CLINICAL SUPERVISION OF UNDER GRADUATE AND POST GRADUATE STUDENTS IN AUDIOLOGY: GUIDELINES

REG. NO. M 9406

AN INDEPENDENT PROJECT SUBMITTED AS PART FULFILMENT FOR THE FIRST YEAR M.Sc. (SPEECH AND HEARING) TO THE UNIVERSITY OF MYSORE

ALL INDIA INSTITUTE OF SPEECH AND HEARING
MYSORE-570 006
INDIA

MAY 1995

This work is dedicated to

Pujya Babaji, Pujya Mataji - My Supremes:
My Parents - My Foundations,

I salute you in reverence

CERTIFICATE

This is to certify that the independent project entitled, **"CLINICAL SUPERVISION 0F *UNDER* GRADUATE AND *POST GRADUATE STUDENTS* IN AUDIOLOGy: *GUIDELINES" is*** *a bonafide work done lin part fulfilment for first year degree of*

Master of Science *[Speech and Hearing) of the candidate with, register number* M *9406.*

Mysore
INDIA
1995 Director

Dr. (Miss) S. Nikam

All India Institute of
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Mysore-570 006

CERTIFICATE

This is to certify that the independent project entitled "CLINICAL SUPERVISION OF UNDER GRADUATE AND *POST* GRADUATE *STUDENTS* IN *AUDIOLOGY: GUIDELINES" has been prepared under my supervision and guidance.*

Mysore
INDIA
1995

Dr.*(MISS)S. Nikam*
GUIDE

DECLARATION

I hereby declare that this independent project, entitled, **"CLINICAL SUPERVISION OF UNDER GRADUATE AND *POST* GRADUATE *STUDENTS* IN *AUDIOLOGV: GUIDELINES*"** is the result of my own effort under the guidance of Dr. *(MISS)* **S. *Nikam, Proffessor*** and Head, The Depantment of Audiology, All India Institute of Speech and Hearing, Mysore, India, and has not been Submitted earlier at any University for any other diploma or degree.

Mysore.
INDIA Reg.No.M*9406*
1995

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M *9406*

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INTRODUCTION

Audiology is a young, vibrant and dynamic field. Its ancestry can be traced to the field of Education, Medicine, Physics, Psychology in the nineteenth century, and emergence of Speech Pathology in the first half of this century. The term 'Audiology[1] meaning "science of hearing", was coined by Carhart (1947). Since then, its definition has expanded to include its professional nature.

"Audiology is the profession that provides knowledge and service in the areas of human hearing and more broadly, human communication and its disorders" (Rassi, 1978).

The field of Audiology is widely recognised as a clinical discipline. Although the academic and research components of the field contribute equally in the study of communicative disorders, these will have limited utility without their application to clinical work.

As in any other profession one of the main goals of Audiology is to formulate and provide training designed to prepare clinically competent audiologists. This will help in meeting the evergrowing demands of standards and thus protecting consumer interest.

Secondly Audiology is a clinically oriented field and thus it becomes necessary that the student's clinical sessions are held under the constant, strict, and healthy supervision, of a well trained supervisor. The clinical work is a three way process involving clinical supervisor, student and the client. The supervisor is the student's clinical mentor. In many ways he helps the student to acquire the knowledge and skills necessary to become an independent and competent clinician who can provide quality services to the client. Van Riper (1965) stated, "We view the role of the clinical supervisor as one of the most important functions in this training centre" and later "it is in the personal interaction with the student that the supervisor turns students into clinician".

Rassi (1978) stated "On many fronts, knowledge in the field of Audiology is expanding so rapidly that the challenge to keep abreast of new developments can be overwhelming to any clinician" For a clinical supervisor, the implication of change are even more consequential, because he is directly responsible for demonstrating or teaching the latest advances in clinical know how to the students. There is an unending need for improvement of his supervisory techniques. Thus a clinical supervisor ought to be a keen student himself throughout his life.

Despite such statements as the above the supervisory process in Audiology and Speech Pathology was either ignored or downgraded (ASHA Report, 1978). Typical attitudes were cited by Perkins (1962), where he stated "An appointment to supervise trainees in our profession is not yet a coveted mark of distinction" and Van Riper (1965) who wrote, "We fear to discern a general tendency in our field to view supervision of clinical practice as being of much less importance than teaching or research and it is a tragic situation".

Whatever literature' available on supervisory process in India and abroad is generalised to supervision in Speech Language Pathology and Audiology assuming that the clinical practicum of both fields is quite similar in content. Till now there has been little focus on specific supervisory techniques on the vast array of audiological procedures which are not therapy oriented. Therefore, an audiology supervisor usually has to adapt information on supervision from Speech Language Pathology areas.

This project titled "Clinical Supervision of Under-Graduate and Post-Graduate Students in Audiology - Guidelines" aims at

1. defining supervisory process, supervisor's job and student's role in clinics.

2. highlighting the content of audiological supervision.

3. giving well defined and adaptable guidelines for clinical supervision of Speech and Hearing students. These guidelines may also be helpful for supervising the training of associated professionals in Audiology.

4. discussing some of important issues in the supervisory process.

5. helping supervisors in evaluating students.

That is, the main target population is supervisors and potential supervisors. To be field specific, this effort focuses on clinical supervision as it is applied to audiology clinical practicum training. This is necessary in improving audiological, supervision and in turn prepare students for promoting good Audiology. The field of Audiology has grown upto such a stage that it is no longer possible to afford to leave its one of the main area, i.e, training Of Students, to Chance. Moreover the students also nave become much more demanding, it is more difficult to satiate their hunger for knowledge.

SUPERVISION IN AUDIOLOGY: AMALGAMATION OF ELEMENTS

Clinical supervision has been defined by each supervisor, in different ways.

Clinical supervision can be defined as that form of teaching which is aimed at bridging the gap or parity between the student's academic knoweldge in Audiology and his practical functioning and thus making him a self sufficient clinician.

The teaching referred in the above definition is different from formal classes and is also different from the tutorial kind of teaching. This is because, of the presence of a third element, i.e., the patient. Secondly this teaching is characterised by a unique feature known as "learning by doing", i.e., the student learns a task by performing that particular task.

This poses a unique challenge to the audiology supervisor because clinical supervision has to bypass and go much beyond the teaching of theory application. Class room teaching cannot prepare students for the vast variety of clinical population and testing problems. The student, moreover, also gets a chance to integrate knowledge when he sees informational factors interacting in a patient, test

findings and clinical environment. The class room teaching may be referred to as the "What" of audiology and the supervisory teaching as the "how". These two are by no means mutually exclusive. In Rassi's (1978) words "It is the clinic where the student clinician serves his apperenticeship and actually learns tools of his trade". The student based on his clinical experience only learns to cope with the multitude of variables which exist in every day audiological endeavours. Only clinical supervisors helps student in, "learning by doing".

Competency Based Instructions

This is one of the basic elements of supervision. The supervisor should set definite objectives and should work towards meeting those objectives. This way one can analyse the supervisory process. Firstly one has to isolate those clinical activities that, when grouped together may be identified as competencies to be pursued.

The Fig. 2.1 represents one way in which the competencies of a clinical audiologist can be delineated. Note that the items are arranged or ranked in increasing difficulty in each column, i.e., testing, writing, interpersonal and decision making. These columns are also in increasing difficulty from left to right. Firstly each

INDEPENDENT PATIENT MANAGEMENT

Testing		Writing		Interpersonal		Decision making	
BSERA Immittance Special auditory tests Supplementary (non-audio logic. tests for children Hearing aid selection techniques Test modification for children Test modification for difficult to test adults Masking: when and how Speech audiometry sound field Speech audiometry discrimination Speech audiometry-SRT P/T threshold B/C P/T threshold **A/C** Operation of test equipment Checking test equipment		Coordinating multi-evaluation information writing report Writing reports Writing summary Interpreting reports Interpreting summary Interpreting incoming patient information		Inter-professional relationships Dealing with difficult questions Counselling of parent Counselling of patient **Interview** of parent Interview of patient **Behaviour** shaping with children Behaviour shaping with adults Rapport with patient, parents Communicative skills with Tearing impaired Basic test instructions		Diagnostic impressions in special test batteries Diagnostic impressions in cases with incomplete test results What, and what not, to include in reports What referrals to make What non-H/A recommendations to make What H/A combination to recommend Analysing all factors, then deciding what H/As to try What test modifications are required What tests to use, abbreviate or delete	
With super vision	Without super-vision	With super vision	Without super-vision	With super vision	Without super-vision	With super vision	Without super-vision

FIG. 2.1: COMPETENCY SCALES

competency when in supervision context should be done with supervision and afterwards when he gains self sufficiency, without supervision. The final task is that of independent patient management by the student.

These competency scales are not separate entities in themselves. Such goals are unachievable and they just show a general view of audiology supervision within the frame work of competency based instructions.

In real supervisory conditions there is no demarcation of difficulties in these tasks. Their overlap is very much possible, as in the case of atypical patients and weaknesses of the student. For example, it may be difficult to counsel a case but easy to test him, while in another case the reverse may be true; a student may be very adept in report writing but unable to operate equipment smoothly; or a student may work more easily with children than with adults.

This order of difficulty also suggests the sequence of presentation of competencies in clinical instruction. The sequence though may be ideal, its enactment is impractical as well as impossible. If supervisor act in such a sequence in patient service and fragment it, he to compromise with patient service. So it is

inadvisable to compromise seriously on evaluation of patient to match the skills of student. Moreover some times some rare cases come and it is beyond the skill or competency of the student but as the student might not see such a case again he should be exposed to those competencies. This is especially applicable for a beginner student. This exposure should be accompanied by explanatory narrations. Supervisor should act as model and highlight the salient points. This helps students to make a 'store house[1] of knowledge and, utilise it later.

The overlapping of competencies is a challenge for both supervisor and for the student. The big advantage of sequencing competencies is to structure the teaching situation, sequencing of clinical practicum and assignments.

Levels of Supervision

By 'levels' what is meant is, the standard, the approach that a supervisor should use or the level at which he supervises. Supervision should be done in a hierarchical manner.

To determine level of supervision the supervisor should have some fore knowledge of the student's background

and skills. Following factors should be considered to determine this.

1. Students academic level
2. Students previous clinical assignments
3. Students quality of work.

This will give a general idea about the student which in turn, will determine the initial level to be or where to start from. Later, when the supervisor works with the student he can choose the level of supervision accordingly, based on the students' clinical skills. Categorisation of clinical supervision based on levels can be done in the following way.

Level 1 Detailed explanation, with accompanying demonstration; of every action from the start of a session to its end.

Level 2 General explanation, with less amount of accompanying demonstration, of every action in the clinical session.

Level 3 Suggestions or corrections while student is performing task(s) under close supervision.

Level 4 Prestructuring of task(s) before hand, with no explanation while student is performing that task(s).

Level 5 Instructing student about the tasks, its rationale, but no explanation is given on how to do tasks during any stage.

Level 6 Review before hand with student of task(s) to be performed with student making all the decisions. Suggestions should be given when required.

Level 7 Review of task(s) with student only after he has completed them.

Level 8 Students performs independently, with supervisory monitoring only when felt necessary.

As seen, at each succeeding level less active participation by the supervisor and more involvement of the student is required. The supervisory control is always necessary because it is the supervisor who follows up the patient and patients welfare is solely his responsibility.

Secondly, even the senior most student can benefit from the supervisors expertise. So it can be seen that "remote control supervision" is not a desirable task. By remote control supervision it is meant, the passive, non-involved supervision from afar.

Supervision Stations

By supervision stations what is meant is supervisors physical location while supervising. Following are the possible supervisory stations.

1. First station for the supervisor is in the test chair (explaining the tasks to the student).

2. Supervisor is seated besides the student all the time and instructs him at every step.

3. Supervisor in test room, with student, during contact with patient.

4. Supervisor in test room to observe students' testing, giving suggestions and instructions when and where necessary.

5. Supervisor spot checks students activities regularly and at important times throughout test se ssions.

6. Supervisor monitors all testing and student patient interactions from a distance and intervenes when necessary.

7. Supervisor absent from premises.

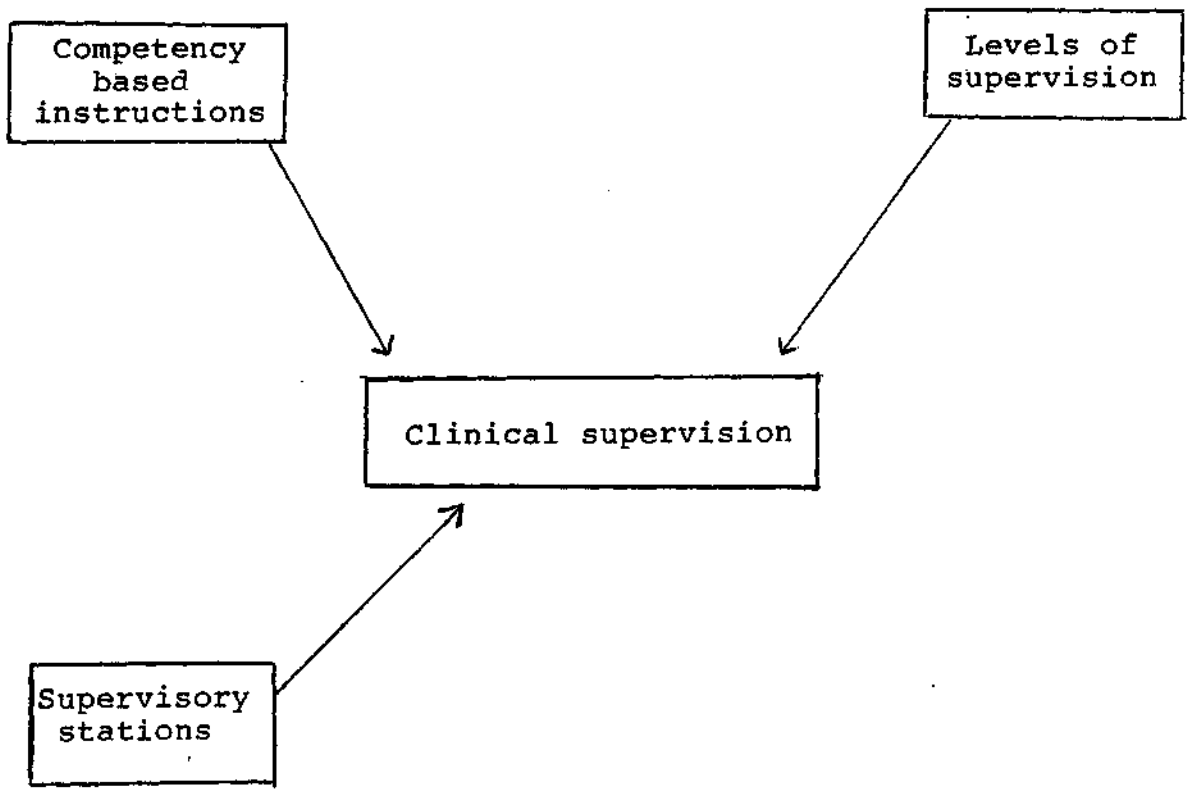

Fig. 2.2: Diagram showing amalgamation of supervisory elements in clinical supervision

The supervisor should increase the distance between his location and site of testing but should never desert the student.

It is important for the supervisor to amalgamate all the three elements discusssed above and correlate them with each other and use. Then only can supervision be effective.

THE ROLE OF CLINICAL SUPERVISOR IN AUDIOLOGY - GUIDELINES

A supervisor is a key element in the supervisory interaction. It is also seen that some of the institutes involve many other persons in the supervisory job whose primary work is something other than clinical supervision like audiometricians, ear mould technicians or for that matter any audiologists, deaf educators, etc. But being a supervisor is not a easy task and he should have some characteristics. These characteristics can be divided into two categories: 1) Competencies, 2) Qualities.

1. Competencies

It means the capacity, the ability, the sufficiency of the supervisor. It includes the definable, teachable elements and they depend upon the external factors.

Competencies of a clinical supervisors are as follows.

a. He should be an expert clinician.

b. Second competency is the teaching ability. Teaching ability further comprises of following abilities which a supervisor must have. These are

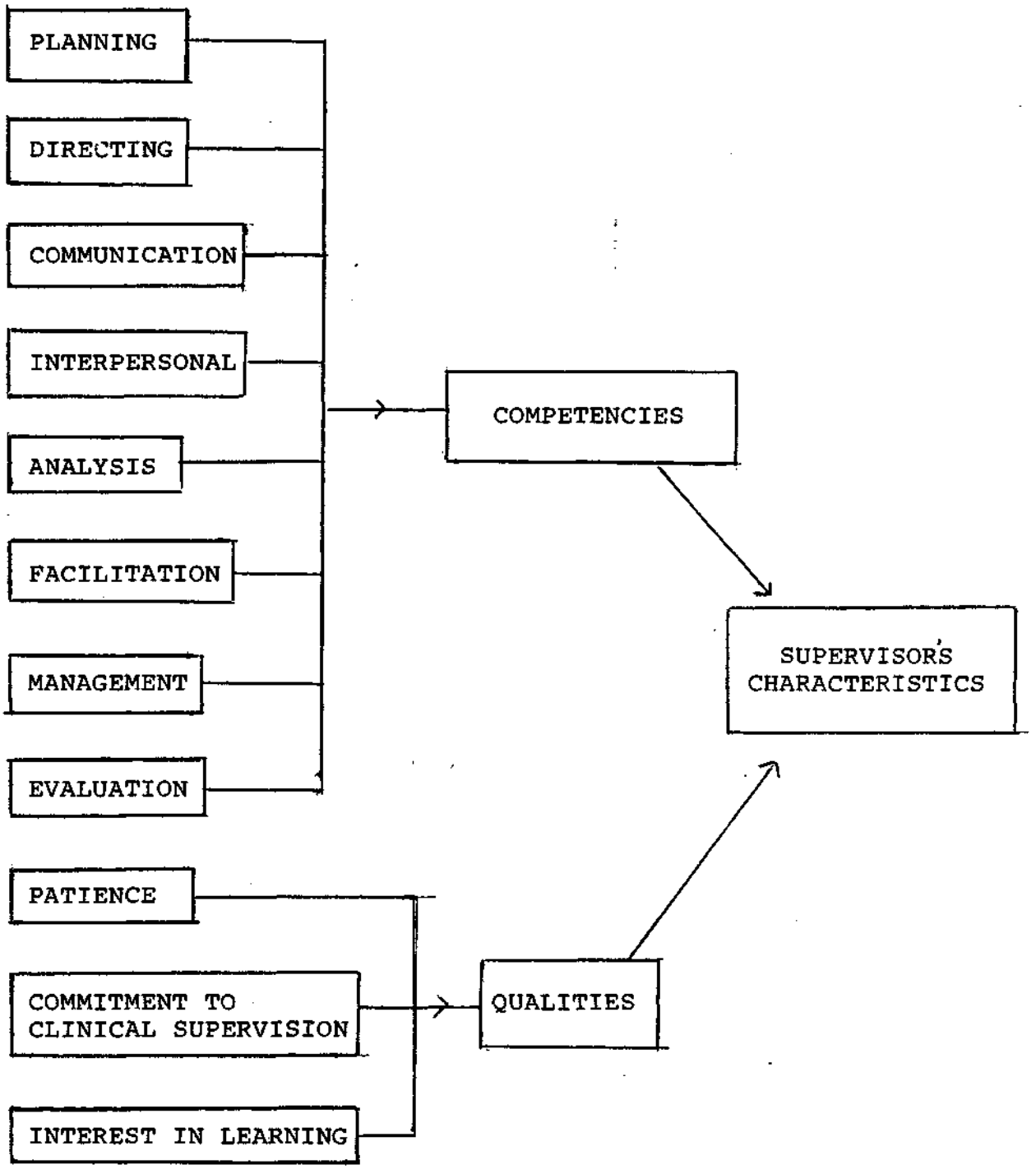

Fig. 3.1: Schematic showing supervisor's characteristics

i) Planning

ii) Directing

iii) Communication

iv) Maintaining interpersonal relationships

v) Analysis

vi) Facilitation

vii) Management

viii) Evaluation

2. Qualities

Qualities are those inherent/intrinsic characteristics that are very personal in nature.

i) Patience

ii) Commitment to clinical supervision

iii) Keeping himself abreast with recent developments in Audiology.

1. COMPETENCIES

In competencies the mentioned two basic competency sets, i.e., the expert clinician and the teaching ability, would be considered.

a. Expert Clinician

This represents the excellent clinical skills that a supervisor must have as this is very necessary or

essential to high quality supervision. The clinical supervisor must know his clinical job well and should be capable of making, and carrying out appropriate clinical decisions, then only he can be said to be prepared for a supervisory post. This is necessary not only to provide quality services to the client but also as the student at this age is impressionable and new. If he gets misinformation during his years of clinical practicum, that lasts long and makes him take wrong decisions. It is particularly so because a student is not a good judge of clinical abilities. It may result in faulty reasoning and poorly executed techniques becoming deeply entrenched habits. Therefore a clinical supervisor should apply only accepted facts and work with workable clinical procedures. There can be many options under this frame work but the clinical supervisor should apply his knowledge to make appropriate selections and implement them accordingly.

This doesn't mean that the "expert clinician should be able to answer all the questions. He should tell the student when he is not certain, that the correct decision is being made, the reason for this uncertainity, and the reason as to why a particular strategy has been selected from the possible options available. Audiology answers are not clearcut and the supervisor must tell the student, and help

him to recognise that there are few absolutes in clinical work. If the supervisor commits any mistake he should openly admit it in front of the student hence giving the realisation to the student that it is not uncommon to make wrong decisions and even an experienced supervisor may commit that mistake.

Even though many clinical decisions are confusing, the supervisor need not hesitate in articulating them to his student. Rather, the supervisor must be well prepared to present himself and his ideas in such a way that they reflect self confidence. This will reinforce the students[1] confidence in his supervisor. A student who is skeptical of his supervisor's capabilities cannot be expected to learn well as this attitude blocks his thinking. In such circumstances it is very much possible that he may reject the supervisor's sound clinical decisions along with those that he thinks are unwise. "This potentiallly damaging situation can be averted by the actions and words of a confident, self assured clinician" (Van Riper, 1965).

Experience is one of the major quality of a clinical supervisor as it is often seen that experienced clinicians make fewer errors than do inexperienced clinicians. Therefore, a person who is to get a clinical

supervisor's post should be well experienced. After obtaining one's Bachelor's or Master's degree one should go in for a special training for supervisory process. As suggested by Schubert (1974) there should be a particular period of paid professional experience. As it is there in some of the centres where candidates have to work as clinical assistants before being promoted to the post of clinical supervisor.

To recapitulate, an effective supervisor is a competent and experienced clinician conversely, a competent, experienced clinicial is not necessarily an effective supervisor. There are many other additional characteristics that will be considered in the following parts.

b. Teaching Ability

Teaching ability constitutes the second major competency area. Supervision is teaching. Supervisors are teachers; that is according to the common dictionary definition, those who impart knowledge or skills or who give instructions (Barnhart, 1968). For this one must be able to explain ideas clearly. This is the essence of clinical teaching. Simplified explanations or descriptions of clinical events and their rationales are of vital

importance to the student's assimilation of classroom learned facts. The clinical setting may act as a ready-made "audio visual" aid (test equipment, test results/ patients and live action), to hasten the teaching/learning process, these same factors can also easily contribute to the confusion. This happens when the factors mentioned before, interact in some what impredictable ways, thus getting the student confused, as he tries to relate the clinical happening with his class room/text book learning. The supervisor is the only person who can bridge this gap by giving well reasoned and logical explanations to the student. But if the supervisor's interpretation of events is vague and/or inarticulate he confuses a student who had a better understanding of the material before the supervisor tended to enlighten him.

(i) Planning

Planning is the establishment of goals or objectives and the courses of action for achieving them. To plan is to deal with the future. Planning involves work scheduling, teaching scheduling with or without the knowledge of the student clinician. Decision making is such an important part of planning that the planning function is often referred to as planning and decision making. When a supervisor helps to determine which work

activities the student will take next week or for short period, after a few hours, keeping in mind the needs of the student, clinical practicum and competencies of student, he or she is planning. .

(**ii**) **Directing**

Directing is influencing others to achieve objectives. Directing is also referred to as leading. Supervisors are engaged in directing when they motivate, counsel or discipline student clinicians.

To fulfill his capacity as teacher the supervisor often directs the student to perform a task that the supervisor has explained. He has to make a judgement as to whether or not the student is complying with his instructions satisfatorily. If the performance is not upto the mark, he must step in to rectify the situation. If this process is handled carefully it results in maintainance of a harmonious relationship with the student, which in turn further facilitates the learning process. Whenever the supervisor has to give any advice or has to correct the student, he should use inoffensive words. Supervisor should use such words which show respect and kindness towards the student. For a student who cannot take in criticism, supervisor should make him realise that

the student is not expected to be errorfree in the phase of learning. Supervisor should avoid giving warnings or ultimatums to the student as the student may get frightened and may not perform optimally under such pressure. Van Riper (1965) suggested that positive leadership is effective but negative leadership is risky. By being positive and compassionate, a supervisor can open the lines of communication between himself and his student.

(iii) Communication

As communication is a two way process, the supervisor should give, the student ample opportunity to provide input through suggestions, questions, and general discussions. The student should not be always at a receiving end (Pickering, 1977).

This type of free flowing communication serves several purposes:

1. It lets the student know that the supervisor gives importance to his ideas.

2. It allows the supervisor to examine for a different view point, the student's understanding of clinical information.

3. Supervisor gets an opportunity to nurture the students enquiring mind.

The supervisor must always encourage each student to scrutinise all aspects of every case he sees and to question every thing he does clinically. No piece of clinical information should ever be accepted at face value. A student should be encouraged to analyse the information critically, balance all the factors, and then make conclusions. This helps in producing "thinking audiologists".

When the supervisor gets a student who is reluctant to ask questions, he should initiate discussion or verbalise ideas, he must make an attempt to elicit the student's thinking on the matters at hand. This silence imposed on himself by the student clinician can be due to following reasons.

1. Fear
2. Shyness
3. Lack of enough knowledge to generate questions
4. Lack of sincere interest in clinical assignment. Supervisor should stamp it out and deal accordingly whatever the cause may be.

Each student should be made to take part in the discussion. Such a communication is an integral part of clinical teaching/learning process.

Communication between the supervisor and the student is greatly affected by the supervisor's attitude, and consequently his behaviour towards the student. The atmosphere inside the clinic should be comfortable. This is largely dependent on the supervisor's disposition in the presence of student. Some of these situations are: When supervisor treats the student more as a child than as an adult; the supervisor embarrasses the student by pointing out his errors in the presence of a patient or others. He can further impede communication by constantly interrupting a student who is trying to express an opinion or answer a question. This act of the supervisor makes the student feel that his ideas are secondary in importance and that the supervisor is not interested in his opinions.

Another important mode of expression as Brown (1975) suggests is body language. The supervisor must be alert to his facial expressions; for example, do they show approval or disapproval, pleasure or disgust ? He needs to be aware how he touches a student. The supervisor also needs to be alert to other overt self demonstrations of emotion; for example, is he tense and shaking, or calm and relaxed ? This form of communication is most powerful yet so subtle, that a supervisor must be aware of his feelings and exert some control over them, as a keen and observant student can detect it easily.

The suprevisor's responsibility of promoting good communication should exten to the patient also. The communication skills with the patient must be of the first grade because, as a supervisor, he is serving as a model for the student to emulate. Supervisor should make this model more instructive as this is quite likely the primary way in which the student actually learn to communicate with this patients.

(iv) Interpersonal Relationships

The category of interpersonal relationships is inseparably linked with the communication and directing •factors. As it is impossible to communicate and direct effectively without satisfactory interpersonal relationships, especially so when the situation is of one-to-one type.

While establishing interpersonal relationships, the supervisor is the constant in a homeostasis of variables, of students and patients it is he who must adapt to the ever changing needs and personalities of the students and patients. He has to generate a favourable climate between and among students, patient and himself. It is the supervisor who has to bear the burden of soothing the unhappy feelings of others, feelings of disappointment, guilt, dissatisfaction, fear or animosity, whether they

belong to the patient or to the student. Therefore a supervisor should be an emotionally mature person to handle such situations amicably.

Students present many things and experiences in common, such as age, uncertainity about future, and adjustment to college life, etc. On the other hand they also present infinite variety of nature, academic and other characteristics, for example, one student may be shy whereas the other may be aggressive, etc. There are many such traits. The supervisor directly needs to deal with such differences and similarities. He should call the student for individual counselling and discussions. Both the student and the supervisor can attempt to solve their problems together.

Pickering (1977) suggests, the supervisor cannot solve the students' personal problems and also that he should not attempt to do so either. In such cases it is expected that he should recognise his limitations and refer the student for appropriate professional help.

The subject of interpersonal relationships within the context of supervision also applies with respect to the patient. It is not expected of a supervisor to become as personally involved with patients as he is with the

student. But he must be flexible in this aspect also. He should expand and make easy and lucid, his communication style for the student's sake. It is important for the student to observe and evaluate supervisor's maneuvering of clinician, patient and family interactions. This becomes even more important when the case or family is uncooperative or difficult. The supervisor should share his attitudes towards all kinds of patients with the student. The student needs to know that the supervisor is emotionally responsive and that the student is entitled to have similar feelings. The critical follow-up to any sharing of unpleasant feelings with the student is imperitive. The supervisor should demonstrate to the student how he can bypass feelings and deal with patients effectively without alienating them. This act has an immense impact on the student's thinking, particularly in the area of personal attitudes and interrelations. The student sees the supervisor not only as his teacher, but as a professional, the audiologist, some one to emulate, if student respects the supervisor's thinking. The supervisor's opinions affect the eventual attitudes and actions of impressionable student. As it is an potential influence on . future audiologists and thus the field, the supervisor carries with him a great responsibility and this should not be taken lightly.

(v) Analysis **and** Facilitation

Analysis and. facilitation also form a part of the process of supervision in Audiology. Analysis involves those considerations that form the substance of clinical decision making, while facilitation represents the accommodating actions based on these decisions.

The supervisor must be able to analyse the situation before him at any given moment, and then make appropriate clinical and supervisory decisions. In a test session, the options may change form minute to minute, in constrast, analysis of a student's performance over time, for example, week by week, can be based on an overall series of observations and decisions. The interaction of patient, student and supervisor with one another and with factors of time and circumstances, sets the course for supervisory option analysis.

Facilitation means expediting or fastening action based on careful analysis. It mainly pertains to the balancing of patients' needs with a student's needs such that each individual derives the optimal benefit and simultaneously the audiologic session proceeds smoothly. This is very difficult if there is a heavier case load as it happens on some days. In such situations patients and

students make conflicting demands with respect to the time. Here the analysis stage must finish at a fast speed and thus supervisor should establish his priorities followed by compromises.

The patient service is the first priority before students training. But this does not mean that there should be any serious compromise with the student's learning needs. If such a situation arises, the student should be well informed by the supervisor and his reasons behind it. These reasonings should be instructive to the student the student should be given more information about such cases in post-session explanations.

As the supervisor cannot be everything to both parties, the key to successful facilitation lies in his ability to 'balance the needs of a student and patient[1] over several hours of time.

There is another kind of facilitation in the clinical supervisor's job. It involves coordination of his directing, communication and personal relationship competencies. More elaborately, a supervisor should make use of his capacity to exert a positive influence on any unproductive maladaptive traits that are manifested clinically by the student or patient. For this he has

to be resourceful. He should draw on the aforementioned competencies to motivate others to modify their attitude and behaviour in a positive direction. The one-to-one teacher student bond in a regularly scheduled clinical activity creates an ideal environment for methodical behaviour shaping. If the supervisor does this task skillfully he can bring out the best in the student.

(**vi**) **Management**

Supervision in a set up like the All India Institute of Speech and Hearing, Mysore or for that matter any other ideal teaching set up includes four major areas of management: patient, student clinician, clinics and academic.

(a) Patient Management: Skillful and innovative patient management is an obvious ingredient of the "expert clinician" specification. It includes the management of the patient while he is in the clinical environment, making appropriate recommendations and referrals, following the patient's progress, and maintaining contact with allied professionals (ENT Surgeon, neurologist, hearing aid dealer, etc.) to exchange information. The portion of patient management is conducted in the presence of the student and the patient. The case should be demonstrated and/or explained to the student.

(b) Management of the student clinician has been discussed before.

(c) Both clinic management and academic involvement take on significant importance in the supervisor's role. Clinical management includes duties as determining both patient appointments and overall time schedules, maintaining the equipment and promoting the professional liasons. Management of academic obligations often include the scheduling of students' clinical practicum assignment faculty staff meetings, and keeping abreast of curriculum developments within the training program. All these activities help supervisor in teaching. In fact he should grab every possible opportunity to share important information with students. The students should be included in discussions of daily clinic happenings. This gives them both, knowledge and importance as student clinicians.

(viii) Evaluation

The final competency in the teaching ability category is evaluation. The supervisor must be a very good evaluator of students' clinical performance. Clinical evaluation is a continuous process, based on which the supervisor should choose and change his levels of

supervision for each student, clinical evaluation should probe the following areas.

1. Theoretical knowledge
2. Understanding of audiological concepts
3. Student's ability to integrate knowledge and then apply it clinically.
4. His clinical insight, or his capacity to see patient as a person and make decisions accordingly.
5. His clinical personality or how he relates to patients and how he responds to supervisor's instructions.

The evaluation is mostly subjective. Evaluation must look at all these areas repeatedly, taking into account a student's performance over a period of time. Supervisor should also see a student's ability to learn from past errors.

No doubt that clinical evaluation is a complex process but it serves several purposes in clinical teaching. First of all it helps in the idenification of a student's strengths and weaknesses. Secondly, it helps supervisor to modify instructions to aid the student directly.. Thirdly, it helps in monitoring a student's

progres-. from time to time, term to term in his total clinical practicum. This is useful in deciding appropriate clinical assignments; identifying the student's needs in advance; writing letters of recommendations; giving him clinical grades.

2. QUALITIES

After discussing the competencies or characteristics of a clinical supervisor, in following sections are discussed the desirable supervisor qualities.

(i) Patience

The first quality a supervisor should have is that of patience. A supervisor should have a lot of patience in dealing with both the student clinician and the patients. Examples of the types of patience required in an audiology supervision include, tolerance to other's errors, even when repeated continuously; tolerance of relatively slow learners; repetition in explaining and re-explaining and in reminding and reviewing; working with new classes year after year for the beginners; and providing each student with as much clinical expertise as time and capacity will allow. It is precisely those moments when a supervisor runs out of patience that the quality of supervision decreases. It is so because he

becomes irritated, takes over the student's work, minimise instructions, or otherwise shriks the responsibilities of supervision. Therefore supervisor should not loose his concentration and patience.

(ii) Commitment to Clinical Supervision

There is also another noteworthy quality that is required of a clinical supervisor. A supervisor should like his job. His taking of the job of supervisor should not be out of compulsion of any kind. If latter is the case it leads to a reduced interest in the job. Students often percieve from the actions or attitudes of a supervisor that he is not interested in supervision and this can have a negative impact on the students' way of working also.

(iii) Interest is Continued Learning

An audiology supervisor should show interest in his own learning. He should show enthusiasm about each patient seen and also he should inculcate a sense of intellectual curiosity, about the unresolved questions, in the student. The supervisor can further inspire a student by discussing with him the current developments in the field as they relate to mutual clinical cases. Above all the field of Audiology is chanaging rapidly, therefore it is

necessary for the clinical supervisor to stay well informed about the recent developments.

All supervisors should have the above mentioned characteristics and qualities though each supervisor may differ in his ways and means to achieve a goal. He may also differ in the relative amount of the characteristics and qualities which have been discussed.

GUIDELINES FOR SUPERVISING SPECIFIC AUDIOLOGICAL PROCEDURES

Audiological supervision entails supervision of many audiological procedures which constitute clinical practicum. Basic instructions remain same for each audiological procedure except few modifications are made which are procedure specific. The test procedures included in this part are according to the standard clinical practicum of Audiology. This clinical practicum can be referred in Appendix A. The clinical activities should be carried out by the supervisor as given in this clinical practicum.

Clinical supervision consists of many activities that constitute clinical practicum of students as well as those which have to be carried out before actually starting the practicum for example, clinical orientation.

I. CLINICAL ORIENTATION

In clinics often a supervisor and a student meet each other for first time under the situation in which they have to work together. A supervisor should therefore carryout certain preparatory activities. For this the supervisor should set a day on which patient load is less. This should be before the start of the clinical

practicum. Clinical orientation can be carried out in two ways one, when the new batch of first year B.Sc. students arrive a group clinical orientation can be carried out. Secondly, it can be carried out when a student comes individually, or when he has his individual postings. Senior students, i.e., second, third year B.Sc. students and M.Sc. students can be involved in the process.

For clinical orientation of senior students, i.e., from second year B.Sc. to second year M.Sc. students, the clinical orientation is of a different kind. The supervisor himself should carry out activities of higher level and discussing their clinical practicum, etc. Following are the guidelines for these set of preparatory activities.

1. Getting Acquainted with the Student

A clinical supervisor should get acquainted with the student. This helps in breaking a barrier that exists between him and a student who is new to the setup. This makes the student comfortable also.

While carrying out this step the supervisor should discuss with the student his background, previous clinical assignments or his school performance, etc. He can also ask how the student became interested in the field of Speech and Hearing.

2. Explain Clinical Assignment

The supervisor should then explain the clinical assignment to the student. His language used in the explanation should be very simple. He should tell the student about the type of patients he will get. Hew the appointments are to be given and time allotments. Then he should tell his own style of working, what are his approaches, how closely the student is supervised and how this is determined. He should also explain to the student about the usefulness of the supervisor/ student team approach. He should also convey to the student his own goals and goals for the student well in advance before the starting of clinical practicum. The student should be given these instruction typed on a paper.

3. Apprise student of his clinical surroundings

A supervisor can do this personally or ask senior students or some assistant to carryout this task. Students should be shown the place where registration is done, where records are kept, where the lockers to keep personal clinical materials are placed. The students should also be introduced to other supervisors and staff members.

4. Familiarise student with test facilities

The supervisor himself or some very good senior student can do this. This task includes the following activities.

(a) Demonstration of Equipment to be Used

Student should be told for what purpose the instrument is used. Then he should be shown various controls on the panel of the instrument and various points on an instrument which are important for the operation of that particular instrument. Also he should be instructed about the switching on and off of the instrument. Then he should be told how to operate that equipment like an audiometer, masking, impedence meter, ERA equipment, etc. as per the clinical practicum requirements. While the student is being demonstrated the instrument handling he should also be explained the rationale behind every control manipulation. The better the student understands the instrumentation, the better he is in a position to remember the operation procedures. After instruments, the student should also be shown the materials used in the clinics like spondee lists in various languages, tapes to be used, how to use tape recorders, etc.

(b) Review Hearing Aid Stock and Accessories

The supervisor should show the student types of hearing aids, their specifications and standards. Ear moulds, types of tubings should also be shown, Other accessories to be seen are ear moulds, tubings, tools, stethoscope, batteries, battery testers and multimeters and screw drivers for minor adjustments.

(c) Also show the student the test room, counselling w and place for patients to sit. Also indicate location of response signals, earphones, bone conduction, oscillators, etc.

(d) Review of Test Forms and Other Proformae

The supervisor should discuss the test forms and proformae for taking history, counselling and other miscellaneous activities.

II. LISTENING CHECK OF EQUIPMENT

Daily listening checks of test equipment are necessary. The student should be made to participate in this procedure before each clinical practicum session with the supervisor. Even after regular calibration of equipment, it is necessary to do listening checks daily. Following are the guidelines for carrying out supervision of a listening check.

1. Supervisor should discuss the purpose of listening check and encourage the students to carry out regular listening checks. As this helps in accurate testing, it is imperitive to carry out the procedure. Although an audiometer is calibrated there may be some slight loose connection or small problems.

2. Supervisor should demonstrate steps of the listening check, explaining why each step is carried out; for example, clarity of signal, linearity of signal, attenuator or other line noise, equipment hook up, presence of hums at high intensity levels, cross talk between left and right ear phones and various kind of clicks. This demonstration should be dominated by the supervisor, showing the student various dysfunctions, and student should listen with an attentive mind.

3. After several sessions of the supervisor operating equipment and student listening, roles should be reversed and student should be told his mistakes and advised accordingly.

4. Once the student has mastered both ends of the listening check, the supervisor should reverse roles from time to time.

5. Supervisor should also teach the student, how to conduct listening check in a two room set up both when the second listener is there and also when the student is alone.

6. As the main goal of listening check is to check trouble shooting of equipment, the supervisor should "create" equipment problem and then ask student to detect and correct them.

III. REVIEW OP MEDICAL RECORDS AND OTHER PATIENT INFORMATION

Review of medical records and other information about a patient is a very useful step before testing a person. It may have its implication on testing, for testing or test may be modified or may even not be carried out at all, for some specific medical history.

1. Before the arrival of each patient, the clinical supervisor should review all available information which may prove useful, step by step, with the student. He should also discuss its implications for testing. The senior student should be allowed to do this on his own and then discuss it with the supervisor. He should then ask the student some questions to determine if the student has appropriately integrated the material, understands its implications, and knows how to proceed.

2. Supervisor should then help the student to incorporate this information into the patient's history records.

3. Student should be made to do this without assistance at higher levels.

IV. PATIENTS' INTERVIEW

1. Preparation for the Interview

After reviewing the medical records and patient information and on the basis of the depth, scope and estimated accuracy of the available information a supervisor should decide with the student which areas need to be explored further, which areas need to be confirmed and which should not be included in the interview. If there is any thing unusual, is known about the patient before hand which might affect the interview, should be discussed with the student.

2. Interview

For new students, the interview should be conducted by the supervisor during the first few sessions and they should, be made to observe him. Then, can follow a session in which the supervisor and the student both take history simultaneously and record on separate forms and then

at the end of session compare the information recorded for its terminology, language, information and recording methods. In some cases the supervisor can take time between the questions, to explain the rationale for a particular action or what is he going to do next and the reasons for the decision.

If the supervisor feels that the student has observed enough sample interviews, he should be asked to take histories. Supervisor should sit beside the student to listen, if the student and the patient, are comfortable. If necessary, the supervisor should intervene to help the student and give him suggestions. Another way is, that the supervisor should hold post session discussions with the student to tell him about his mistakes.

3. Post-Interview Discussion

The supervisor should briefly review with the student his interview performance, pointing his mistakes and positive points. He should also discuss the implication of patient information for test purposes. He should also check the student's written case history and discuss strengths and weaknesses accompanied by suggestions and editing of the report if necessary.

V. TEST INSTRUCTIONS

1. Preparation

The supervisor should at least give one sample of test instructions to a patient, for a test never before administered by the student. The supervisor should prepare the student by telling him what to say. He can train a student by asking the student to assume the supervisor's role as a patient and directing test instructions towards him. He should then modify them and can also tell the student, alternative ways. The instructions taught should be flexible, clear and concise. The supervisor should also inform the students to give instructions at the level of the patient, i.e., keeping in mind the patient's socio-economic status, language and needs, for example a mentally retarded cases would need more intensive instruction than normals.

2. Instructions

If the supervisor is giving instructions he should ensure that the student is understanding what he is saying and why. The supervisor should listents the student giving instructions to the patient. If the patient is confused or is unable to understand the supervisor should help the student.

3. Post-Instruction Discussion

The supervisor should discuss with the student what was right and what was wrong with the instructions, given by the student.

VI. TRANSDUCER PLACEMENT

The transducer can either be earphones, bone oscillator as in case of puritone audiometery probe tip and earphone in case of impedence audiometry and electrodes in case of ABR testing. Placement should be taught according to the needs of the clinical practicum. Common steps for supervising placement are as follows.

1. Supervisor should demonstrate proper earphone, bone conduction oscillator placement several times, explaining to the student the reason for each step. After the demonstrations, the student should be made to perform this activity, during this procedure the supervisor should comment and assist as deemed necessary.

2. Thereafter the supervisor should periodically check patients to determine if students' positioning of earphones and oscillator is correct or not. Such vigilance is necessary with even senior students.

3. Also should be taught the placement of masking insert receiver or phone as per the case.

4. With senior students same steps can be followed while teaching them placement of transducers for immitance testing and ABR testing.

VII. PURE TONE AUDIOMETRY, MASKING

1. The supervisor should discuss in detail the rationale for each and every step in testing until the student can explain to the supervisor what he is doing, why he is doing and about the reliability to the results.

2. For a new student who is in first year B.Sc, the supervisor should demonstrate the administration of each test several times so that the students can see how it is done before he attempts to do it himself. The supervisor needs to discuss each step as it is carried out. The supervisor should also tell him as he observes the handling of inconsistent responses, false positive and other difficult to test patients.

3. The supervisor should sit along side the student when the student begins actual testing. He should closely watch the student and offer his suggestions unless the student shows some independence.

4. The supervisor should then explain and illustrate recording procedure: symbols, masking level,

etc, he should also tell him how to write explanatory notes and test reliability comments.

5. The supervisor should then gradually depart from close survillance, when the student starts showing proficiency in testing. The supervisor should pull away in order of difficulty but should continue checking the student from time to time to see whether he is performing satisfactorily or not, i.e., is the student obtaining thresholds in the anticipated ways and range; how consistent are the patient's responses; is the better ear being tested first; is student taking too much or too less time.

6. Students should be checked for faulty equipment set up, lapses in clear instruction giving as well as reasons for extreme slowness in the student's testing. For complicated or difficult to test patients, the student may be closely supervised though he may be more proficient in performing testing efficiently in straight forward cases.

7. The supervisor should instruct every student whether of B.Sc. or M.Sc. to show results to the supervisor. The supervisor should ask inferences of the audiograms and other questions to ascertain whether the

student has understood, the test procedure and related concepts.

8. If supervisor has not been watching the student closely during masking process and he feels that the final results are not reliable then he should ask the student to recheck a threshold or two in the presence of the supervisor. In this way the supervisor can see how the patient's thresholds shifted or did not shift, whether or not the marking unit was turned on correctly or if there is any need to reinstruct the patient. If the supervisor sees on recheck that the student was in error, he should maintain a close watch on the student for the same task.

The same steps should be carried out in free field testing also. Other adaptations and modifications such as VRA, BOA should be taught based on the clinical practicum. The student should know about the basic rationale of each test and the response criteria and types of responses obtained. The basic hierarchy of instructions remains same.

VIII. SPEECH AUDIOMETRY

Speech audiometric testing forms a very important^ tool, as a part of the diagnostic test battery as life

situations rarely depend on pure tone haring. Schill (1972) says that speech is a meaning signal and relates closely to the critical activities of life. Speech audiometry is used to confirm results of pure tone audiometry. It throws light on the status of receptive auditory communication and whether the loss is sensory or neural.

Therefore it is logical for the supervisor to proceed from simple pure tone procedures to speech audiometry. In clinical practicum of most of the centers in India it forms the activity that succeeds the pure tone procedures. Given below are the practical guidelines for supervising testing sessions involving speech audiometry.

1. As in other areas mentioned before, the supervisor should discuss in detail the rationale for each step until the student reaches a point where he can explain, what he is doing, why he is doing it, and do the results seem logical to him.

2. For a new student, the supervisor should demonstrate each task (Speech Reception Threshold, Discrimination Testing, Speech Awareness Threshold via tape or monitored live voice) at least once before asking student to do it. As the supervisor is performing

each task he should give step by step explanations to each student.

3. Then he should observe as the student perform the task, making necessary and appropriate comments and suggestions. Before each task is begun, the supervisor should discuss what he plans to do. Some of the preparatory decisions are, which ear should be tested first; what should be the reasonable presentation level in beginning. How to familiarise a patient with spondees or PB word lists; what presentation levels should be taken for discrimination testing; is masking needed, how much and why; how is the equipment to be set up.

The supervisor should initiate these questions and should test the thinking process of. the student. Slowly he should stop giving the clues and the student must be asked what he plans to do and what is the rationale behind his thinking. When a student is able to make reasonable decisions and sound judgements supervisor should do spot checks to check the student's performance.

4. Supervisors should gradually grant independence to the student in performing the tasks. At the same time he should continue to check out equipment set up; results;

masking if necessary. The supervisor should gradually depart from close surviellance, step by step, once the student demonstrates proficiency on his own. Supervisor should always be aware of and alert to the typical student errors. For this critically supervisors should also score the tests and tally it with student's results for correctness.

5. The student should also be taught how to calculate PI-PB function, its interpretation for conductive, cochlear and retrocochlear lesions, roll over phenomenon etc.

6. Student should be taught other procedures like Most Comfortable Level Test (M.C.L.) and Uncomfortable Level Test (U.C.L.) on the same lines as the other speech audiometry procedures are taught.

IX. SPECIAL AUDIOLOGICAL TESTS

There are many sophisticated tests devised in the field of Clinical Audiology, that provide useful clues about the precise area within the auditory system involved, and in some cases, gives strong indications of the cause of lesion. This helps in categorising hearing loss as cochlear, retrocochlear and central. These should be taught to the student only when clinical practicum indicates. Given below are the guidelines to

supervise special audiological tests used in Clinical Audiology.

1. To start with special tests as in the other areas the supervisor should explain and discuss in detail the rationale for each procedure, why to do it, when to do it and how to do it. Also should be explained is the equipment setting, the response criteria, seating arrangement, instructions involved, and the extra controls that are used with each special test. Explain the phenomenons associated, discrepancies and also precautions with each test.

2. For a student who is beginning the supervisor should demonstrate each test (tests like Alternate Binaural Loudness Balance test (ABLB)), Difference Limen (DL), Monoaural Loudness Balance test, Tone Decay Tests with its variations, Supra Threshold Adaptation Test (STAT), test for detecting central auditory dysfunction and tests for detecting pseudohypacusis) atleast once before asking the student to do it. As the supervisor is performing each task, the student should be given step by step explanations.

3. Then the supervisor should follow the same approach on same lines as followed in the supervisory

supervise special audiological tests used in Clinical Audiology.

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3. Then the supervisor should follow the same approach on same lines as followed in the supervisory

process of speech audiometry, i.e., about the level of supervision, discussing results, etc.

X. IMMITTANCE TEST BATTERY

Immittance measurements are one of the most powerful diagnostic tools in auditory diagnosis. This electrophysiological test battery not only directly or indirectly gives an impression of approximate thresholds of hearing but also provides high reliability in deciding site of lesion. The clinical supervisor must explain the importance of immittance measurement to his or her students and demonstrate the procedural aspects as well as interpretation aspects in combination with other test batteries.

Following are the guidelines for supervising immittance test battery procedures.

1. Immittance test battery being an objective electrophysiological procedure, the supervisor must discuss the rationale and the theoro-practical aspects of imittarice with the students. He should discuss these aspects with the students depending on their level, i.e., Masters or Bachelor Degree.

2. The supervisor should explain the following issues to the students.

a) What is immittance measurement ?

b) How do we apply immittance measurement to the middle ear system ?

c) How do we measure it ?

d) What are the clinical applications ?

e) What are the indications and contra-indications for the test ?

f) How to calibrate the equipment ?

3. After the student has some amount of basic knowledge on the theoro-practical aspects the supervisor should prepare the student to get a demonstration of the equipment. He should explain the following points

a) exposure to various kinds of impedance meters/ bridges.

b) demonstrating various parts of the equipment.

c) demonstration of operation (automatic as well as manual)

d) accessories such as printer, monitor as well as personal computer if available, should be demonstrated.

e) placement of head set for both ipsilateral and contralateral mode should be demonstrated with special emphasis on selection of probe tips, obtaining seal and preventing pressure leakage.

f) Calibration of equipment.

4. The supervisor must demonstrate and explain how to calibrate the equipment and importance of calibration.

5. Demonstrations for individual; test in the battery should be given. The supervisor should tell the student the test instructions. To start with the supervisor must demonstrate how to obtain static complaince and obtain a tympanogram using manual and/or automatic equipments. He should also talk about the measurement of Physical Volume (PVT) and Eustachian tube function. Simultaneously he should talk about the rationale behind each test, types of tympanograms and normative data for above aspects.

He also should demonstrete the testing procedure for reflexometry, refex decay, SPAR discussing their rationale and interpretation.

6. While demonstrating all these procedures the supervisor must emphasise on how to correlate findings with various pathological conditions, i.e., flacidity of system, rigidity of the system, congenital anamolies, tumours (glomus jugulare) and acoustic neuroma, etc.

7. For a beginner the supervisor should keep close surveillance and should gradually grant him independence for performing the test. At the same time

he should continue to check about results, equipment, interpretation and diagnosis. Once the student demonstrates proficiency he should fade from surveilance.

XI. BRAIN STEM EVOKED RESPONSE AODIOMETRY (BSERA)

BSERA of late is becoming a very popular test battery in Indian set ups. This is a highly objective electrophysiological measurement with high reliability and validity. This very factor has resulted in many clinicians opting for an BSERA measurement over special tests such as SISI and TDT. Keeping all these things in view, the supervisor must train his students to handle BSERA. As the BSERA incorporates a computer, a CPU and an electrode montage system, the student should be exposed to operation of each system.

The supervisor must demonstrate to his student how to operate the computer, feeding data and analysing it.

1. The student before being posted with BSERA equipment is expected to possess some basic knowledge on BSERA with this background theoretical knowledge the supervisor should build on the practical aspects of BSERA.

2. At the beginning of the posting the supervisor must demonstrate various parts of the equipment including electrodes, electrode montage unit, printer, CPU and monitor. The student must know the connections of various jacks and sockets.

3. Special emphasis should be laid on how to switch on the equipment and recall the programmes and store the data using floppies.

4. Once the student is thorough with the equipment he is taught about two more important aspects, (1) sedation of the patient (in consultation with the Physician) and electrode placements.

5. Then the supervisor demonstrates operation of the equipment step by step, while doing so, the supervisor must explain the rationale behind each step and the precautions. The supervisor also demonstrates how to start the testing procedure, beginning level, subsequent steps, threshold estimation, etc.

6. The supervisor should explain how to interpret the BSERA wave forms in terms of the following points.

a. Identifying the peaks

b. Estimating threshold

c. Converting dBnHL to dBHL
d. Correlating various diagnostic indicators such as absolute peak latency, inter peak latency, wave morphology, amplitude ratio, and latency intensity function.
e. He should also guide the student to correlate these findings in pathological cases and compare with norms.

In addition to this, specialised procedures in the battery such as MLR, LLR and P300 should be demonstrated to the Masters level student (as it is there in their clinical practicum in second year).

7. The supervisor should demonstrate storage of data in the computer memory for later retrieval in cases of clinical research.

8. Equipment such as Nicholi Compact-4 incorporate multiple programs such as ENG, EMG and ECOG in addition to ABR. The supervisor should give an idea to the student regarding instrumental set up for those tests.

9. When the student passes out and starts working on an ABR instrument he is expected to set up his own normative data and do minor trouble shootings hence the supervisor also must train his students in these aspects.

10. The supervisor should start from close supervision and the student should be granted independence in accordance with clinical practicum requirements, i.e., a final year B.Sc. student is required to observe BSERA whereas in M.Sc. student would have to perform the test independently under supervision.

XII. HEARING AID SELECTION AND ELECTROACODSTIC MEASUREMENTS

Hearing aid selection is possibly the most difficult process in the entire practicum as it involves the knowledge of all the test procedures discussed before. Also considering possible implications of the prescription of a hearing aid that is unsuitable, i.e., under-amplification may totally belie the purpose of a hearing aid whereas over amplification may have disastrous effects on the hearing of an individual. So a supervisor has to be over cautious while supervising sessions regarding hearing aid trial.

Given below are the guidelines for supervising a session of hearing aid selection.

1. Before starting the proces supervisor should make sure of the student's level and the student's knowledge of various processes for hearing aid selection, i.e.

a. Subjective methods

b. Functional gain method

c. Aided SDS method

d. Insertion gain optimisation or real ear measurement methods

e. Formula prescription methods, etc.

f. Prescription of hearing aid on the basis of audio gram.

2. Student should also have some concept of electro-acoustic characteristics of a hearing aid. The student, if a beginner, should know what is a hearing aid, etc. or the supervisor should start as told in clinical orientation.

a) The supervisor should start the pretesting discussion with the student, by including a. review of previous information about the case if he has been seen before for example, the patient's background, i.e., history and communicative problems and how that information is important; what additional information is required; audiometric findings and their implications for hearing aid use; previous hearing aid use by the patient if any.

b) If the patient is coming for the first time, supervisor should make discussions regarding information provided by the to logic report, and then regarding what kinds of information should be obtained in detail.

c) After step (b) discussed with the student the approach/method/formula which would be most successful and appropriate. The supervisor should also discuss the types of amplification to be considered and the rationale behind them, and also the tests and test materials to be used. Before doing so the supervisor should keep in mind the clinical practicum of the student.

d) Depending on the case to be seen and time available, hearing aid specifications should be reviewed together with specific instruments being considered, before the patient is tested.

e) The supervisor should carry out pretest discussions until the student becomes independent in his thinking.

3. Selection process: This consists of an appropriate hearing aid for the client in following substeps.

a. The supervisor should demonstrate and discuss with the student each step in the hearing aid selection process as he is exposed to it for the first time in accordance with the method selected these include.

i) Choice of aid and settings, looking at specifications and unaided results.

ii) Choice of ear moulds: size, type, choice of tubing if a BTE.

iii) Inserting the mould in the patient's ear, putting the aid on the patient, coping with feed back problems.

iv) Setting of tone and volume control.

v) Acoustic modifications of electroacoustic characteristics.

vi) Choosing the equipment/method/material.

vii) Interpreting patients responses both subjective or objective as in the case of real ear measurements and incorporating it into the total picture meaningfully.

viii) Considering non-audiological factors in selection and recommendation.

ix) Interpreting test findings: Knowing when to stop testing; knowing what to recommend

b. As hearing aid selection is a complex process and a large variety of cases are seen every day, the supervisor should observe the student very closely on all the above tasks, in case of difficult patients the supervisor should help the student to modify his test procedures from case to case and should ask the student the difference between each case. This helps in developing the thinking process.

c. Gradually the supervisor should fade away from the scene, making the student work alone on the easiest of the tasks; that is, the ones with which the student has the most experience.

d. The supervisor should monitor all testing throughout the evaluation, so that the problems can be detected and solved immediately. Because retesting may not be possible due to several reasons.

e. Except in cases of straight forward hearing aid fittings, supervisor should maintain close surveillance. In this supervisor can teach the student maximally.

f. The supervisor should act as a model for the students in some of the following activities.

i) Recording information on the record sheet and using it intelligently in comparing subjective as well as objective data.

ii) How to talk to the patient about responses, comfortableness, etc.

4. Post selection discussion should be as follows

a. The supervisor should summarise each and every case in discussion with the student after the

completion of the test. The dialogue should include: the discussion of test findings, their implications, discussion of decision making that took place throughout the testing, discussion of the patient and his reactions to the evaluations, and how it affected the testing and a discussion of any alternative procedures.

This activity should be aimed to challenge the students thinking, evaluate his progress and his improvement.

b. Also covered should be the atypical cases, if any, the point of disagreement and typical patient's reactions to the hearing aid.

c. Supervisor should also keep the student informed of post-evaluation management and follow up on recommendations by patients he has seen clinically.

Electroacoustic measurements The student should also be taught how to carryout electroacoustic measurements and how to classify various hearing aids according to electroacoustic measurements. Commonly available equipment are Phonix 6500, realtime anlayser, Madsen IGO instruments. A hierarchy of teachiing should be made according to clinical practicum.

XIII. COUNSELLING

Counselling is a very important skill in the clinical practice of Audiology. Counselling needs both the precision of a science, and empathy and compassion which are the qualities constituting art. Therefore counselling can be called a "scientific art". Counselling is not an easy task sometimes even for supervisors, leave alone the students. Quality counselling requires both experience and innovativeness. Therefore supervision should be carried out according to the following guidelines.

1. In the area of patient counselling the supervisor should demonstrate the procedure by doing it himself, many times before the student assumes such responsibilities. There are several reasons to this, firstly, the student needs to be exposed to the supervisor's adaptation of explanations to a wide variety of patients. Student should hear the supervisor answer patients questions, structure counselling, and talk to patient's family. Student should also have tested a number of patients and he should also know how to compile and correlate results and transform them into certain recommendations. Student should also see and hear how the supervisor relates to patients and how the supervisor communicates with them.

2. Only if the supervisor feels that the student has enough exposure to counselling, he should bring the student into the act of counselling slowly and gradually. For example, at first the student can iniitally be asked to explain only the audiometric test results, while the supervisor does the remainder counselling. Gradually the student's participation should be expanded in succeeding sessions to include the explanation of test findings while the supervisor himself discuss the recommendations with the patient. Finally the supervisor should involve the student fully in the counselling process. At this stage the supervisor can intervene to answer questions that the student cannot handle.

3. There is another approach to the supervision of counselling and that is full participation by the student on his first attempt only. Such an approach can work well with those students who have had brief counselling experiences in previous postings. The above approach can also prove to be counter productive because in this approach student is not yet exposed to every type of case and counselling approaches. In such a case the supervisor should take over the counselling process if he feels that the student is not ready for it. In case of dilemma the supervisor can also give the student the choice, full participation, teaming

with supervisor, to counsell; or no active participation. Such a situation reflects on the student's self evaluation capacity. Whether the supervisor or the student conducts patient counselling the supervisor should help the student to understand that he has much to gain from either experience.

4. All patient counselling sessions, whether carried out by the supervisor, the student, or both parties should be preceeded by the same type of preparatory discussion of what counselling will involve. This should include the main agenda for counselling and what approach would be used. If the student is going to conduct the counselling, he should be encouraged to take some notes with him to the session, if he is not very confident. The supervisor should prestructure the counselling session until the student becomes independent. This can only be done in general terms as every case is unique in himself. The supervisor, based on his experience, may be able to anticipate some interactions that may take place and can train student before hand, for example;

"If the patient says '_____', what will you say ?" He can give the student some sample answers.

5. During the student's counselling, the supervisor should listen closely. He should also observe from time to

time the student's interaction with the patient, although this should be done with some discretion so that the student does not become inhibited. The supervisor's observations should include whether the student is facing the patient, for lip reading, how the student addresses family members, the student's facial expressions; how the student handles unexpected hearing aid problems (eg. feedback); How effectively, he uses audiogram and other illustrations to make his point to the patient. Through attentive listening and observations, the supervisor can quickly pinpoint student difficulties. If very serious the supervisor should intervene. Although on the whole supervision should be self restraining but the supervisor should intervene if he thinks that it is difficult to continue with the session, without doing so.

6. All counselling session should be followed by a post-session introspective discussion between the supervisor and the student. This discussion should include; the patient's reaction to the counselling; what was good about the counselling and what could have been better and the student's self evaluation about his counselling.

As counselling is a complex process, perfection is virtually unattainable in this area. This should be conveyed to the student time and again.

The counselling can be of two kinds (1) post diagnosis counselling and (2) post rehabilitative counselling given above is a general outline to carry out counselling sessions. Depending upon the counselling need the following points must be emphasised.

1. Post Diagnosis Counselling

This counselling includes the intimation and explanation of diagnosis to the patient; implications of that diagnosis; prognosis; rehabilitative measures (hearing aids, ALDS and medical treatment) available; proper referrals.

2. Post-Rehabilitating Counselling

It includes the description of rehabilitative devices prescribed; rehabilitative approaches to be followed; vocational training; school placement; speech and language therapy, etc.

Whatever may be the emphasis of a counselling session the student's language must be easy and lucid and keeping in mind the patient's level. Then only can it be successful.

XIV. SUMMARY AND REPORT WRITING

Audiological summary includes chronological account of the history, test findings and management included in the

records of the patient. The difference between the summary and report is while the summary remains in the patient's record, the report goes to other professionals. Therefore a well written one, creates a much better impression and understanding of results given by the clinician as such. The supervisor should inculcate the art of summary and report writing in a student. Guidelines to supervise summary and report writing are as follows.

1. The supervisor should give instructions regarding summary and report writing during the pre-session discussions of each case. An explanation of the purpose of writing summary and reports should be given to the beginners, say first year B.Sc. students, it can also be reviewed for senior students. Student should be told with examples about how reports and summaries are useful in patient management. The new students should be given some samples to use as guidelines. The student should be told the format of writing, how they will be edited by the supervisor and then returned to the student. The supervisor should also prestructure the summaries and reports until he determines that the student no longer needs it. Prestructuring includes the points to be brought out in the report for a particular patient; adapting one's writing of reports to suit varying levels of sophistication and informational needs. For

example, if a report has to go to a neurologist it should be neurologically oriented. The supervisor should become more general once student start making his own decisions regarding structure and style of report as well as the content. The ultimate goal is no provide to prestructuring assistance for the student. Students should be encouraged to develop their own strategies. Over pre-structuring makes reports stereotyped.

2. Editing of summaries and reports is one of the most time consuming work for the supervisor. The supervisor should pay attention to the content of the report as the supervisor is held responsible for its content. The supervisor should explain in detail the editing and the reasons behind it to the student. He should look for corrections of punctuations, spelling and grammatical errors if any. The supervisor should be more strict with reports because they are sent outside the clinic for other professionals, etc.

3. Discussion of edited written work should be done by the supervisor as soon as he returns the edited report. This discussion should be done as early as possible before the supervisor and/or students forget the details of the case. Both the student and the supervisor should work on reports while the evaluation is easily

recalled. This discussion can be held at any time before or after the clinic session or during free time. Supervisor should encourage the students to ask questions during discussions so that the problems of the students can be identified.

4. The student should not be told to write reports until and unless he is proficient in the testing procedure. Supervisor should also bear in mind the previous level of reports before increasing the difficulty level. This gradual appraoch is more conducive to learning and is less confusing.

XV. CALIBRATION OF EQUIPMENT AND NOISE MEASUREMENTS

Equipments used in the audiological testing must be, calibrated regularly, i.e., twice a year or yearly. For use in research calibration must be done at frequent intervals say weekly/daily. In addition to these regular checks, calbration must be checked whenever the clinician notices something unusual. Correction of the frequency and the time components and very unstable intensity variations should be done by the manufacturer or a qualified electronics technician, where as the stable intensity variations may be corrected by adjusting the presets or making a correction chart for this purpose which should be used whenever

intensity readings are taken. This can be in form of the listening check (as discussed before) artificial ear method or real ear method. The students according to their practicum needs (refer Appendix A) should be taught calibration (refer Appendix A). Following guidelines should be followed to supervise calbration sessions.

1. The supervisor should first discuss the rationale, the equipment setting and the methods used in calibration. He should also discuss, the frequency, the intensity and the time parameters to be calibrated.

2. The supervisor should then demonstrates to the student the method of calibration each, the artificial ear and the real ear method, by performing the task(s) himself, while the student is observing. The supervisor should ask him questions about the topic. He should also tell the student how to maintain calibration charts, etc.

3. After several demonstrations the student should do the task in the supervisors surveillance and monitoring with the supervisor, intervening and instructing wherever necessary.

4. The supervisor and the student should perform calibration of same audiological equipment simultaneously and then match their results. If results are not tallying

then the student may be monitored and instructed accordingly, towards gaining independence in performance.

Calibration of ear phones, speakers, bone conduction oscillators should be taught. Calibration of other equipments for example the Impednace Meter, BSERA equipment, etc. should also be taught according to the practicum needs (Appendix A).

At the same time can be taught, are the noise measurement procedures which are very much similar to calibration of speakers in free field. Same hierarchy should be followed with noise measurement as was done in case of calibration student must be told about the normative data and ideals noise level. He should also be told the effect of noise on thresholds, etc.

In this chapter the supervision as applied to the various test procedures in Audiology was discussed briefly. On the whole supervisor has to be very alert while supervising the student, as both the students' and the patients' service are his own responsibility.

EVALDATING STUDENTS' PERFORMANCE

The purpose of this chapters is to give the reader sufficient information to conduct performance appraisals effectively. The performance appraisal is a formal system measuring, evaluating and reviewing student of clinician's performance.

PURPOSE OF PERFORMANCE APPRAISAL

Why should the supervisor evaluate performance. An accurately conducted performance appraisal provides information to meet many purposes, but when it is conducted haphazardly, few of the purposes are met with. Under the best of the circumstances, the performance appraisal can achieve these following purposes.

1. Motivate the student clinician by providing feedback on performance.
2. Achieve better performance and results.
3. Encourage students to do their work more efficiently by keeping a check over them.
4. Provide information on making decisions about procedures discussed previously.

5. Identify training needs which in turn can be used in selecting appropriate programs for training.

6. Reduce favouritism in making supervisory decisions about the student clinician.

7. Identify students who are not doing their work properly or upto the mark.

The job analysis The job analysis is a description of how one particular job differs from others in terms of its unique featuers including its demands, activities and special skills required. This has been described in chapter 2.

Following things are also important for a supervisor.

a. To conduct performance appraisals fairly, the supervisor should be familiar with the institute's policies and rules which are always there to check against student discrimination. Appraisals should always be done on the basis of objective evidence such as quantity of work or meeting deadlines fixed for clinical assignments.

b. Performance standards should be communicated to the student clinician. This should be followed in all aspects of clinical practicum.

c Records should be kept of the past appraisals. Past appraisals provide vital information when a substandard student has to be declared as failed or unsuccessful.

d. Each appraisal should be submitted to more than one reviewer if possible (such as supervisor's immediate superior or colleague), especially if the appraisal is negative.

e. Monitor the performance appraisal system to keep it current.

APPRAISAL BASED ON TRAITS AND PERSONAL CHARACTERISTICS

The traditional way of evaluating student clinician's performance is to rate students on the basis of traits and personal characteristics. Van Riper (1965) called it the method of merit rating. This technique presents as to dilemma of how to accurately evaluate performance. There are many disadvantages of such a method. This is because trait methods some times measure traits that may not be related to clinical performance. For example, a clinician may talk to the supervisors very efficiently but this trait has -nothing to do with his working on audiometers or for example a student may not be very good at testing but is good in . writing reports. Here writing reports is not related to the job of testing, though it may give a picture that the

student is good in testing too. Favourable traits often do bring about good results. But trait result oriented appraisals often tend to neglect how results are achieved.

APPRAISALS BASED ON BEHAVIOUR AND RESULTS

Appraisal systems can also be based on student clinician's behaviour and results. Behaviour means an activity or what a person does, such as solve problems creatively and tactfully or does some test with innovativeness. Results are what student clinicians achieve. Behaviour and results often tend to be quite close. For example, if one is performing the correct test procedure, he is also achieving correct results.

The rationale for evaluating behaviours and results

In many appraisal systems, the emphasis is on the activity performed enroute to attaining results. In this system a supervisor has to give comments geared towards achieving work goals. Activity of this type is often more readily measured,than traits or results.

THE CRITICAL INCIDENT TECHNIQUE:

This technique evaluates clinician based on "make or break' elements of their job. Using this technique the supervisor prepares a list of statements indicating the

actions of student clinician in which he is very effective and also in those in which he is ineffective. These critical incidents should then be combined into different categories for different jobs, i.e., the performance categories for a pure tone audiometry situation would be different than that of counselling situation.

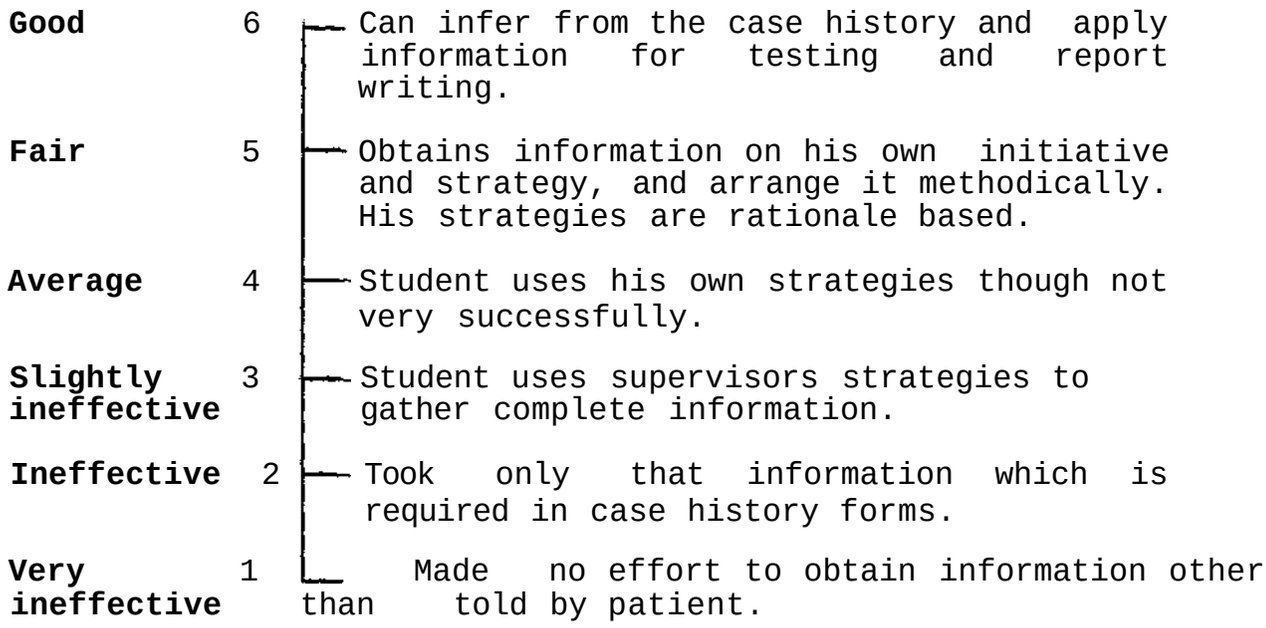
After the critical incidents and categories have been developed, the evaluator, i.e., the supervisor should prepare a log for each student clinician. One problem that can be encountered in this method is that the supervisor might not have been around when the student clinician did something critically good and vice versa.

BARS (Behaviourally Anchored Rating Scale)

In this method the student clinician's performance is measured against precise examples of behaviour spread along a continuum. The points in the continuum are much like in the critical incident technique. A big difference is, however, that the points on the BARS are scientifically developed before hand (Fig. 5.1)..

More than one rating scales are needed to evaluate each practicum job because a separate scale is developed for each job dimension. For example in a counselling job one scale may be for the language used in counselling, while another may be for relating with patients.

Fig. 5.1 A sample Behavioural Anchored Rating Scale (BARS) for evaluating students case history taking (informational aspect similar performas can be made for other aspects of case history taking).



The BARS is well suited for evaluating student clinicians because it points towards specific work activities or behaviours where the student might need improvement. Supervisors using BARS do not have to imagine what is extremely effective, average and extremely ineffective performance. Instead they can see an actual example in behavioural anchor/ the point on the scale signifying an important behaviour.

THE GLOBAL ESSAY METHOD

The global essay method of performance appraisal is an overall, narrative description of student clinician's performance under consideration. This method can be used often to supplement the results and trait approaches. To implement the global essay method, the supervisor writes a description of the student's performance based on key performance factors. In this way global essay resembles the critical incident technique. The main difference however is that the essay does not follow a prescribe format. The supervisor is free to improvise.

Global essays have one main disadvantage that is they easily get biased and require good writing skills.

THE PERFORMANCE REVIEW DISCUSSION METHOD (Fig. 5.2)

It is a simplified approach to performance appraisal. It overcomes a commonly seen problem of

Fig. 5.2 Performance Review Dicussion method - A Format

Student's name

Date of discussion

1. **Introduction**

   Put the student at ease

   Purpose: Mutual discussion of how the things are going

2. **Students view**

   How does he or she feel about the clinical climate, any problems ?

   Suggestions for changes improvement ?

3. **Supervisor's view of student's performance.**

   Summary statement only.

   Avoid comparisons to others.

4. **Behaviours desirable to continue.**

   Mention one or two items only.

5. **Opportunities for improvement.**

   No more than one or two items.

   Do not present as "short comings".

   Keep it work related.

6. **Performance improvement plans.**

   Plan should be given by student himself.

   Supervisor helps and counsels.

7. **Future opportunities**

   - Possibilities regarding grades

   - Activites to be carried out next

   - Poor performer should be warned.

8. **Questions**

   Any general concerns ?

   Close on constructive and encouraging note.

performance evaluation and that is that the students becomes "defensive" when they are given their grades, comparing them precisely to other students. In such situations students are more likely to act defensively than constructively for improving their performance. It is important to confront students about their problem areas.

The specific steps in the discussion format of performance evaluation proceed in this manner.

First the student is informed that a discussion is scheduled. That the individual has to prepare for the discussion, what improvements he or she could make in his performance. In preparation students are to think about personal improvements, improving their future plans and contributions. Later in the discussion the supervisor presents the general evaluation.

Second the supervisor should introduce the discussion of improvement in clinical performance. The focus in this part of discussion should be on future opportunities and plans rather than on past failures.

Third, a natural closing topic of discussion is usually what the future might hold for the student. High performing and ambitious student might want to discuss about what comes next in the practicum. In contrast an

average or below average clinician might simply want an assurance that he or she would pass.

ERRORS COMMONLY MADE IN EVALUATING PERFORMANCE

Evaluations are subject to a number of recurring errors. Rating scales are subject to more errors than techniques such as performance review discussion and BARS. Some of the errors can occur with all kinds of methods. These are errors of central tendency, constant error, the halo effect, recency of events, errors of variable standard, bias and prejudice.

1. **Central tendency** is the error of rating most students "average" on traits, behaviour and performance. One motive for rating many students as average is to avoid controversy. But instead, it may give rise to controversy.

2. **Constant error** refers to the tendency to use only a portion of the scale in rating the people. Some raters are too lenient, some too strict, and some tend towards rating most of the students in middle as in the error of central tendency.

3. **Halo effect** is the error of giving evaluees a halo around them because of one outstanding trait. The halo effect also is of a negative type. A high or low

rating in one trait leads automatically to high or low ratings on the other trait.

4. **Recency of events** refers to the tendency of evaluators to be more influenced by recent rather than old performance. This error can work its way into any performance appraisal system. Students, if recognising this error, will put a burst of good performance just prior to a scheduled performance appraisal.

5. **Errors* of variable standard** means different unit in the same department may have different standards of good performance. For example it may be difficult to attain rating of "A grade" in audiological evaluation unit than in ear mould or hearing aid trial unit.

6. **Bias and prejudice** towards a particular group can also be a source of evaluation error. This can be on the basis of colour, caste, creed, sex and state. These kinds of errors may led to unfairly high or low ratings.

GUIDELINES FOR CONDUCTING A PERFORMANCE APPRAISAL

Following are some guidelines which can be followed with every method of performance appraisal.

1. Plan the performance appraisal session before hand. A Supervisor Should carefully review the appraisal

results and back up documentation before conducting the session.

2. Provide specific feed back: Both good and poor performing students benefit from specific feedback. Supervisor should tell the good performer exactly what he is doing right, and poor performer exactly what he is doing wrong. If the feedback is too negative, it should be given in small doses rather than a one "giant booster dose".

3. Criticise the work, not the person, i.e. the supervisor should criticise constructively by avoiding criticism of personal traits and characteristics. For example, if a student is having less attendence then he may be told "Your attendence is below par" rather than telling "I dislike the student who is less punctual".

4. Translate criticism into specific goals: Performance improvement is unlikely to take place unless criticism is translated into specific improvement goals. For example, if the student is being criticised for low attendance, an acceptable attendance limit should be specified and he should be asked to comply with it.

5. Be an Active Listner: An effective supervisor should spend the majority of time listening during the

performance review. While listening, the supervisor should try to grasp both facts and feelings of what the student is saying. For example, feeling of enthusiasm and leisure can be made out by intonations, etc.

6. Encourage the student to talk: By encouraging the student to talk the supervisor learns more about the student's problems, goals and hopes. The supervisor should ask open ended questions for example "What problems are you facing ?" instead of closed ended questions such as "Do you have any problems".

7. Keep an open mind: The supervisor should not decide on a performance issue until all the information is gathered. Supervisor should give the student a chance to defend himself. If he feels that the grade of a student has to be modified as an outcome of that session he should do so.

8. Beware of inter-student politics Students due to jealousy, competitiveness and other factors may indulge in mud slinging on each other. Supervisors should be aware, of such activities and discourage such acts.

9. Start with areas for improvement, end with positives: The supervisor should start with those areas in

which improvement is required and end with positive notes because when the student gets positive remarks first he tends to pay less attention later.

10. Avoid being heavily influenced by the results of previous evaluations: The supervisors often tend to get heavily influenced by previous performance appraisals. In such conditions they give high rating to those students who have got high rates in previous appraisals even if their performance has gone down. Therefore, a supervisor should try and start with a clean slate for each performance appraisal.

11. Don't discuss marks and grades simultaneously in appraisal review meeting: If the supervisor does so students tend to pay very less attention to improvement need and get engrossed in marks and grades.

12. **Help the student:** The supervisor should help the student clinician with outside factors, that may be hampering clinical performance. These outside factors include family matters, monetary problems, lack of theoretical knowledge, etc. Supervisors can help students with behaviour modification, counselling and other methods.

13. Follow up with obligations: If supervisor agrees to help a student during the appraisal he should make sure that he should follow it up.

14. Give some constructive advice: The supervisor should not give too much of advice as it interferes with communication, but optimum advice brings about improved performance.

15. Gain a committment to change: Under normal circumstances/ the supervisor should take an agreement for future improvement during the session. Unless the supervisor receives such a promise, the change cannot take place. An experienced evaluator should be able to good intuition as to when a student is serious about making performance improvement. The two clues to this are: (a) over agreeing to the need of change, and (b) matter of factly agreeing to change.

Concludingly performance appraisals are a useful tool in the hand of the supervisor to modify the students' behaviour, classify and improve them.

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APPENDIX A

B.Sc. CLINICAL PRACTIUM

Activities	*I B.Sc.*	*II B.Sc.*	*Ill B.Sc.*
I. Student should have the knowledge of	*Operation of audio-meter pure tone audiometry, masking collection of 20 audiogrms of normal adults* *Assisting in testing children and adults*	*Independently adninister and interpret the results of puretone and speech audiomstry including masking when indicated, and use appropriate test material and procedures* *Inpedance audiometry: Idetification and plotting different types of tyirpanograms and reflex patterns in normals and pathological groups. Hearing aids* ***Audiological equipment*** *Learning basic skills of case history taking, identifying the need for special tests, interpret the results giving appropriate instructions, obtaining and submitting 10 audiograms each of conductive, sensori-nevral and mixed type of hearing loss.* *Preparing reports to different specialists and making appropriate referrals.*	*Calibration of audiometers: aid conduction, bone conduction, puretone, speech and inpedance* *Measurement of noise, measurement of ambient noise in audiomstry rooms.* *Instruments necessary microphone position, and comparison with established standards* *To administer immittance battery and be able to interpret results independently.* *To adninister BSERA and interpret results under supervision* *To be able to evaluate paediatric population - BOAa, VRA, play audiometry and speech audiometry* *Types of earmolds and know to make appropriate recommendation.* *Hearing aid selection with adults and children-functional and insertion gain measures with assistance of supervisor.*

Appendix *A (Cantd.)*

Activities	*I B.Sc.*	*II B.Sc.*	*Ill B.Sc.*
			Writing reports on conventional test procedures, special tests and informal and semiformal techniques for children. Counseling the client/parents regarding home training/hearing aid/speech reading and auditory training. *Trouble shooting hearing aids to apply knowledge of electroacoustics for classification of hearing aids and recommendation for different types of patients.*

Appendix A (Contd.)

M.*Sc CLINICAL PRACTICUM*

	I *M.Sc.*	*II M.Sc.*
Student should know	*Calibration of audiometer, rise-decay time measurement, distortion measurements, calibration of warble tone.* *Preparation of case reports.* *Knows to - select appropriate diagnostic tests: administer ABR independently; interpret test profile; design simple experiments with the help of supervisor.* *Independently carryout hearing aid evaluation using functional gain measures including (1) selection and administration of appropriate test procedures (2) select hearing aid (3) make appropriate recommendations.* *Measuring electroacoustic characteristics of hearing aid as per the established standards for:* *a) Body level hearing aids* *b) Ear level (behind the ear) hearing aids* *c) Hearing aids with AVC circuit*	*The operation of all the equipments used for evaluation and calibration.* *Thorough in administration and interpretation of all special tests.* *Explanation of atypical findings and differentiation between artifacts and atypical findings* *Trouble shoot the audiometer and ability to rectify independently.* *Be familiar with recording and interpreting auditory evoked potentials such as MLR, LLR and P300.* *Evaluate the trouble shooting of hearing aids:* *1) Be able to suggest ways of modifying electroacoustic output of hearing aids to suit the needs of the patient.*

I *M.Sc.*	*II M.Sc.*
	2) Have knowledge in and assist in carrying out insertion gain measurement. *Counselling the patient/parents with regard to hearing loss/hearing aids/and rehabilitation procedures without the help of the supervisor* *Counselling the client/parents/ regarding home training/hearing aid care/speech reading and auditory training* *Trouble shooting of hearing aids. To apply knowledge of electroacoustics for classifications of hearing aids and recommendation for different types of patients.*