex.

The profile in Figure 21 presents a gradual



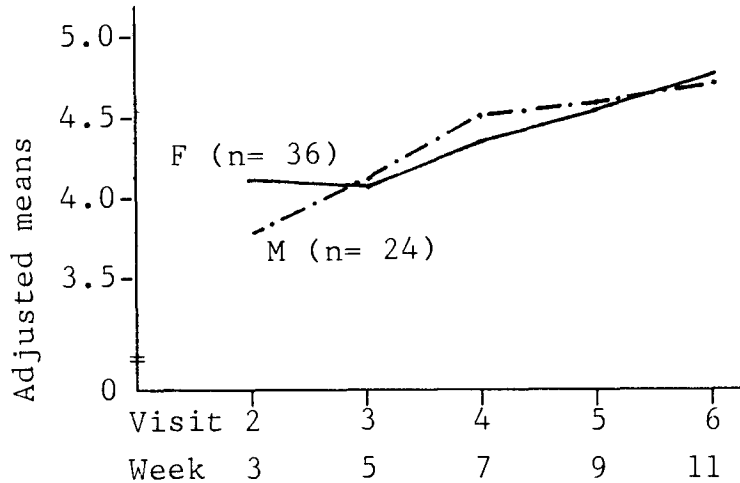
T A B L E 36: TREND ANALYSIS OF BOTH GROUPS ON SCALE 3, PUPIL LEARNING

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.92	57.1	MEAN	0.25	0.21	
T (POOLED)	0.92	58	SD	0.22	0.19	
F (FOR VARIANCES)			S.E.M.	0.04	0.04	
LEVENE	0.17	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.62	0.57	
			MINIMUM	-0.25	-0.18	

T A B L E 37: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE TWO SEXES ON THE 1ST INSTRUMENT, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
SEX	0.02	1	0.02	0.01	0.91
1ST COVARIATE	86.99	1	86.99	67.68	0.00
ERROR	73.26	57	1.29		
TIME	24.56	4	6.14	33.88	0.00
TIME x SEX	1.61	4	0.40	2.22	0.07
ERROR	42.04	232	0.18		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	MALE	FEMALE			
2ND VISIT	3.79	4.09			
3RD VISIT	4.17	4.10			
4TH VISIT	4.48	4.35			
5TH VISIT	4.60	4.54			
6TH VISIT	4.74	4.76			

FIGURE 21: ADJUSTED MEANS OF BOTH SEXES OVER TIME ON INSTRUMENT 1



improvement of both sexes on classroom performance over time. There were no significant differences between the two sexes. However, the male teacher-trainees had a mean improvement rate of 0.24 per visit over time, while their counterparts of the female group had a mean improvement of 0.20 per visit over the same period of time.

(ii) THE TYPE OF DEGREE QUALIFICATION

With regard to the effect of degree qualification differences on the outcomes of teacher-trainees, the ANCOVA table below indicates the statistical significance of the type of degree qualification, the covariate, time, and the time x degree

T A B L E 38: ANALYSIS OF COVARIANCE ACROSS TIME FOR THE MEANS OF THE TWO TYPES OF DEGREE QUALIFICATION ON THE 1ST INSTRUMENT, TOGETHER WITH THE ADJUSTED MEANS

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
DEGREE	1.96	1	1.96	1.57	0.02
1ST COVARIATE	88.70	1	88.70	70.90	0.00
ERROR	71.32	57	1.25		
TIME	25.13	4	6.28	35.15	0.00
TIME x DEGREE	2.19	4	0.55	3.06	0.02
ERROR	41.46	232	0.18		
<u>CELL MEANS ADJUSTED FOR 1ST VISIT</u>					
VISIT	BA	BSc			
2ND VISIT	3.99	3.95			
3RD VISIT	4.04	4.24			
4TH VISIT	4.32	4.52			
5TH VISIT	4.56	4.58			
6TH VISIT	4.56	5.02			

interaction. The adjusted means show, also, the continuous gain between each visit and the next. Both types of degree qualifications improved steadily and gradually.

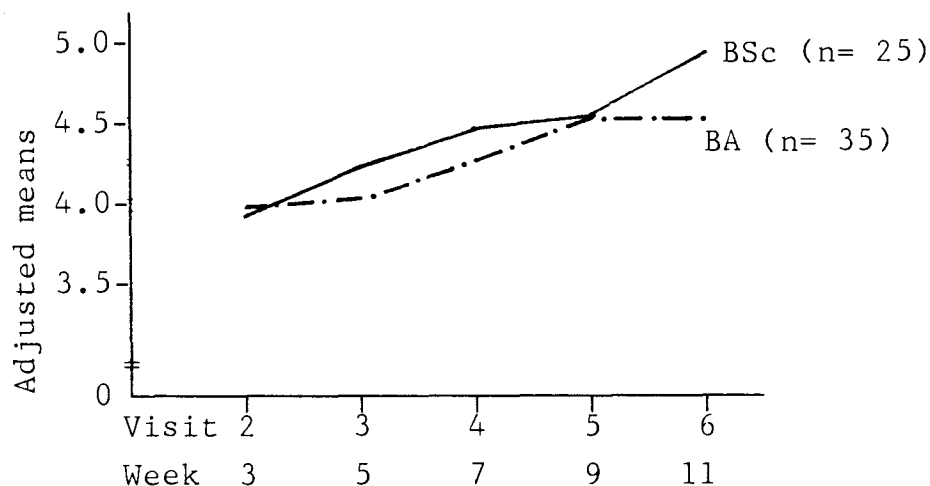
To investigate the difference between both types, a trend analysis over time was performed on the means of the classroom visits. It confirmed the finding specified by ANCOVA and indicated the size of the difference ( $P= 0.02$ ), thus confirming that the BSc's were significantly higher than the BA's on classroom performance. The BSc's had a mean improvement rate of 0.26 per visit over time, while their counterparts of the BA's had a mean improvement rate of 0.17 per visit over the same period of time.

The statistically significant difference in favour of the Science teacher-trainees might be attributed to the fact that such teacher-trainees have completed 4-year full-time university education; while their Literary counterparts might not have had regular full-time university education. Moreover, Universities in Jordan select for their science departments secondary graduates who hold very high grades in the general secondary certificate examination.

The following profile presents the adjusted

means of the teacher-trainees of both types of degree qualification.

FIGURE 22: ADJUSTED MEANS OF TEACHER-TRAINEES OF THE TWO DEGREE QUALIFICATION



SUMMARY

It can be seen that sex differences did not affect performance whereas type of degree qualification was found to be significant. This could perhaps reflect the attitudes evidenced on Jordanian Higher Education, whereby highly successful secondary pupils are allocated to science degree courses - with full-time education; whereas their less successful peers are channelled to the other specializations, including the literary department, or in other part-time courses.

These measures might account for the differential response in classroom performance.

### 3.3.5. CONCLUSIONS ON CLASSROOM PERFORMANCE

The analysis conducted so far on classroom performance between the two groups; between sexes; the 2 types of degree qualification, on the first instrument (classroom observation schedule), its three scales and eight subscales, indicate that under both approaches the professional effectiveness of the teachers in the classrooms improved, as seen by their headteachers and educational supervisors, over 6 classroom visits. The teaching skills group, however, performed, on the whole, marginally better than the PD group in classroom performance. The ecological factors of UNRWA/UNESCO schools, headteachers, supervisors, and training organized by the UNRWA/UNESCO Institute of Education might have been among the factors that brought about this result. But it is reasonable to conclude that trainees under both approaches had succeeded in improving their teaching effectiveness as assessed, over time, by the external observers.

Both sexes improved. However the BSc-trainees had statistically significant better performance

than their BA counterparts. Other demographical data (geographical location, ~~experience~~, subject matter) were arbitrarily neglected on the assumption that the two approaches are not bound by these variables.

4. GROWTH IN SELF-CONCEPT: INSTRUMENT 2 Appendix 3

4.1. INTRODUCTION

The self-concept scale was administered to both groups before and after the treatment. It was noted, however, that both groups had high means on the pre-test, a matter which left little room for improvement on the assessment pertaining to the self-concept scale. The high self-concept means are due to the personal perceptions of university-graduates who are newly employed in UNRWA/UNESCO schools in Jordan. Their community, their colleagues, and their pupils regard them highly.

On the whole both groups improved, however the improvement mean per trainee was a little higher in TS group than it was in PD group. The difference between their improvements was 0.02, which was not statistically significant.



The analyses pertaining to this instrument cover growth in the four subscales incorporated in the self-concept scale, i.e. (i) academic self-concept, (ii) social self-concept, (iii) physical self-concept, and (iv) general self-concept.

4.2. GROWTH IN ACADEMIC SELF-CONCEPT: SUBSCALE 1

Table 39 below presents the means of academic self-concept of both groups (TS and PD) on both times (pre-test and post-test), together with the relevant standard deviation in each case.

T A B L E 39: MEANS AND S.D. OF SUBSCALE 1: ACADEMIC SELF-CONCEPT

CELL MEANS FOR 1ST SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	4.08	4.24
POST-TEST	4.31	4.40
STANDARD DEVIATIONS FOR 1ST SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	0.58	0.52
POST-TEST	0.49	0.41

Table 39 indicates that the academic self-concept was initially high in both groups (4.08 and 4.24) in the pre-test on a 5-point scale. This might be attributed to the fact that most of the trainees were university-graduates with high academic self-esteem. Both groups gained in the post-test score (the TS group gained 0.21 and the PD group gained 0.16)

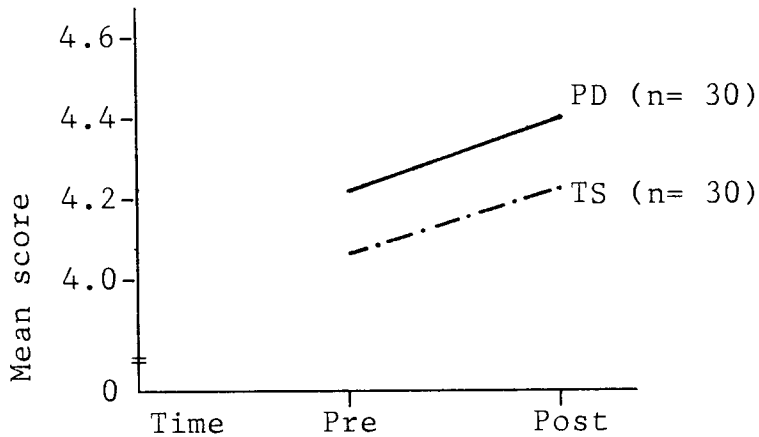
An analysis of variance was carried out on this subscale (using BMDP2V), as indicated in Table 40.

The time factor was statistically significant, i.e. both groups rated themselves significantly better at the end than at the start. However, there was no statistically significant difference between the groups. A profile of both groups is presented in Figure 23.

T A B L E 40: ANOVA FOR THE 1ST SUBSCALE: ACADEMIC SELF-CONCEPT

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2176.01	1	2176.01	7472.05	0.00
GROUP	0.49	1	0.49	1.68	0.20
ERROR	16.89	58	0.29		
TIME	1.07	1	1.07	5.08	0.03
TIME x GROUP	0.03	1	0.03	0.16	0.69
ERROR	12.23	58	0.21		

F I G U R E 23:      DIAGRAM OF MEANS OF SUBSCALE 1:  
ACADEMIC SELF-CONCEPT



4.3. GROWTH IN SOCIAL/EMOTIONAL SELF-CONCEPT:  
SUBSCALE 2

Table 41 below presents the means and standard deviations of social/emotional self-concept of both groups.

Table 41 indicates that both groups improved on the social/emotional self-concept. The gain in the mean score was higher in PD group than the TS group, i.e. 0.19 and 0.07 respectively.

An analysis of variance was carried out on this subscale, as presented in Table 42. It indicates that there were statistically significant differences between the two groups on the second subscale. The PD group was significantly

T A B L E 41: MEANS AND S.D. OF SUBSCALE 2: SOCIAL SELF-CONCEPT

CELL MEANS FOR 2ND SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	4.26	4.41
POST-TEST	4.33	4.60

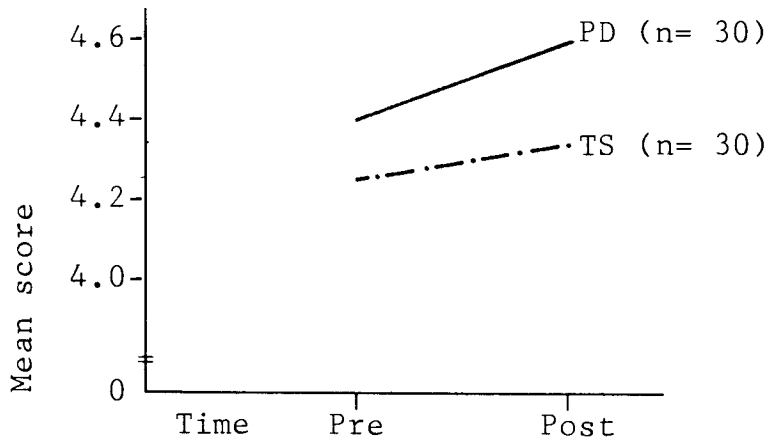
  

STANDARD DEVIATIONS FOR 2ND SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	0.40	0.35
POST-TEST	0.42	0.34

higher than the TS group.

A profile of both groups is presented in the following figure.

F I G U R E 24: DIAGRAM OF MEANS OF SUBSCALE 2: SOCIAL SELF-CONCEPT



T A B L E 42: ANOVA FOR THE 2ND SUBSCALE: SOCIAL SELF-CONCEPT

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2377.54	1	2377.54	16939.63	0.00
GROUP	1.26	1	1.26	8.99	0.00
ERROR	8.14	58	0.14		
TIME	0.49	1	0.49	3.27	0.08
TIME x GROUP	0.05	1	0.05	0.36	0.55
ERROR	8.62	58	0.15		

It is possible that the personal development programme developed the socio-emotional aspects of the personality of the PD trainee.

4.4. GROWTH IN PHYSICAL SELF-CONCEPT:SUBSCALE 3

Table 43 below presents the means and standard deviations of the physical self-concept of both groups.

T A B L E 43: MEANS AND S.D. OF SUBSCALE 3: PHYSICAL SELF-CONCEPT

CELL MEANS FOR 3RD SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	4.43	4.58
POST-TEST	4.34	4.67
STANDARD DEVIATIONS FOR 3RD SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	0.50	0.37
POST-TEST	0.55	0.34

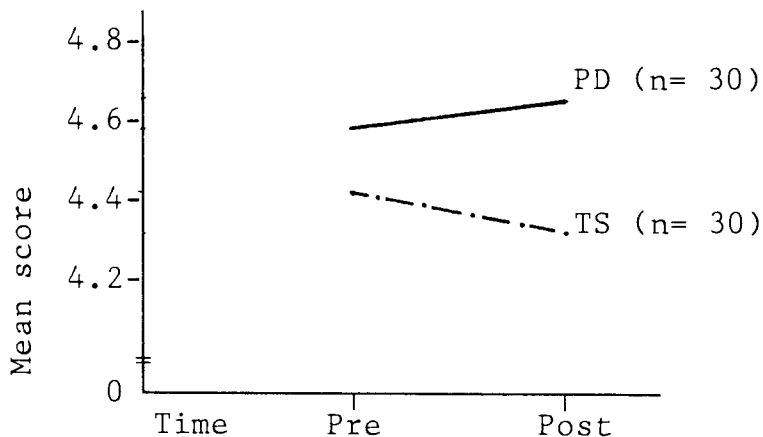
The above table indicates, also, that the physical self-concept was high in both groups in the pre-test (the TS group= 4.43, the PD group= 4.58). Very little gain was expected. However, the table indicates that the TS group

lost the same proportion that PD group had gained (the TS group=-0.09, PD= 0.09). Thus the groups were quite different. However this finding might be attributed to chance and possibly to the small number of items (5) in this subscale.

An Analysis of Variance was carried out on the 3rd subscale, as presented in Table 44.

The ANOVA table indicates that the two groups had statistically significant differences in their physical self-concept, in favour of the PD group. However, both groups ranked highly on the 5-point scale. The figure below presents a profile of the two groups on the third subscale.

FIGURE 25: DIAGRAM OF MEANS OF 3RD SUBSCALE:  
PHYSICAL SELF-CONCEPT





T A B L E 44: ANOVA FOR 3RD SUBSCALE: PHYSICAL SELF-CONCEPT

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2434.50	1	2434.50	11870.71	0.00
GROUP	1.67	1	1.67	8.15	0.01
ERROR	11.89	58	0.21		
TIME	0.00	1	0.00	0.00	0.97
TIME x GROUP	0.22	1	0.22	1.11	0.30
ERROR	11.62	58	0.20		

There does not seem to be any logical or direct connection between training and physical improvement. It is possible that the PD trainees developed an interest in physical exercise as a consequence of their training in the humanistic approach. Whatever the reason for this significance this subscale seems to have less relevance than the others, with regard to the teacher-trainees' teaching abilities.

4.5. GROWTH IN GENERAL SELF-CONCEPT: SUBSCALE 4

Table 45 below presents the means and standard deviations of general self-concept: subscale 4 - of both the TS and PD groups.

T A B L E 45: MEANS AND S.D. OF SUBSCALE 4: GENERAL SELF-CONCEPT

CELL MEANS FOR 4TH SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	4.07	4.19
POST-TEST	4.30	4.41
STANDARD DEVIATIONS FOR 4TH SUBSCALE		
	TS GROUP	PD GROUP
PRE-TEST	0.48	0.52
POST-TEST	0.51	0.51

Table 45 shows that both groups regarded themselves highly on the general self-concept subscale, as they scored more than 4 as the mean on a five point scale. Both groups gained on the post-test measure (the TS group gained 0.23 and the PD group gained 0.22).

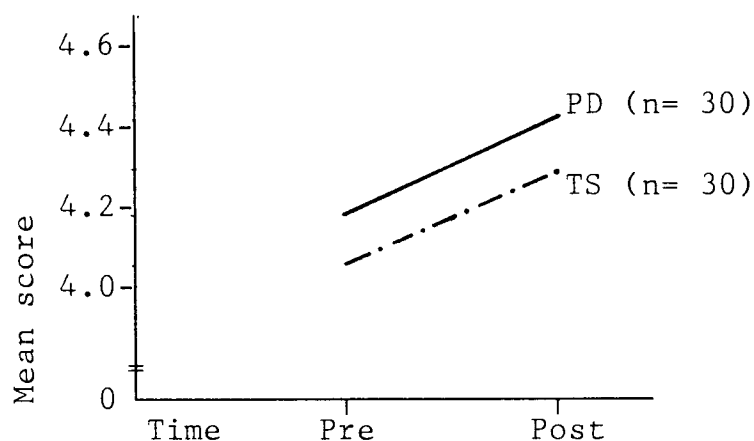
The following ANOVA table indicates that there is no significant difference between the two groups; however, the time factor was statistically significant ( $P= 0.01$ ). That is, the post-test measures indicated statistically significant differences as compared with the mean scores on the pre-test measures. This was indicated also in the almost similar gain score in both groups.

The similar gain scores are clear in the profile indicated in the figure below, both groups are parallel.

T A B L E 46: ANOVA FOR 4TH SUBSCALE: GENERAL SELF-CONCEPT

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2160.42	1	2160.42	7733.74	0.00
GROUP	0.39	1	0.39	1.39	0.24
ERROR	16.20	58	0.28		
TIME	1.44	1	1.44	6.41	0.01
TIME x GROUP	0.00	1	0.00	0.01	0.92
ERROR	13.07	58	0.23		

FIGURE 26: DIAGRAM OF MEANS OF 4TH SUBSCALE:  
GENERAL SELF-CONCEPT



4.6. CONCLUSION

It is interesting to note that on two of the four subscales (social/emotional and physical), the PD group performed significantly higher than the TS group. This finding might be attributed to the humanistic training approach this group undertook. However, further study would be needed to confirm or reject this tentative conclusion.

Moreover, the difference in the improvements on the physical subscale is not significant; the significance observed relates to the difference between the two groups, pre and post taken together. It seems that the PD group had a higher physical self-concept to start with and this was probably due to chance.

5. PUPIL ASSESSMENT OF TEACHER PERFORMANCE:  
INSTRUMENT 3 (APPENDIX 4)

5.1. INTRODUCTION

Pupil ratings are another form of "classroom observation". They measure teacher's observed performance from the pupil's rather than the administrator's point of view.

The third instrument, though overlapping in its aim with the first instrument, being a measure of teacher performance, provides information reflecting the views of the learners. Therefore it was thought that the collected data might show the practical impact of training on actual classroom practices. This instrument comprised 19 items which were classified into four subscales, i.e. (i) subject matter, (ii) teaching style, (iii) relationship with pupils, and (iv) teacher attitudes. The analysis that follows covers these four subscales in the two groups.

At the time of the pre-test of this scale, the pupils were able to assess the teaching performance of their teachers because they had been together in a teaching/learning situation for 2 months prior to the experiment.

It is worth noting that the trainees of the PD group had a mean improvement rate of 0.21 on the post-test, while their counterparts in the TS group had a mean improvement rate of 0.10 on the post-test.

5.2. EVALUATION OF TRAINEES' SUBJECT MATTER:  
SUBSCALE 1

In this subscale, pupils were asked to judge whether the teacher had mastered his subject of specialization, whether he made it interesting, and whether the teacher could go beyond the given textbook material.

The pupils assessed their teachers highly on the subject matter subscale. Both groups had more than 4 as a mean score (on the 5-point scale) in the pre-test. Table 47 presents these means and the standard deviations for both groups.

Table 47 indicates a marginal decrease in the mean of the TS group on the post-test, while there was a gain of 0.19 in the mean of the PD group. The analysis of variance table below shows that the difference between the two groups was not statistically significant.

T A B L E 47: CELL MEANS AND S.D. FOR SUBJECT MATTER  
SUBSCALE

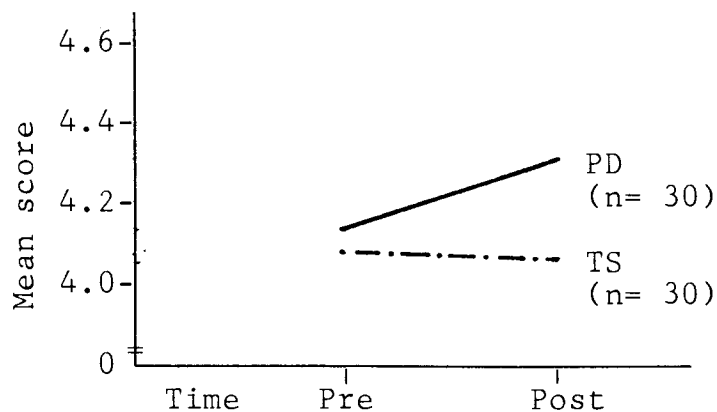
CELL MEANS FOR SUBSCALE 1		
	TS GROUP	PD GROUP
PRE-TEST	4.06	4.14
POST-TEST	4.03	4.33

STANDARD DEVIATIONS FOR SUBSCALE 1		
	TS GROUP	PD GROUP
PRE-TEST	0.65	0.57
POST-TEST	0.65	0.57

The following profile presents the means of both groups over time. The gap between the groups widened on the post-test, compared to that on the pre-test; however the difference was not significant.

F I G U R E 27: PROFILE FOR THE MEANS ON SUBJECT  
MATTER SUBSCALE





T A B L E 48: ANALYSIS OF VARIANCE FOR THE SUBJECT MATTER SUBSCALE

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2058.41	1	2058.41	3154.54	0.00
GROUP	1.13	1	1.13	1.74	0.19
ERROR	37.85	58	0.65		
TIME	0.21	1	0.21	2.19	0.14
TIME x GROUP	0.33	1	0.33	3.52	0.07
ERROR	5.51	58	0.10		

The lack of significance might be affected by high scores in the pre-test, with little room for improvement. This high pre-test score might stem from the fact that the pupils in the lower secondary level in Jordan usually value the academic qualifications of their university-graduate teachers highly.

5.3. EVALUATION OF TRAINEES' TEACHING STYLE:  
SUBSCALE 2

In this subscale pupils were asked to judge teacher's clarity of explanation, his questioning technique, whether there was evidence of pre-class preparation of lessons and summary skills.

Pupils of both groups felt that the teaching skills of their teachers improved, as indicated in Table 49. The gain in the means score was 0.28 in the TS group and 0.14 in the PD group.

The post-test scores were statistically significant from the pre-test scores. The pupil assessment of the teaching skills improved significantly over time, as indicated in the analysis of variance table below. This significant improvement is attributed to the training the teacher-trainees had

T A B L E 49: CELL MEANS AND S.D. FOR TEACHING STYLE  
SUBSCALE

CELL MEANS FOR SUBSCALE 2		
	TS GROUP	PD GROUP
STY PRE-TEST	4.01	3.95
STY POST-TEST	4.29	4.09

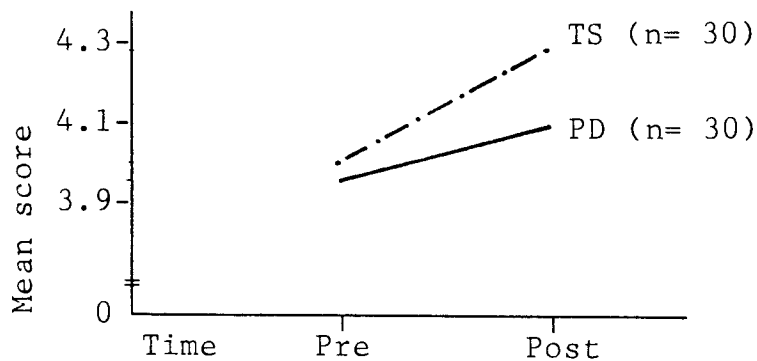
  

STANDARD DEVIATIONS FOR SUBSCALE 2		
	TS GROUP	PD GROUP
STY PRE-TEST	0.55	0.49
STY POST-TEST	0.47	0.47

undergone on the two teacher education approaches.

The following profile show the improvement of both groups in their teaching skills over time.

F I G U R E 28: PROFILE FOR MEANS ON THE TEACHING  
STYLE SUBSCALE



T A B L E 50: ANALYSIS OF VARIANCE FOR TEACHING STYLE SUBSCALE

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	2000.83	1	2000.83	4866.71	0.00
GROUP	0.48	1	0.48	1.17	0.28
ERROR	23.85	58	0.41		
TIME	1.28	1	1.28	16.45	0.00
TIME x GROUP	0.16	1	0.16	2.07	0.16
ERROR	4.52	58	0.08		

5.4. EVALUATION OF TRAINEES' RELATIONSHIP WITH PUPILS: SUBSCALE 3

In this subscale pupils were asked to give their assessment of whether their teacher allowed pupil self-expression and disagreement, provided assistance to those in need of help, and whether team work was encouraged.

Both groups improved on the relationship with pupils subscale as measured by their pupils. The gain score in the mean was 0.26 in the PD group and 0.08 in the TS group, as indicated in the table below.

T A B L E 51: CELL MEANS AND S.D. FOR RELATIONSHIP WITH PUPILS SUBSCALE

CELL MEANS FOR SUBSCALE 3		
	TS GROUP	PD GROUP
REL PRE-TEST	3.93	3.65
REL POST-TEST	4.01	3.91
STANDARD DEVIATIONS FOR SUBSCALE 3		
	TS GROUP	PD GROUP
REL PRE-TEST	0.56	0.47
REL POST-TEST	0.51	0.43

The ANOVA table below indicates that the

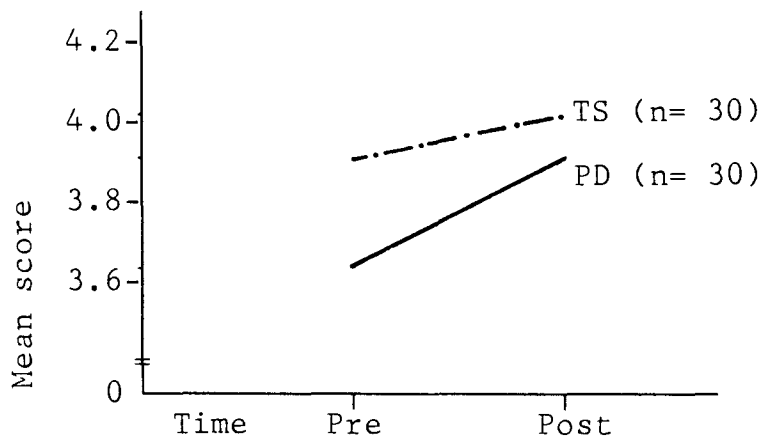
T A B L E 52: ANALYSIS OF VARIANCE FOR THE RELATIONSHIP WITH PUPILS SUBSCALE

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	1803.42	1	1803.42	4675.98	0.00
GROUP	1.05	1	1.05	2.71	0.11
ERROR	22.37	58	0.39		
TIME	0.90	1	0.90	8.55	0.00
TIME x GROUP	0.23	1	0.23	2.14	0.15
ERROR	6.11	58	0.11		

difference between the two groups was not statistically significant. But the time factor was statistically significant. This significance indicates that the pupils, in both groups, rated their teachers' relationship with the learners, on the post-test, as significantly higher than the assessment on the pre-test. The significance of the time factor might be attributed to the training that both groups had undergone.

The profile below shows the improvement of both groups over time in their relationships with their pupils.

FIGURE 29: PROFILE FOR MEANS ON THE RELATIONSHIP WITH PUPILS SUBSCALE



5.5. EVALUATION OF TRAINEES' ATTITUDES: SUBSCALE 4

In this subscale, pupils were asked to state whether they believed their teacher liked them as pupils and individuals, whether this was supported by the availability of the teacher to provide assistance; whether the teacher created 'exciting' learning experiences, and, in doing so, was 'fair' to all pupils.

The trainees of the TS group were viewed as not having changed their attitudes toward their pupils over time, while the trainees of the PD group were seen to have undergone positive attitude change, as indicated in the table below. The gain scores were TS= 0.00, PD= 0.22.

T A B L E 53: CELL MEANS AND S.D. FOR TRAINEES'  
ATTITUDE SUBSCALE

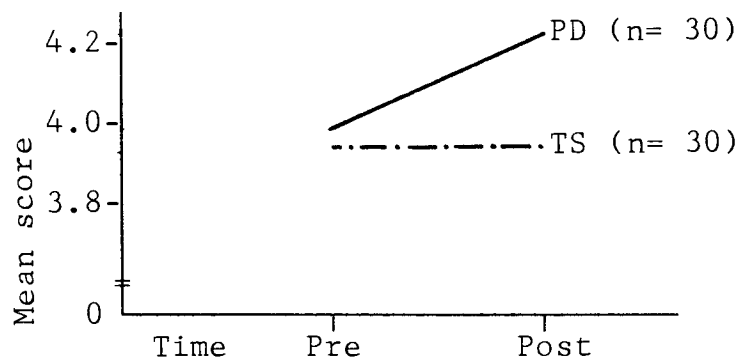
CELL MEANS FOR SUBSCALE 4		
	TS GROUP	PD GROUP
ATT PRE-TEST	3.95	3.99
ATT POST-TEST	3.95	4.21
STANDARD DEVIATIONS FOR SUBSCALE 4		
	TS GROUP	PD GROUP
ATT PRE-TEST	0.63	0.39
ATT POST-TEST	0.66	0.45



The ANOVA table below indicates that the difference between the two groups was not statistically significant.

The following profile presents the means of both groups on trainees' attitude subscale, showing no change in TS group and an improvement in the PD group, that was not significant.

FIGURE 30: PROFILE FOR MEANS ON TRAINEES' ATTITUDE SUBSCALE



#### 5.6. CONCLUSION

No statistically significant differences were shown between the TS and the PD groups on the pupil assessment of teacher performance. However, the marginal differences between the groups were, on the whole, in favour of the PD group. It is likely that this marginal difference be attributed to the type of training that each group had undertaken.

T A B L E 54: ANALYSIS OF VARIANCE FOR THE TRAINEES' ATTITUDE SUBSCALE

SOURCE	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROBABILITY
MEAN	1940.86	1	1940.86	3996.27	0.00
GROUP	0.68	1	0.68	1.39	0.24
ERROR	28.17	58	0.49		
TIME	0.36	1	0.36	3.41	0.07
TIME x GROUP	0.36	1	0.36	3.41	0.07
ERROR	6.17	58	0.11		

6. EVALUATION OF TEACHER'S PERFORMANCE:  
A POST-TREATMENT MEASURE

6.1. INTRODUCTION

The pupil assessment of teacher performance (instrument 3), which was administered by the pupils, as pre-test and post-test, was applied as a post-treatment measure by the teacher-trainees as self-assessment, and by their headteachers, as external observers.

It was felt that this post-treatment evaluation was needed in the case of teacher-trainees in order to emphasize the significance of self-evaluation as a training and evaluation medium. This evaluation coincides with the attempts to incorporate 'self-evaluation' as a new training medium within the Integrated Multi-Media Approach, adopted and applied by the UNRWA/UNESCO Institute of Education.

It was believed that the significant role of the headteachers in monitoring the process and evaluation of training of the teacher-trainees in their schools, over the period of the treatment, might be emphasized by involving them to judge the trainees on classroom performance.

The headteachers in UNRWA/UNESCO schools are considered as professional educational leaders and as resident supervisors; thus their views of the trainees were sought.

6.2. COMPARISON OF OVERALL MEANS BETWEEN THE TWO GROUPS

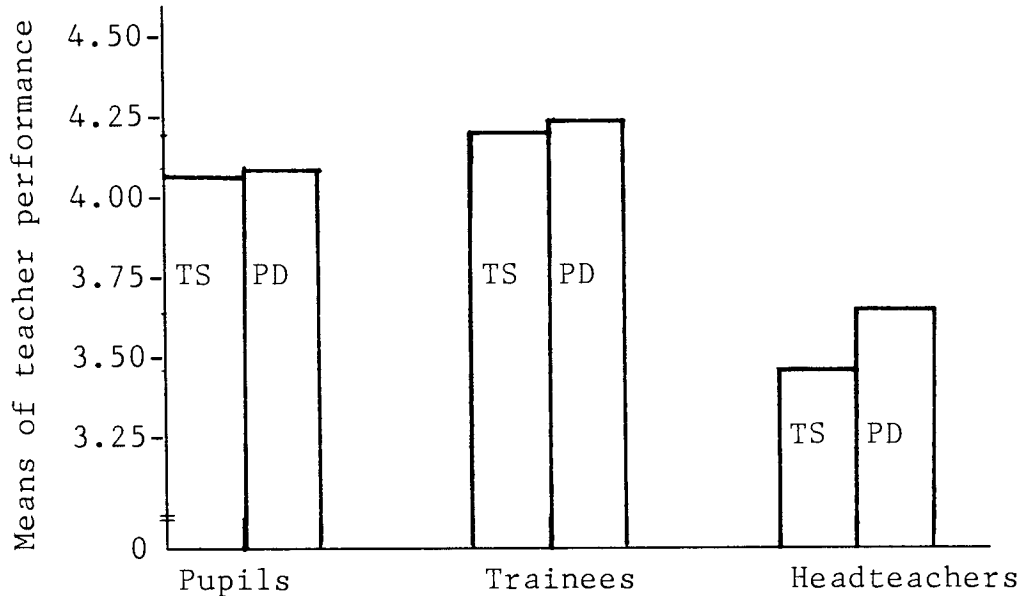
The means of the overall instrument were compared between the two training groups as assessed by their pupils, teacher-trainees themselves, and their headteachers. The means of the four subscales comprising the instrument were also compared. Below is a table showing the overall means of the scores of teacher performance, as post-treatment, by pupils, teacher-trainees and headteachers. The table indicates also the means of both groups on the four subscales.

The means of the overall instrument indicate that the PD trainees were rated slightly higher than the TS trainees in the three cases. The following figure presents a histogram of the overall means of the post-treatment measure of teacher performance as viewed by the learners, the trainees and the headteachers as external observers.

T A B L E 55: POST-TREATMENT MEANS OF TEACHER PERFORMANCE: PUPILS, TRAINEES AND HEADTEACHERS

CATEGORIES	COMPON.	SUBJECT MATTER	TEACHING STYLE	RELATIONSHIP WITH PUPILS	TEACHER ATTITUDE	OVERALL SCALE
	GROUPS					
PUPILS	TS	4.03	4.29	4.01	3.95	4.07
	PD	4.33	4.09	3.91	4.21	4.11
TRAINEES	TS	3.94	4.23	4.27	4.35	4.21
	PD	4.08	4.21	4.31	4.29	4.23
HEADTEACHERS	TS	3.48	3.46	3.42	3.47	3.46
	PD	3.78	3.61	3.60	3.65	3.65

F I G U R E 31: A HISTOGRAM OF THE TS AND PD GROUPS  
ON THE POST-TREATMENT MEASURES, THE  
OVERALL SCALE



The finding on this post-treatment measure is compatible with the results of the pupil assessment of teacher performance, whereby the PD trainees were rated higher by the learners than their counterparts the TS trainees. The difference between the two groups was not significant.

However, it means that training in the personal development approach might account for the marginal increase of the means on the post-treatment measures.

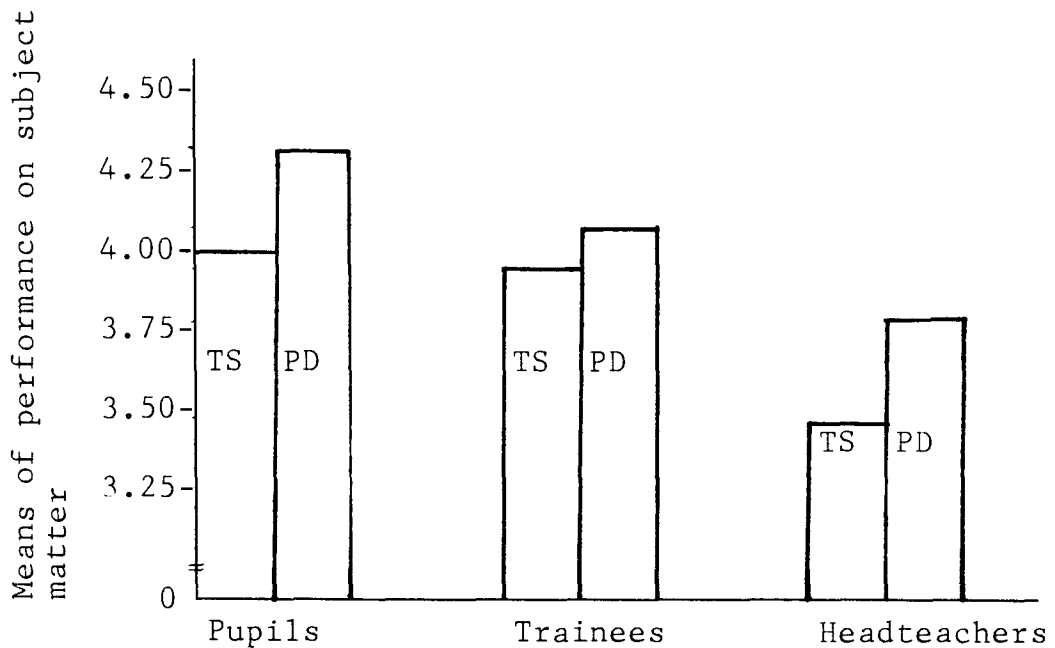
The analysis below will compare the means

of the teacher performance subscales, as conceived at the conclusion of the treatment by pupils, trainees and headteachers.

6.3. COMPARISON OF MEANS ON THE SUBJECT MATTER SUBSCALE

The means on the subject matter, in Table 55, indicate a consistent advantage of the PD group over the TS group. The figure below presents a histogram of these means.

F I G U R E 32: A HISTOGRAM OF THE MEANS OF THE TS AND PD GROUPS ON THE SUBJECT MATTER SUBSCALE



The marginal difference between the means of the PD group and the TS group might be attributed to the humanistic approach in training which could have led PD trainees to create a climate conducive to learning as viewed by pupils, by headteachers, and by themselves. Hence, the PD trainees were rated slightly higher than their counterparts of the TS group in the subject matter of their specialization.

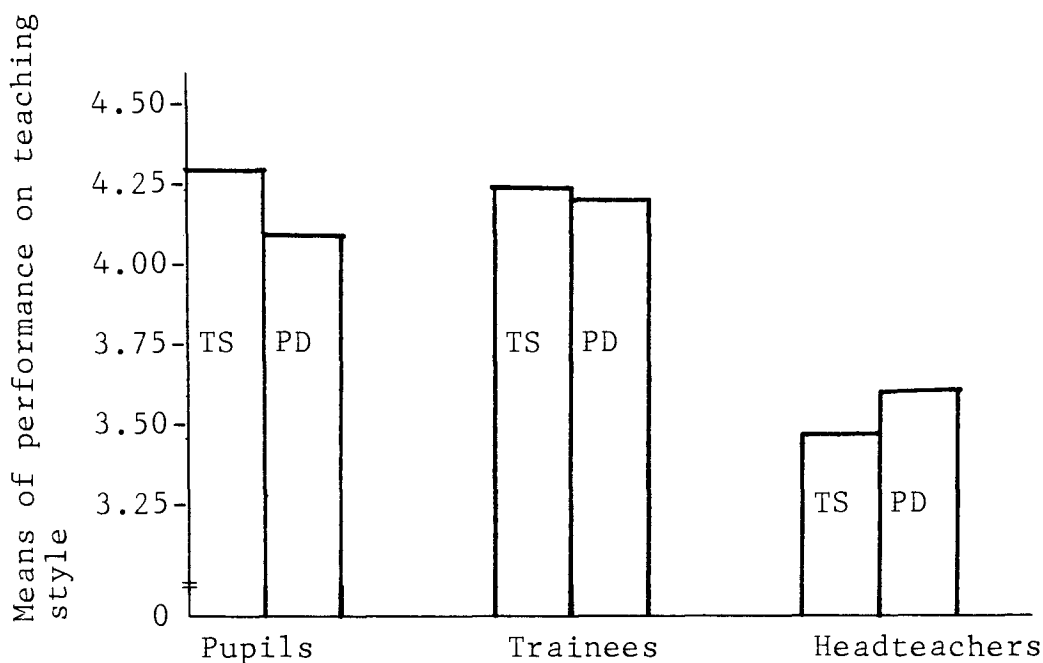
6.4. COMPARISON OF MEANS ON THE TEACHING STYLE SUBSCALE

The means on the teaching style, in Table 55, do not show a consistent trend. The pupils rated the TS group higher than their counterparts of the PD group. The headteachers, on the contrary, assessed the PD group higher on this subscale than the TS group, while the trainees' self-assessment was almost identical, with a slightly marginal increase for the TS group. The diagram below presents a histogram of the means on the teaching style subscale.

The histogram in Figure 33 shows that the assessment made by the headteachers was well below, in both groups, the assessment made by both the pupils and the trainees. The



FIGURE 33: A HISTOGRAM OF THE MEANS OF THE TS AND PD GROUPS ON THE TEACHING STYLE SUBSCALE



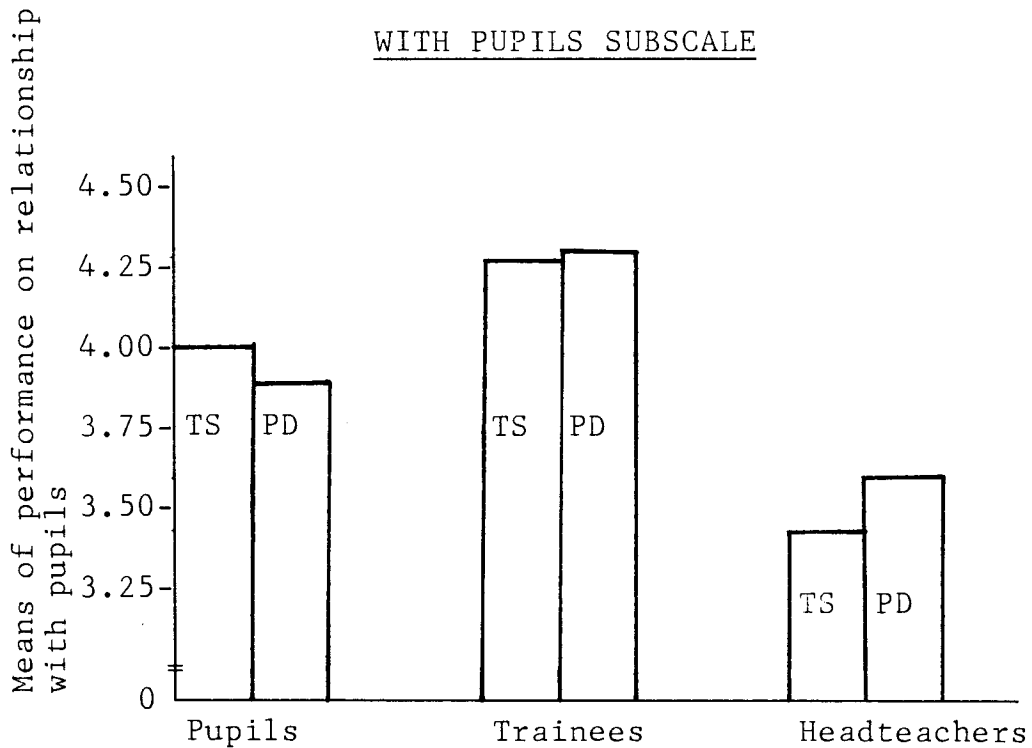
experience and the professional qualifications of the headteachers would probably indicate that their assessment of the teachers' teaching style is more realistic.

6.5. COMPARISON OF MEANS ON THE RELATIONSHIP WITH PUPILS SUBSCALE

The means of the relationship with pupils subscale, in Table 55, indicate that the PD trainees have performed better than their counterparts of the TS group as viewed by their headteachers and by themselves. The histogram

below presents the means of the two groups on the third subscale.

F I G U R E 34: A HISTOGRAM OF THE MEANS OF THE TS AND PD GROUPS ON THE RELATIONSHIP WITH PUPILS SUBSCALE



The pupils judged that the TS group performed better than their PD counterparts. However, these differences are marginal and they probably might be attributed to either chance variation or to the very limited number of items on the subscales.

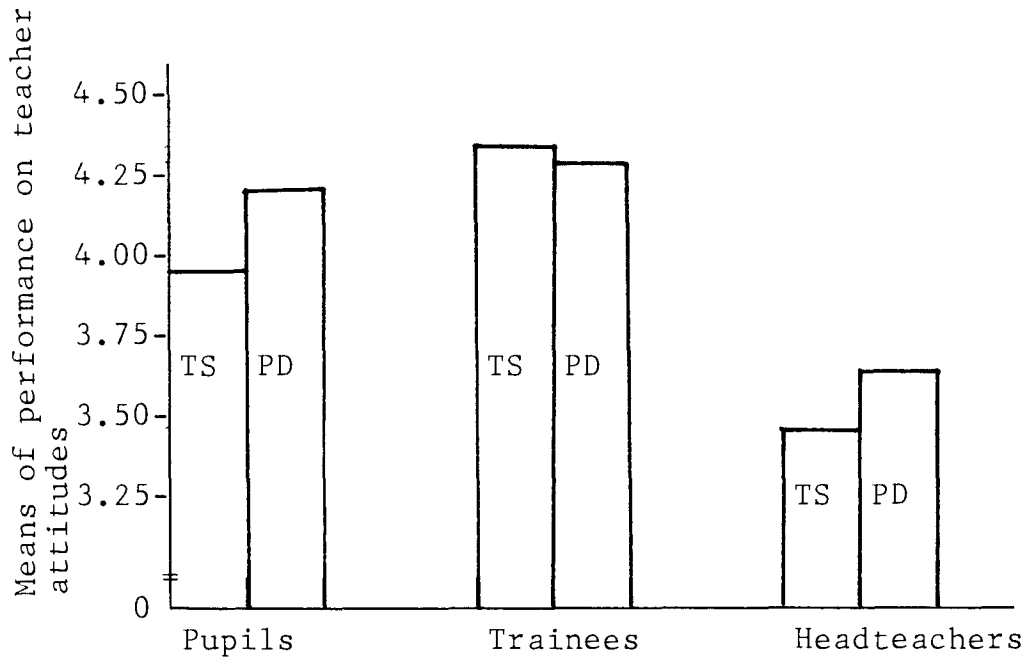
6.6. COMPARISON OF MEANS ON THE TEACHER ATTITUDES  
SUBSCALE

The means of the teacher attitudes subscale, in Table 55, indicate that headteachers and pupils viewed the PD trainees as having performed better than their TS counterparts. However, the TS trainees viewed themselves slightly higher than the PD trainees. The headteachers expressed a generally lower assessment of both groups, as can be seen in Figure 35.

The assessment made by the headteachers is considered to be more professionally valid than the assessment made by the other two types of people. The headteachers' assessment of teacher performance is used as a measure of acceptability within the existing educational system.

On the whole the teacher trainees ranked themselves highest on the post-treatment measure in classroom performance, followed by the pupil assessment of teacher performance, and last came the headteachers' assessment of the trainees' performance on the four subscales.

FIGURE 35: A HISTOGRAM OF THE MEANS OF THE TS AND PD GROUPS ON THE TEACHER ATTITUDES SUBSCALE



There were marginal differences between the two groups in the eyes of the three types of people, i.e. pupils, trainees, and headteachers, assessing teacher performance on the post-treatment measure. These marginal differences were mainly, except for the teaching skills subscale, in favour of the PD group.

7. SUMMARY

The performance of the two training groups has been compared by using several instruments. Both groups steadily and gradually improved on the classroom observation scale (instrument 1). This improvement seemed to be influenced by the type of academic degree qualification the teacher-trainee held: the BSc's were significantly better than the BA's. However, improvement did not seem to be influenced significantly by sex of the teacher-trainee and was only marginally influenced by teacher training approach. Where differences were found they seemed to be in favour of the TS group, but they were not statistically significant.

On the self-concept scale there were again gradual improvements and again there was little to choose between the two groups. However, on this instrument where there was a significant result (the social/emotional and physical subscale) it seemed to be in favour of the PD group.

The third instrument, pupil assessment of teacher performance, showed no statistical significance but there was a suggestion that

the trainees of the PD group were improving more strongly in the eyes of their pupils than the trainees of the TS group.

It can be concluded overall that both groups improved during the training period and any difference between the groups was marginal. The results suggested that the TS group improved marginally better in the eyes of the external observers, i.e. the educational supervisors, while the PD group improved marginally better in the eyes of their head-teachers and pupils. However, the differences were usually not statistically significant, so we cannot conclude that either treatment is better than the other.

C H A P T E R VII: DISCUSSION AND RECOMMENDATIONS

DISCUSSION

The qualitative and quantitative analysis of data indicated that the teacher-trainees in TS and PD groups were steadily and gradually improving over time in their classroom performance as measured by the external observers. There were no statistically significant differences between the groups on instrument 1: the classroom observation schedule.

In order to incorporate the behaviouristic and humanistic approaches in one scale, the instrument had to include a large number of items. Criticism was made against some items in the humanistic/personal development scale. The external observers claimed that some of the items were not observable in one classroom visit. This problem was tackled by involving the headteachers in assessing, together with the supervisors, the performance of the teacher-trainee during the visit in general and on the debatable items in particular.

It should be noted that any difficulty the observers had with the PD items on the scale may have contributed to the marginally lower assessment overall of the PD group.

There were no significant differences between the two

sexes in classroom performance. Both sexes improved steadily over time.

There were statistically significant differences between the teaching performance of trainees with the two types of academic degree qualifications. The Science group improved significantly better than the Literary/Arts group. This could perhaps reflect the attitudes evidenced in Jordanian Higher Education, whereby highly successful secondary pupils are allocated to Science degree courses, specialized and with full-time education; whereas their less successful peers are channeled to the Literary/Arts departments or to community colleges or part-time and correspondence courses. This may account for the differential response to the in-service training.

The pupil assessment of teacher performance, measured by a 19-item scale, emphasized the repeated measures' finding of the first instrument. There were no significant differences between the groups as perceived by their pupils on pre-test and post-test measures. This instrument was applied as a post-treatment measure of teacher performance by the teacher-trainees and their headteachers. The assessment by the headteachers ranked least when compared with the trainees' self-assessment and pupil assessment of teacher performance. The headteachers expressed their satisfaction with instrument 3 as a measure for assessing teacher performance. They



were impressed with its 4 subscales forming 19 items only. It is possible that instruments 1 and 3 might be considered as bases for constructing a classroom visit reporting form for use in UNRWA/UNESCO education system, in Jordan and in other Arab countries.

Both groups improved on the self-concept scale. The growth in self-concept was statistically significant on two of the four subscales (social/emotional and physical). The PD group scored significantly higher than the TS group. This finding might be attributed to the humanistic/personal development approach in training that this group undertook. However, further study would be needed to confirm or reject this tentative conclusion.

In training both groups, the content of training was different but the training methodology was the same. Both groups were trained through the Integrated Multi-Media Approach. It is possible that the lack of difference between the groups was a function of the common methodology and its interaction with content during training. Differential training might have been improved either by designing methodology to match content or by extending the training period.

This study was conducted on an in-service training group of teachers, therefore the conclusions might not prove valid in a pre-service student/teachers context.

Further research on pre-service trainees would be needed to investigate the effects of similar approaches to those in this study.

The qualitative and quantitative evaluation of the two teacher education approaches in the UNRWA/UNESCO in Jordan proved, on the whole, that both approaches correlated with the overall and steady improvement of the teacher trainees. All other variables being equal, including training methodology, differences in outcome in teacher-trainees' behaviours might be attributed to the training on the approaches. It could be concluded that there was no evidence of an overall detrimental effect of either approach compared with the other.

No conflict was observed as a result of applying both approaches in the Jordanian context of UNRWA/UNESCO schools. Thus, it seems that both approaches might be considered as possible sources to be selected in teacher education curriculum design. Moreover, the operational measures for teacher effectiveness, used in this study, might be used in evaluating teacher education programmes, emphasizing the significance of teacher performance and growth in self-concept.

Further research would be needed to test the findings of this study.

RECOMMENDATIONS

1. A replication study would enable some of the findings in this work to be tested further, particularly those whose trends failed to reach significance levels.
2. Further studies might meet some of the methodological shortcomings in the present work. In particular the effects of matching methodology to content, and lengthening the period of training with a particular approach, could be investigated.
3. Another study is recommended whereby the target trainees will be from the pre-service student-teachers. This category of trainees covers the preparation of teachers in teacher training courses.
4. Teacher training specialists in the Arab countries may find some utility in the theoretical framework, proposed in chapter IV, for teacher education curriculum design and evaluation.
5. Different categories of educational personnel may like to develop the evaluation instruments, used in this study, for their own use in assessing classroom performance, self-concept, and pupil assessment of teacher performance. Some refinement might be both theoretically and practically useful.

6. It is recommended that designers of the teacher education curriculum should consider how best to identify and combine any advantages of either approach in their teacher training programmes. However, if intensifying some aspect of either approach should result in conflict, in either trainers or trainees, then the issue of combining aspects would become problematic. Such conflict might arise because quite different philosophical positions underlie the approaches.

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A P P E N D I X 1a: TREATMENT 1: TEACHING SKILLS: CONTENT OF COMPONENTS/SEMINARS

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENT
1.	Objectives in classroom teaching	<ul style="list-style-type: none"> <li>-Criticism of current practices in specifying behavioural objectives in classroom teaching.</li> <li>-Constructing performance objectives.</li> <li>-Bloom's taxonomy: Cognitive, affective and psychomotor domains.</li> <li>-Possibilities to improve formulation of objectives in lesson planning.</li> <li>-Videotape on behavioural objectives.</li> <li>-Self-evaluation checklist to be used by teachers to assess their objectives in lesson planning.</li> </ul>
2.	Lesson planning in classroom teaching.	<ul style="list-style-type: none"> <li>-The role of the teacher as a decision maker.</li> <li>-Basic facts, concepts and principles pertaining to lesson planning.</li> <li>-Lesson planning as a basic teaching competency and task.</li> </ul>

Contd/...

A P P E N D I X 1a - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENT
3.	Learning readiness.	<ul style="list-style-type: none"> <li>-Lesson planning and readiness, planning experiences, assessment and analysis of feedback</li> <li>-Practical exercise work on lesson planning based on text-books actually used in preparatory (lower secondary ) schools.</li> <li>-Learning readiness and meaningful learning.</li> <li>-Entering behaviour: the concept.</li> <li>-Piaget: 4 stages in cognitive development.</li> <li>-Readiness and psycholinguistics: Gagne Hierarchy, Ausubel's meaningful learning, Bloom's taxonomy, Krawthwohl affective domain levels, Harrow's psychomotor taxonomy.</li> <li>-Methods to determine readiness proposed by Emmer and Millet.</li> </ul> <p style="text-align: right;">Contd/...</p>

A P P E N D I X 1a - Continued

No. OF COMPONENT BRIEF & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENT
4.	Questioning skills.	<ul style="list-style-type: none"> <li>-Videotape on learning readiness: Microteaching situation in the classroom.</li> <li>-Self-evaluation check-list on teacher's activity to determine pupil's readiness.</li> <li>-Categories in classifying questions in classroom teaching.</li> <li>-Categories by Amidon &amp; Hunter, Gallagher &amp; Aschner, Saunders, Allen and Bloom.</li> <li>-Videotapes on a cluster on questioning skills (divergent, probing, higher order questions and fluency in questioning)..</li> <li>-Practical examples on formulating questions based on Bloom's taxonomy: Knowledge, comprehension, application, analysis, synthesis and evaluation.</li> </ul> <p style="text-align: right;">Contd/...</p>



A P P E N D I X 1a - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
5.	Audiovisual Media.	<ul style="list-style-type: none"><li>-Self-evaluation used by teachers on questioning skills.</li><li>-Functional use of A.V. Media.</li><li>-Planning for and producing A.V. materials.</li><li>-Psychological concepts of audiovisual instruction.</li><li>-Instructional media and procedure for the design of multiple media instruction.</li><li>-Preparation of A/V Media in specific teaching subjects.</li><li>-Workshop on functional use of A/V Media.</li><li>-Self-evaluation check-list on teacher's use of A/V media functionally.</li></ul> <p style="text-align: right;">Contd/...</p>

A P P E N D I X 1a - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
6.	Motivation for learning.	<ul style="list-style-type: none"> <li>-Intrinsic and extrinsic motivation.</li> <li>-Locus of control and motivation.</li> <li>-Attending to the motivation of pupils for learning.</li> <li>-Motivating and supporting teacher behaviours.</li> <li>-Videotape on eight motivating and supporting behaviours.</li> <li>-Self-evaluation form to assess motivation in classroom teaching.</li> </ul>
7.	Concepts.	<ul style="list-style-type: none"> <li>-Teaching and learning of concepts.</li> <li>-Concept classification.</li> <li>-The concept of concept: critical and non-critical attributes. Contd/...</li> </ul>

A P P E N D I X 1a - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
8.	Educational evaluation: achievement testing.	<ul style="list-style-type: none"> <li>-Videotape comprising a learning package on teaching and learning of concepts including an introduction, a dialogue, a microteaching lesson and a discussion.</li> <li>-Formative and Summative evaluation.</li> <li>-Objective and essay type questions.</li> <li>-Achievement testing: planning, table of specifications, construction of test items, interpretation of results and item analysis.</li> <li>-Formulation of test items.</li> <li>-Workshop on construction of test items based on text-books.</li> <li>-Self-evaluation form for use by teachers to assess the achievement tests they prepare.</li> </ul>

A P P E N D I X 1b: TREATMENT 2: PERSONAL DEVELOPMENT: CONTENT OF COMPONENTS/SEMINARS

No. OF COMPONENT IN BRIEF & SEMINAR	COMPONENT TITLE	SUB-TITLES INCORPORATED IN THE COMPONENTS
1.	Professional Growth of teachers.	-Life-long education and the professional growth of teachers. -Teacher's personality <ul style="list-style-type: none"> <li>. Emotional stability &amp; mental health</li> <li>. Physical health &amp; dynamic personality</li> <li>. Above average in intelligence</li> <li>. Creative and imaginative</li> <li>. Courageous, consistent</li> <li>. Courteous, kind and patient</li> <li>. Honest and committed</li> <li>. Competent &amp; organized</li> <li>. Democratic leader.</li> </ul> -Teacher's professional growth in respect of his personal development, his pupils, his peers, his community and the teaching profession. Contd/....

A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
2.	Cultural identity of teachers and students.	<ul style="list-style-type: none"> <li>-Cultural identity of the Palestinians in general and the teachers in particular.</li> <li>-Identification of cultural needs: answering the items of a questionnaire on the issue.</li> <li>-Significance of cultural values.</li> <li>-Culture and teacher education.</li> <li>-Teaching and learning of culture.</li> </ul>
3.	Self-concept & self-actualization.	<ul style="list-style-type: none"> <li>-Self-concept: definition of the concept.</li> <li>-The role of the teacher as a builder of positive self-concept for himself and for his pupils.</li> <li>-Shavelson's hierarchy on self-concept.</li> <li>-Characteristics of teachers who have a positive self-esteem.</li> <li>-Purkey's recommendations for teachers on self-concept.</li> </ul> <p style="text-align: right;">Contd/...</p>

A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
		<ul style="list-style-type: none"> <li>-Gino's proposals for teachers on self-concept.</li> <li>-Felker's proposals for teachers on developing a positive self-concept.</li> <li>-Revision of self-concept scales.</li> <li>-Self-actualization: definition of concept.</li> <li>-Maslow's hierarchy of human needs.</li> <li>-Characteristics of a person who achieves self-actualization.</li> <li>-Combs, Maslow, Kelley, Rogers and Gage on self-actualization.</li> <li>-Teacher's role in actualizing himself and others.</li> <li>-Self-evaluation check-list on the role of the teacher in creating the atmosphere for the development of positive self-concept. Contd/...</li> </ul>

A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
4.	Values and attitudes.	<ul style="list-style-type: none"> <li>-Teaching and learning of values.</li> <li>-Teaching and learning of attitudes.</li> <li>-Hierarchy of values (Simon et al.).</li> <li>-Values resources: religion, sociology, economics, politics, law, cognitive &amp; scientific fields.</li> <li>-Teachers' commitment to values.</li> <li>-Definition of the concepts of 'value' and 'attitude'.</li> <li>-Methods to teach values and attitudes.</li> <li>-Post-test on values and attitudes.</li> </ul>
5.	Teachers' awareness of problems of adolescent pupils.	<ul style="list-style-type: none"> <li>-Problems arising because the basic needs are not met by teachers and pupils.</li> <li>-Principles of guidance: teacher's role towards himself, his school and his pupils.</li> </ul> <p style="text-align: right;">Contd/...</p>

A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
6.	Constructive education.	<ul style="list-style-type: none"> <li>-Role of the teacher in solving his problems and the problems of his pupils.</li> <li>-Workshop to identify actual problems and proposing solutions.</li> <li>-The concept of constructive education for teachers and pupils (W.D. Wall).</li> <li>-The five selves: physical, sexual, vocational, social and philosophical.</li> <li>-Focusing on the integrative aspects in the personality of the teacher.</li> <li>-The changing role of the teacher towards himself, his pupils and his local community.</li> <li>-Teacher as an example of others.</li> </ul> <p style="text-align: right;">Contd/....</p>



A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
7.	Mental health of teachers & pupils.	<ul style="list-style-type: none"> <li>-Definition of two concepts: mental health and mental hygiene.</li> <li>-Developing mental health of teachers: commitment and conviction in the teaching profession.</li> <li>-Impact of the democratic personality of the teacher.</li> <li>-Reward and punishment technique.</li> <li>-Self-evaluation tool for the teacher to assess practices relevant to mental hygiene.</li> </ul>
8.	Ethics of the teaching profession.	<ul style="list-style-type: none"> <li>-Teacher's behaviour and appearance.</li> <li>-Teacher's relationship with his pupils.</li> <li>-Relationship between the teacher and other categories in the profession: peers, supervisors &amp; headteacher.</li> </ul>

Contd/...

A P P E N D I X 1b - Continued

No. OF COMPONENT & SEMINAR	COMPONENT TITLE IN BRIEF	SUB-TITLES INCORPORATED IN THE COMPONENTS
		-Relationship with the local community. -Commitment towards the profession. -Attitudes of teachers towards the profession: research study conducted by Yarmouk University, 1982.

A P P E N D I X 2: REPORT ON CLASSROOM VISIT

Preliminary data:

Trainee's name: ..... Index No: .....  
 Date of visit ..... No. of visit ..... Area .....  
 School ..... Class ..... No. of pupils .....  
 Subject ..... Topic .....  
 Participants in the classroom visit: .....  
 .....  
 .....

Put a tick (✓) against each item under the column representing your own rating on each specific item.

	PASS				FAIL		
	7	6	5	4	3	2	1
I. Teaching Skills: The teacher							
1. stated behavioural objectives for his lesson in the notebook							
2. specified objectives to his pupils							
3. identified in his plan the skills that pupils need in order to achieve the objectives							
4. selected teaching-learning experiences appropriate to							
(i) objectives of the lesson							
(ii) pupils' background							
(iii) pupils' abilities							
(iv) position in curriculum sequence							
5. motivated pupils'							
(i) attention and							
(ii) maintained it							

Contd/.....

A P P E N D I X      2 - Continued

	PASS				FAIL		
	7	6	5	4	3	2	1
6. used variety of lesson presentation modes (e.g. telling, role playing, discussing, simulation, modelling, demonstration and so on)							
7. drew pupils' attention by varying stimulus (e.g. gestures, voice, media etc.)							
8. reinforced pupils successes positively							
9. moved functionally in the classroom							
10. helped pupils to enhance their intellectual potential (e.g. by asking challenging questions, by encouraging problem solving techniques, by encouraging pupils to ask questions, by giving them time to think etc.)							
11. helped pupils to understand basic concepts in the subject							
12. reminded pupils to use previous experience where it was useful to the task on hand							
13. catered for individual differences among pupils in the various classroom practices							
14. used suitably varied techniques to reinforce pupils' learning							

Contd/.....

A P P E N D I X 2 - Continued

	PASS				FAIL		
	7	6	5	4	3	2	1
15. used examples or illustrations to clarify the material							
16. spoke audibly and clearly							
17. presented material clearly							
18. summarised or emphasised major points in teaching or discussions							
19. brought about a smooth change-over from one activity to the next							
20. helped pupils to consider cultural and moral values and attitudes in the lesson's context							
21. used formative assessment to assess (i) his own teaching (ii) pupils' progress							
22. modified teaching in the light of feedback							
23. checked and made provision for pupils with specific difficulties (e.g. absence, emotional, perceptual and motor handicaps, crises etc.)							
24. allocated appropriate extra-curricular activities to the pupils							

Contd/.....

A P P E N D I X 2 - Continued

	PASS				FAIL		
	7	6	5	4	3	2	1
25. ended the lesson properly (e.g. summarized basic points, assessed achievement of objectives, proposals for follow-up etc.)							
II. Personal development: The teacher							
26. demonstrated knowledge of his subject matter							
27. shared with pupils explanatory attitude towards knowledge							
28. was readily available for consultation with pupils							
29. was concerned when pupils did not understand the material							
30. took steps to find out where difficulties lay							
31. was actively helpful when pupils had difficulty							
32. taught with enthusiasm							
33. established rapport with pupils							
34. held positive attitude toward teaching							
35. was pleasant with pupils							
36. found good things in pupils to call attention to							
37. distributed his attention to pupils and initiated contacts with them							

Contd/.....

A P P E N D I X 2 - Continued

	PASS				FAIL		
	7	6	5	4	3	2	1
38. gave pupils compliments only when they deserved							
39. seemed to show sincere concern for pupils' personal problems							
40. was fair with pupils							
41. was considerate and courteous with pupils							
42. showed liking for his pupils							
43. took account of pupils' preferences in seating							
44. met difficult classroom situations with confidence							
45. created a warm classroom atmosphere							
46. used pupils' own experiences and knowledge as learning resources in the lesson							
47. modified his teaching behaviour in the light of pupils expressed attitudes and emotions							
48. was emotionally expressive during his teaching							
49. used his emotions appropriately and usefully in teaching							
50. showed that he was able to perceive a situation from the pupils' point of view							

Contd/.....

A P P E N D I X 2 - Continued

	PASS				FAIL		
	7	6	5	4	3	2	1
51. made references about himself as more than just a teacher (e.g. parent, brother, or sister - or in other roles - or with other interests)							
52. expressed his own values in his teaching where appropriate							
III. Pupil learning: Pupils							
53. discussed various aspects of the subject matter with the teacher							
54. engaged actively in the lesson							
55. appeared to enjoy the lesson							
56. were orderly without specific directions from the teacher							
57. were on task most of the time							
58. appeared to understand what was going on							

IV. General Remarks:

1. improvement proposed:

2. follow-up agreed upon:

3. overall assessment:

Signature(s):

Date:



A P P E N D I X 3: SELF-CONCEPT SCALE

No.	Statement	False	Mostly False	Sometimes False	Sometimes True	Mostly True	True
1.	I am quite satisfied with my competence in the subject of my specialization.						
2.	My colleagues don't understand me.						
3.	I have lots of friends.						
4.	I like the way I look.						
5.	I enjoy teaching my subject.						
6.	My headteacher is usually unhappy or disappointed with what I do.						
7.	I have a pleasant looking face.						
8.	I like my pupils.						
9.	Most teachers have more friends than I do.						
10.	Generally I feel physically fit.						
11.	I dislike teaching my subject.						
12.	I feel that my pupils do not like me.						
13.	If I have children of my own, I want to bring them up like my parents raised me.						

Contd/.....

A P P E N D I X 3 - Continued

No.	Statement	False	Mostly False	Sometimes False	Sometimes True	Mostly True	True
14.	Overall I am no good.						
15.	Other teachers want me to be their friend.						
16.	In general I like being the way I am.						
17.	I like my subject.						
18.	Overall I have a lot to be proud of.						
19.	I usually get along well with my family.						
20.	I dislike myself.						
21.	Overall I am good at things I like to do.						
22.	Overall I am good for nothing.						
23.	I feel physically not strong enough.						
24.	I am not very much good at the subject I teach.						
25.	I don't like to mingle with teachers.						
26.	I am not satisfied with my appearance.						
27.	I get tired too quickly,						
28.	My subject matter creates lots of problems for me.						

A P P E N D I X 4: PUPIL ASSESSMENT OF TEACHER PERFORMANCE

Please rate your teacher on each item. Put a tick (✓) under the number that best indicates your view. Don't write your name on this form. Only the researchers will see your replies.

	LOW		HIGH		
	1	2	3	4	5
I. <u>Subject matter:</u> The teacher					
1. indicated mastery in his subject					
2. made the subject interesting					
3. knew where to find further information in his subject					
4. had broad experience in his subject aside from the textbook knowledge					
II. <u>Teaching style:</u> The teacher					
5. explained clearly					
6. came to class well prepared					
7. asked challenging questions					
8. summarised major points					
9. made assignments clear					
III. <u>Relations with students:</u> The teacher					
10. encouraged class discussion					
11. let pupils state their views					
12. allowed pupils to disagree with him					
13. helped pupils who needed help					

Contd/.....

A P P E N D I X 4 - Continued

	LOW		HIGH		
	1	2	3	4	5
14. made class work together					
IV. <u>Teacher attitudes:</u> The teacher					
15. liked working with young pupils					
16. respected pupils as individuals					
17. was fair to pupils					
18. was available to pupils					
19. made learning exciting					

- اسم المدرِّب : .....  
 تاريخ الزيارة : .....  
 رقم الزيارة : .....  
 المنطقة التعليمية : .....  
 المدرسة : .....  
 الصف : .....  
 عدد التلاميذ : .....  
 المسادة الدراسية : .....  
 الموضوع : .....  
 المشتركون في الزيارة الصفية : .....  
 .....

ضع إشارة ( ✓ ) في العمود الذي يُعبّر عن رأيك مقابل كل بند من البنود التالي

رقم البند	البنود	ناجح					رقم البند
		٧	٦	٥	٤	٣	
	<u>المعلّم منظمّ للتعلّم</u>						
١	حدّد المعلّم أهدافاً سلوكية لدرسه في دفتر التحضير .....						
٢	أطلّع التلاميذ على أهداف الدرس .....						
٣	حدّد في خطّة المبارات التي يحتاجها التلاميذ من أجل تحقيق الأهداف .....						
٤	اختار خبرات تعليمية / تعلّمية ملائمة لما يلي : أ. أهداف الدرس .....						
	ب. خلفية التلاميذ ذات الصلة .....						
	ج. قدرات التلاميذ .....						
	د. الموقع في السياق المنهجي .....						
٥	وضّر الدافعية للتلاميذ من خلال : أ. إثارة اهتمامهم .....						
	ب. والمحافظة على ذلك الاهتمام .....						
٦	استخدم أنماطاً متنوعة من الطرق لعرض الدرس ( كالسرد ، لعب الأدوار ، المناقشة ، المحاكاة ، النمذجة ، العرض التوضيحي ) جذب انتباه التلاميذ من خلال تنويع المثير ( كاستخدام						
٧	الإشارات ، والصّوت ، والرسائل المعينة . الخ ) .....						
٨	عزّز نجاح التلاميذ بشكل إيجابي .....						
٩	كان تحرّك داخل غرفة الصف تحرّكاً وظيفياً .....						
١٠	ساعد التلاميذ على تنشيط إمكاناتهم العقلية ( وذلك من خلال طرح أسئلة تتحدّى تفكيرهم ، وتشجيع الطرق التي تساعد على حلّ المشكلات ، وحثّ التلاميذ على طرح الاسئلة ، وإتاحة الوقت الكافي لديهم كي يفكروا . الخ ) .....						
١١	ساعد التلاميذ على استيعاب المفاهيم الأساسية في الموضوع .....						
١٢	ذكّر التلاميذ بضرورة استخدام خبراتهم السابقة حيثما كان ذلك مفيداً بالنسبة للمعلّم المستهدف .....						
١٣	راعى الفروق الفردية بين التلاميذ في ممارساتهم الصفية المختلفة .....						

رقم البند	البنود	ناجح	راس
		٧ ٦ ٥ ٤ ٣ ٢	٢ ٣ ٤
١٤	استخدم طرقاً متنوعة ومناسبة لتعزيز تعلم التلاميذ . . . . .		
١٥	استخدم أمثلة أو أشكالاً توضيحية لايضاح المادة التعليمية . . . . .		
١٦	تكلم بصوت مسموع وواضح . . . . .		
١٧	عرض المادة التعليمية بوضوح . . . . .		
١٨	لخص - أو أكد على - النقاط الرئيسية في التعليم أو في المناقشات . . . . .		
١٩	حقق انتقالاً سلساً من نشاط إلى آخر . . . . .		
٢٠	ساعد التلاميذ على الالتفات للاتجاهات والقيم الثقافية والأخلاقية التي وردت في الدرس . . . . .		
٢١	استخدم التقويم التكويني لتقويم : أ. التعليم الذي يقوم به . . . . . ب. تقدم التلاميذ . . . . .		
٢٢	عدل التعليم استناداً إلى التغذية الراجعة . . . . .		
٢٣	رصد التلاميذ الذين يواجهون صعوبات محددة ، وخطط لتلبية حاجاتهم ( مثل التلاميذ الذين يتغيبون ، والذين يواجهون إعاقات عاطفية ، وحسية ، وحركية ، وإلتهان الذين يواجهون أزمت . . الخ ) . . . . .		
٢٤	أوكل إلى التلاميذ مهمة القيام بنشاطات مناسبة من النشاطات المرافقة للمضاج . . . . .		
٢٥	أنهى الدرس بشكل مناسب ( كأن يقوم بتلخيص النقاط الرئيسية ، وتقويم تحقق الأهداف ، واقتراح نشاطات مصيئة للمتابعة . الخ ) . . . . .		
٢٦	أقام المعلم الدليل على معرفته بالموضوع الذي يقوم بتعليمه . . . . .		
٢٧	شارك التلاميذ الاتجاه الاكتشافي نحو المعرفة . . . . .		
٢٨	كان مستعداً او جادوا لتقديم المشورة للتلاميذ . . . . .		
٢٩	أبدى اهتماماً جيداً عند ما تبين له أن التلاميذ لم يتمكنوا من استيعاب المادة التعليمية . . . . .		
٣٠	قام بخطوات من أجل تحديد مواطن الصعوبة . . . . .		
٣١	كان نشطاً في مساعدته للتلاميذ الذين واجهوا بعض الصعوبات . . . . .		
٣٢	علم بحماسه . . . . .		
٣٣	أقام تفاعلاً متبادلاً مع التلاميذ . . . . .		
٣٤	سعى اتواها إيجابياً نحو التعليم . . . . .		
٣٥	كان باسماً مع تلاميذه . . . . .		
٣٦	لاحظ جوانب إيجابية لدى تلاميذه تستحق التنويه . . . . .		
٣٧	وزع انتباهه بين التلاميذ وبإدراك إلى الاتصال بهم . . . . .		
٣٨	أثنى على التلاميذ في الحالات التي كانوا يستحقون فيها الثناء . . . . .		

رقم البند	البنود	ناجح						راسب
		٢	٣	٤	٥	٦	٧	
٣٩	بدا عليه الاهتمام الصادق بمشكلات التلاميذ الشخصية . . .							
٤٠	كان عادلاً مع التلاميذ . . . . .							
٤١	كان لطيفاً مع تلاميذه ومراعياً لحقوقهم ومشاعرهم . . . . .							
٤٢	أظهر محبةً لتلاميذه . . . . .							
٤٣	راعى رغبات التلاميذ فيما يتصل بأماكن جلوسهم في غرفة الصف . . . . .							
٤٤	واجه للمواقف الصعبة الصعبة بثقة . . . . .							
٤٥	خلق مناخاً صفياً ودياً . . . . .							
٤٦	استخدم خبرات التلاميذ ومعارفهم الشخصية كموارد تعليمية في الدرس . . . . .							
٤٧	عدّل سيرته التعليمي استناداً إلى الاتجاهات والمشاعر التي عبر عنها التلاميذ . . . . .							
٤٨	كان ناجحاً فسي التعبير عن مشاعره في أثناء تعليمه . . . . .							
٤٩	استخدم مشاعره بكفاية ونجاح في التعليم . . . . .							
٥٠	أظهر مقدرةً على أن يبري المواقف من وجهة نظر التلاميذ . . . . .							
٥١	أدى أدواراً أخرى علاوةً على دور المعلم ( مثلاً : والد ، أو أخ ، أو أخت ، أو أياً أدوار أخرى - أو بالاشارة الى اهتمامات أخرى خاصة به ) . . . . .							
٥٢	عبر عن قيمه الخاصة في أثناء تعليمه ، حيثما كان ذلك مناسباً . . . . .							
	<u>التلاميذ يتعلمون</u>							
٥٣	ناقش التلاميذ جوانب متعددة في المادة التعليمية مع المعلم . . . . .							
٥٤	أنهض التلاميذ بنشاط في الدرس . . . . .							
٥٥	بدا على التلاميذ الاستمتاع بالدرس . . . . .							
٥٦	كان التلاميذ نظاميين وبنما إرشادات محددة من المعلم . . . . .							
٥٧	كان التلاميذ يهتدون مهمات معظم الوقت . . . . .							
٥٨	بدا على التلاميذ استيعاب ما كان يجري في غرفة الصف . . . . .							

- ٤ -

البند	رقم البند
ملاحظات عامة التحسينات المقترحة :	٥٩
المتابعة التي تم الاتفاق عليها :	٦٠
التقدير المستمر للعام .....	٦١

ناجح راسب  
٢ ٣ ٤ ٥ ٦ ٧

التاريخ

التوقيع







A P P E N D I X 6: RAW SCORES DATA

KEY TO APPENDIX 6

n= 60, 8 cards per teacher-trainee.

The format per subject is as follows:

I. Demographic Data (columns 1-8 in all data):

Column(s)

- 1-2 - No. of trainees: 1-30 TS group  
31-60 PD group
- 3 - No. of card
- 4 - Sex= 1 (Male), 2 (Female)
- 5 - Degree= 1 (BA), 2 (BSc), 3 (MSc)
- 6 - Subject of specialization= 1 (Arabic),  
2 (Religion), 3 (English), 4 (Maths),  
5 (Science), 6 (Social studies)
- 7 - Experience= 1 (<1 yr), 2 (1-5 yrs),  
3 (6-10 yrs), 4 (11+ yrs)
- 8 - Geographical location= 1 (Amman I),  
2 (Gt Amman II), 3 (Belqa), 4 (Irbid)

II. Scores on Classroom Visits (7-pt scale):

Columns

11-69 - Repeated 6 times (cards 1-6)

58 scores per visit for the 58 items in Instrument 1.

III. Scores on Self-concept (5-pt scale):(Instrument 2):

Columns

11-38 - Card 7: Pre-test

11-38 - Card 8: Post-test

IV. Scores on Pupil Assessment of Teacher Performance  
(5-pt scale) (Instrument 3):

Columns

40-59 - Card 7: Pre-test

40-59 - Card 8: Post-test

V. Scores on Post-treatment Measures (5-pt scale):

Columns

61-79 - Card 7: Self-assessment

61-79 - Card 8: Headteacher assessment



































A P P E N D I X 7: TREND ANALYSIS FOR THE MEANS OF BOTH GROUPS ON THE EIGHT SUBSCALES OF THE CLASSROOM OBSERVATION SCHEDULE (USING BMDP3D)

SUBSCALE 1: PLANNING INSTRUCTION

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.75	58	MEAN	0.25	0.21	
T (POOLED)	0.75	58	SD	0.19	0.20	
F (FOR VARIANCES)			S.E.M.	0.04	0.04	
LEVENE	0.30	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.65	0.66	
			MINIMUM	-0.39	-0.29	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 2: MOTIVATING PUPILS FOR LEARNING

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.09	56.6	MEAN	0.26	0.18	
T (POOLED)	0.09	58	SD	0.20	0.17	
F (FOR VARIANCES)			S.E.M.	0.04	0.04	
LEVENE	0.59	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.65	0.52	
			MINIMUM	-0.39	-0.29	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 3: PRESENTATION SKILLS

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	1.54	58	MEAN	0.23	0.16	
T (POOLED)	1.54	58	SD	0.16	0.17	
F (FOR VARIANCES)			S.E.M.	0.03	0.03	
LEVENE	0.42	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.59	0.52	
			MINIMUM	-0.14	-0.13	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 4: EVALUATING PUPILS AND INSTRUCTION

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.35	57.7	MEAN	0.27	0.22	
T (POOLED)	0.35	58	SD	0.20	0.18	
F (FOR VARIANCES)			S.E.M.	0.04	0.03	
LEVENE	0.00	1, 58	SAMPLE SIZE	30	30	
	0.96		MAXIMUM	0.69	0.56	
			MINIMUM	-0.31	-0.10	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 5: PROMOTING PUPILS SELF-ESTEEM

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.95	49	MEAN	0.20	0.16	
T (POOLED)	0.95	58	SD	0.20	0.13	
F (FOR VARIANCES)			S.E.M.	0.04	0.02	
LEVENE	3.99	1, 58	SAMPLE SIZE	30	30	
	0.05		MAXIMUM	0.64	0.45	
			MINIMUM	-0.15	-0.05	

Contd/...



A P P E N D I X 7 - Continued

SUBSCALE 6: ENGAGING AFFECT IN LEARNING

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	0.04	57	MEAN	0.26	0.17	
T (POOLED)	0.04	58	SD	0.19	0.17	
F (FOR VARIANCES)			S.E.M.	0.04	0.03	
LEVENE	0.16	1, 58	SAMPLE SIZE	30	30	
	0.69		MAXIMUM	0.64	0.46	
			MINIMUM	-0.14	-0.17	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 7: INVOLVING SELF IN TEACHING

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	1.21	57.4	MEAN	0.18	0.13	
T (POOLED)	1.21	58	SD	0.17	0.15	
F (FOR VARIANCES)			S.E.M.	0.03	0.03	
LEVENE	0.02	1, 58	SAMPLE SIZE	30	30	
			MAXIMUM	0.69	0.55	
			MINIMUM	-0.05	-0.11	

Contd/...

A P P E N D I X 7 - Continued

SUBSCALE 8: DEVELOPING PERSONAL AND CREATIVE COMPETENCE IN PUPILS LEARNING

DIFFERENCES ON SINGLE VARIABLES						
STATISTICS	P-VALUE	DF	GROUP:	TS	PD	
T (SEPARATE)	2.48	57.4	MEAN	0.27	0.16	
T (POOLED)	2.48	58	SD	0.18	0.16	
F (FOR VARIANCES)	0.02	1, 58	S.E.M.	0.03	0.03	
LEVENE			SAMPLE SIZE	30	30	
			MAXIMUM	0.71	0.46	
			MINIMUM	-0.15	-0.15	