TEACHER EDUCATION ORIENTED MATERIALS

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FOREWORD

Fellow Teacher educators,

This is a collection of several Teacher Education oriented materials .

This is supplementary and complementary to my 'Tools of Research for studies in Education'. I believe this will be useful to you all in your academic and research ventures. This again is a modest attempt of author to be of some service to you all.

Feedback is most welcome.

S. SATHIYAGIRIRAJAN.

(ii)

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1. TEACHER EDUCATOR COMPETENCY

(Structured by S. Sathiyagirirajan)

(To be rated on a 3 point scale)

        A. To a substantial extent / Nearly

        B. To some extent / somewhat

        C. To a negligible extent / uncertain

In most colleges of (Teacher) Education , some teacher educators teaching optionals (Tamil / English / Mathematics / Physical Sciences / Biological Sciences / Computer Science / Economics / Commerce / Political Science) are assigned the additional task of teaching (educational) psychology. This rating scale is structured based on the assumption that the teacher educator teaching educational psychology is also teaching an optional. This rating scale may be used for self – rating as well as for others' rating (others – senior colleagues; peers; students).

Section A
(Teacher oriented)

I Instruction

1. Objectives (Cleary defined)   A   B   C

2. Setting (Introduction of the lesson is interesting and
   relevant; clearly linked with the main part of the lesson)   A   B   C

3. Clarity of presentation (content clearly presented,
   effectively explained and illustrated)   A   B   C

4. Pacing of the lesson (the movement from one part of
   the lesson to the subsequent is governed by student
   achievement)   A   B   C

5. Organization of the lesson (well organized, the
   Individual parts of the lesson are related to one another)   A   B   C

6. Students' participation and attention (the class is
   attentive; students participate actively in the lesson
   when appropriate)   A   B   C

7. Closing (the lesson is ended when its objectives are
   realized; the 'ending' is interesting and relevant; it is
   appropriately linked with the main part of the lesson)   A   B   C

8. Variety in instructional strategy (effective and varied use
   instructional strategies-lecture, discovery. discussion)   A   B   C

9. Use of instructional Aids (effective use of instructional aids-
   to concretize abstract concepts to facilitate effective learning)   A   B   C

II Evaluation

10. Variety of evaluative procedures (effective and varied use of
    methods and techniques to assess the achievement of students)   A   B   C

11. Use of evaluation to improve instruction (effectively uses
    feedback of the results of performance assessment)   A   B   C

12. Assignments (clear, reasonable coordinated with class work)   A   B   C

13. Assessment (objective, fair and impartial; based on several
    evidences of achievement)   A   B   C

14. Attention to students' product (gives close and personal
    attention to students' product; answer script, seminar paper,
    assignment and the like; offers constructive remarks for
    improvement).   A   B   C

III Professional Traits

15. Knowledge of the subject matter (broad, accurate
    and up-to-date)   A   B   C

16. Speech and enunciation (speaks clearly and
    distinctly ; has a good speaking voice)   A   B   C

17. Concern for professional standards and growth (shows
    interest and actively participates in activities meant for
    maintaining and enriching professional standards and growth) A   B   C

18. Concern for Institutional programmes and goals (enthusiastic
    and interested in the Institutional programmes ; identifies himself/
    herself with the institution and gives his/her best towards
    realization of institutional objectives and goals) A   B   C

IV Personal Traits

19. Teacher student Rapport (the personal relationship between
    the teacher and the student is harmonious)   A   B   C

20. Rapport with fellow-teachers (relationship with fellow teachers
    is harmonious; maintains healthy interpersonal relations) A   B   C

21. Ability to arouse interest (interest among students runs high) A   B   C

22. Manners (manners pleasing; free from annoying mannerisms) A   B   C

23. Willingness to help (friendly; cordial, willing to help students
    even if busy)   A   B   C

24. Intellectual honestly (recognizes his / her merits and limitations;
    admits mistakes; politely substantiates his/her right stand) A   B   C

25. Sense of Humor (good sport; sees humorous side of any

    situation; enjoys good jokes even when it

    is on himself / herself)   A   B   C

Section B

(Teacher education oriented)

V, Teaching of optional subject

26. Demonstration lessons (effective, serve as model lessons to

    the teacher – trainees)   A   B   C

27. Enrichment of content (enriches and updates the knowledge

    of the subject matter of the teacher trainees)   A   B   C

28. Exposure to methods of teaching (exposes the teacher

    trainees to different methods and techniques and matches

    the method with the content)   A   B   C

29. Exposure to methods and techniques of evaluation

    (facilitates the teacher – trainees to learn and implement

    different methods and techniques of evaluation to structure

    tests based on objectives)   A   B   C

[30-37 Assessment of Teaching performance (instruction+evaluation) of the

 teacher trainees followed by appropriate guidance: Instruction implies

 classroom presentation; Evaluation refers testing procedures employed by the

 teacher –trainees to assess the learning outcomes of their students]

30. Assessment of "Instruction" of the teacher trainees objectively

    based on sound criteria.   A   B   C

31. Assessment of 'Evaluation ' of the teacher trainees objectively

    based on sound criteria.   A   B   C

32. Guidance on 'Instruction' (diagnoses the difficulties of the teacher-trainees in 'Instruction' and offers remedial suggestions) A   B   C

33. Guidance on 'Evaluation' (diagnoses the difficulties of the teacher-trainees in 'Evaluation' and offers remedial suggestions) A   B   C

34. Monitoring of' Instruction' (studies the progress of the teacher-trainees in 'Instruction' and keeps them in the right track)   A   B   C

35. Monitoring of 'Evaluation' (studies the progress of the teacher-trainees in 'Evaluation' and keeps them in the right track)   A   B   C

36. Catering to individual differences (recognizes the individual differences among the teacher-trainees and subsequently individualizes guidelines)   A   B   C

37. Exposure to Educational technology (trains the teacher trainees in the effective use of educational technology)   A   B   C

VI Professional Perception

38. Perception of Teaching (has a positive professional perception of teaching)   A   B   C

39. Perception of Teacher education (has a positive professional perception of teacher education)   A   B   C

40. Facilitation of a positive professional perception (facilitates the teacher-trainees develop a positive professional perception of teaching)   A   B   C

41. Issues related to Teaching profession (sensitizes the teacher-trainees to issues related to Teaching profession)   A   B   C

42. Teachers' Role in society (sensitizes the teacher- trainees
to the new role to be played by teachers of the day)   A   B   C

43. Compliance with code of conduct (Complies with
professional code of conduct of teachers/teacher educators)   A   B   C

44. Facilitation of professional code of conduct (Facilitates the
teacher-trainees comply with the professional code of conduct
of teachers)   A   B   C

VII Teaching of Psychology oriented

45. Mastery of the subject matter (facilitates the teacher-trainees
master psychological concepts and theories)   A   B   C

46. Application of psychology to teaching (facilitates the teacher-
Trainees apply 'psychology' To teaching-learning situations)   A   B   C

47. Application of psychology to personal life (facilitates the teacher-
trainees apply 'psychology' to improve the quality of personal life) A   B   C

48. Application of psychology to professional life (facilitates the
teacher-trainees apply 'psychology' to improve the quality of
professional life)   A   B   C

49. Application of psychology to social effectiveness (facilitates
the teacher-trainees apply 'psychology' to enrich their social
effectiveness)   A   B   C

50. Personal guidance and counselling (offers personal guidance
and counselling to the teacher-trainees)   A   B   C

Scoring : 2, 1, 0 for A, B, C respectively

Maximum possible score   : 50 x 2 = 100

Least possible score   : 50 x 0 = 0

Find your score in each of the seven (I to VII) aspects of the rating scale.

Convert the score in each aspect into percentage scores.

Compare your ' standing' in one aspect with other aspects.

You can find your plus points and minus points (relative standing – high or low in

each of the seven aspects)

The best form of guidance is self – guidance

Your self assessment self – appraisal is also your self-diagnosis. Diagnosis leads to Guidance Self – diagnosis leads to self guidance. Self guidance consists of self –renewal and self-enrichment activities.

2. TEACHING OF PSYCHOLOGY
(S.Sathiyagirirajan)

Preamble:

I had the privilege of teaching educational psychology for B.Ed and M.Ed students for over three decades. I was delighted to facilitate sessions on themes related to Educational psychology in orientation programmes / seminars for school/ college teachers. I had the privilege of guiding research scholars on their M.Ed/M.Phil dissertations and Ph.D theses on themes related to Educational psychology. This is my academic and research background. In this paper I am sharing with you some vital aspects of 'Teaching of Psychology' (in Education).

Teaching of psychology is a challenge and an opportunity. If it is earnestly undertaken, it will challenge the best efforts of the best teachers. The best way to learn a subject is to teach it. Effective teaching of psychology will facilitate the teacher master the subject matter and enrich (and update) his knowledge of the academic discipline.

CBTE (Competency Based Teacher Education) Approach:

Knowledge Competency

The basic requirement for teaching psychology effectively is naturally mastery of the subject matter. A good teacher must be a good student. He need not be a voracious reader but he must be a judicious reader. He must identify standard books /journals/magazines and must read them, review them and reflect over the psychological concepts and principles discussed in them. He must update his knowledge by reading current books/journals / magazines. He must– periodically attend inservice programmes in psychology, formally and informally interact with fellow teachers of psychology, attend annual/biannual seminars/ workshops on 'Teaching of Psychology'. He must build up a good personal library containing standard books on psychology/ Educational psychology / psychological research/Educational research; a standard dictionary of Education and Psychology ; Tools of research in Education / psychology; Intelligence Tests, personality Inventories; Attitude scales; Aptitude Tests; Rating scales; Interest inventories and such other evaluative instruments and biographies of psychologists. He must

update his library periodically. He must, periodically, browse through the Net for more information.

Performance Competency

This is the key competency. A good teacher must be a good student. However a good student is not necessarily a good teacher unless his teaching performance is equally good. He must cultivate a good speaking voice (through corrective exercises, if need be). The three phases of a lecture are setting, presenting and closing . Meet your students with a smiling face and make them feel at home. Let them get settled in their respectively seats; study their readiness. State clearly the objectives of your lesson and get the class set for the lesson. The setting must be interesting and relevant. In a one hour lecture you may allot around 5 minutes for setting . Setting is followed by 'presenting' which may be allotted around 50 minutes. This is the key phase of the lecture to be marked by clarity of thought and clarity of expression. Employ a language within the linguistic reach of the students. Definitions are to be stated clearly and rephrased in simple language. Appropriate illustrations are to be given from vital life experiences; use striking statements to draw the attention of the students. There can be periodic (meaningful) repetition of key words, phrases or sentences for the purpose of focusing. Employ appropriate anecdotes to illustrate key points. Present thoughts and ideas in an organized manner through proper pacing. Pacing must be in accordance with the students' understanding. There must be a logical link between one point and its subsequent one. Sense of Humor is an asset to the teacher. It must be non-hostile and non aggressive. It is similar to adding sugar to coffee (neither 'more' or 'less'). Humor is employed to lighten the heaviness of the subject. Closing is the last phase of the lecture. Around 5 minutes may be allotted for this phase; closing consists of giving a brief summing up – summary sentences and if possible, with a relevant quotation or a stanza of a poem. The mode of your presentation must be 'lecture – cum-discussion'. When appropriate administer self-appraisal inventories (psychological tests/ inventories) and initiate discussion after interpretation. Periodically arrange for guest lectures to be delivered by experts – senior faculty, psychologists and psychiatrists.

Consequence Competency

Is your teaching consequential? Do your students learn because of your teaching ? Evaluate the effectiveness of your instruction through periodic formal/informal tests-oral and written. Such a feedback will check whether you are on the right track. The objective of evaluation is to find the extent to which the instructional objectives are realized. Both instruction and evaluation must be delightful –free from stress or strain. How do your students perceive your teaching performance? Get feedback from the students . Give them a rating scale. They will rate your performance. Rating may be anonymous (They need not furnish their names in the rating Performa).

Attitude

Teaching performance depends not only on Aptitude but Attitude as well. Both are equally important.

Aptitude

(Promising Potential)

Altitude

(Performance par excellence)

Attitude

(Positive Perception)

The following self appraisal inventories (attitude scales) (structured by the author) will facilitate your self assessment of attitude (three layers) leading to effective teaching of psychology.

3. ATTITUDE TOWARDS LEARNING OF PSYCHOLOGY (ATLP)
(Structured by S. Sathiyagirirajan)

Read each of the following statements and indicate your response * in the separate response sheet enclosed.

*A-Exactly; B – Nearly ; C – Uncertain

{MPCS: Mastery of Psychological concepts
and skills } MPCS. . .

1. will facilitate one to study human behaviour effectively.
2. will facilitate keen observation of human behaviour.
3. will facilitate one to undertake experiments in human behaviour.
4. will facilitate one to verify psychological theories through research.
5. will make one collect reliable data for research.
6. will make one collect valid data for research.
7. enhances one's academic image.
8. enhances one's professional image.
9. enhances one's social image.
10. leads one to success.
11. paves the way for one's happiness.
12. enhances the quality of one's life.
13. facilitates one assess oneself objectively.
14. facilitates one assess others objectively.
15. facilitates one assess situations objectively.
16. facilitates one make the best of one's mental abilities.
17. facilitates one develop positive personality traits.
18. directs one's 'self-motivation towards 'achievement orientation'
19. facilitates one reach the stage of self-actualization.
20. facilitates one improve one's mental health.

Attitude Towards Learning of psychology
(ATLP)
Response Sheet

Item No	Options			Item No	Options		
1	A	B	C	11	A	B	C
2	A	B	C	12	A	B	C
3	A	B	C	13	A	B	C
4	A	B	C	14	A	B	C
5	A	B	C	15	A	B	C
6	A	B	C	16	A	B	C
7	A	B	C	17	A	B	C
8	A	B	C	18	A	B	C
9	A	B	C	19	A	B	C
10	A	B	C	20	A	B	C

Item reliability

Item – Whole correlation (r)

Item No	' r '	Item No	' r'
1	0.63	11	0.64
2	0.72	12	0.62
3	0.69	13	0.73
4	0.74	14	0.72
5	0.78	15	0.60
6	0.67	16	0.71
7	0.65	17	0.69
8	0.66	18	0.61
9	0.76	19	0.68
10	0.65	20	0.77

All r ' s are greater than 0.60 (high)

Item validity

High group – Low group discrimination (t)

Item No	' t '	Item No	' t'
1	5.29	11	3.25
2	3.97	12	3.46
3	3.78	13	5.37
4	4.86	14	3.98
5	3.55	15	4.79
6	3.64	16	4.88
7	5.33	17	4.56
8	4.42	18	3.67
9	4.21	19	3.44
10	3.13	20	3.35

All t 's are significant at 0.001 level

Tool Reliability

KR 21 : r = 0.66 (high)

Tool Validity (t)

High Group			Low group			t
N	Mean	SD	N	Mean	SD	5.53
50	27.35	9.05	50	16.40	5.96	

' t ' significant at 0.001 level

Scoring : 2, 1, 0 for A, B, C respectively.

Maximum Possible Score : 20 x 2 = 40

Least Possible Score : 20 x 0 = 0

Sample : (Volunteer) : (N) Size : 500 (Men : 250 ; Women : 250)

Students (Teacher trainees of colleges of education in and around Madurai.)

4. ATTITUDE TOWARDS TEACHING OF PSYCHOLOGY (ATTP)
(Structured by S. Sathiyagirirajan)

Read each of the following statements and indicate your response * in the separate response sheet enclosed.

*A – Exactly; B – Nearly ; C – Uncertain

{ETP – Effective Teaching of Psychology}
ETP . . . .
1. is a challenge as well as a reward.
2. enhances one's academic image.
3. enhances one's professional image.
4. enhances one's social image.
5. is a professional service.
6. is a social service.
7. is interdisciplinary in presentation. (mostly linked with philosophy and Sociology).
8. enhances the quality of life of the student population.
9. enhances the quality of life of teachers themselves.
10. is a self – fulfilling activity.
11. is a delightful; delights the teacher as well as the learner.
12. facilitates students develop their personal competence.
13. leads to educational guidance and counselling.
14. leads to professional guidance and counselling.
15. leads to personal guidance and counselling.
16. enhances the social effectiveness of teachers.
17. facilitates success orientation of the student population.
18. facilitates personal happiness of the student populations.
19. The best way to learn psychology is to teach it effectively.
20. Effective Teachers of Psychology love their subject; love their profession; and love their students.

Attitude Towards Teaching of Psychology
(ATTP)
(Response Sheet)

Item No	Options			Item No	Options		
1	A	B	C	11	A	B	C
2	A	B	C	12	A	B	C
3	A	B	C	13	A	B	C
4	A	B	C	14	A	B	C
5	A	B	C	15	A	B	C
6	A	B	C	16	A	B	C
7	A	B	C	17	A	B	C
8	A	B	C	18	A	B	C
9	A	B	C	19	A	B	C
10	A	B	C	20	A	B	C

Item reliability

Item – Whole correlation (r)

Item No	' r '	Item No	' r'
1	0.63	11	0.74
2	0.66	12	0.63
3	0.65	13	0.62
4	0.74	14	0.72
5	0.75	15	0.69
6	0.71	16	0.78
7	0.78	17	0.67
8	0.69	18	0.74
9	0.62	19	0.65
10	0.73	20	0.66

All r ' s are greater than 0.60 (high)

Item validity

High group – Low group discrimination (t)

Item No	' t '	Item No	' t'
1	3.51	11	4.25
2	3.60	12	4.52
3	3.44	13	4.44
4	4.33	14	3.75
5	3.57	15	4.33
6	3.26	16	4.69
7	3.68	17	3.87
8	3.45	18	4.92
9	3.74	19	3.91
10	4.83	20	4.32

All t 's are significant at 0.001 level

Tool Reliability

KR 21 : r = 0.66 (high)

Tool Validity (t)

High Group			Low group			t
N	Mean	SD	N	Mean	SD	5.11
50	26.54	8.15	50	15.50	5.25	

' t ' significant at 0.001 level

Scoring : 2, 1, 0 for A, B, C respectively.

Maximum Possible Score : 20 x 2 = 40

Least Possible Score : 20 x 0 = 0

Sample : (Volunteer) : (N) Size : 100 (Men : 50 ; Women : 50)

Teacher educators (Teaching Psychology) in colleges of education in Tamilnadu.

5. PSYCHOLOGICAL ATTITUDE (PA)

(Structured by S.Sathiyagirirajan)

Read each of the following statements and indicate your response * in the separate response sheet enclosed.

*A – Exactly; B – Nearly; C – Uncertain

We must . . .

1. observe human behaviour objectively.
2. assess ourselves objectively.
3. accept ourselves.
4. assess others objectively.
5. accept others.
6. assess situations objectively.
7. face realities of life.
8. study our thoughts.
9. study our feelings.
10. study our emotions.
11. study and understand others' thoughts.
12. study and understand others' feelings.
13. study and understand others' emotions.
14. apply our knowledge of Psychology in social interaction.
15. apply our knowledge of Psychology in life situations.
16. test our knowledge of Psychology when situation demands.
17. help others understand themselves.
18. help others assess themselves objectively.
19. extend psychological guidance and counselling to others (when situations demand).
20. Psychological service is a social service.

Psychological Attitude (P A)
Response Sheet

Item No	Options			Item No	Options		
1	A	B	C	11	A	B	C
2	A	B	C	12	A	B	C
3	A	B	C	13	A	B	C
4	A	B	C	14	A	B	C
5	A	B	C	15	A	B	C
6	A	B	C	16	A	B	C
7	A	B	C	17	A	B	C
8	A	B	C	18	A	B	C
9	A	B	C	19	A	B	C
10	A	B	C	20	A	B	C

Item reliability

Item – Whole correlation (r)

Item No	' r '	Item No	' r'
1	0.65	11	0.77
2	0.78	12	0.66
3	0.64	13	0.73
4	0.76	14	0.62
5	0.71	15	0.67
6	0.65	16	0.79
7	0.74	17	0.68
8	0.69	18	0.74
9	0.62	19	0.75
10	0.73	20	0.66

All r ' s are greater than 0.60 (high)

Item validity

High group – Low group discrimination (t)

Item No	' t '	Item No	' t'
1	4.64	11	4.73
2	3.56	12	4.92
3	3.75	13	3.63
4	3.41	14	3.52
5	4.87	15	4.84
6	3.38	16	3.46
7	3.96	17	3.25
8	3.24	18	4.37
9	3.25	19	4.38
10	4.12	20	3.49

All t 's are significant at 0.001 level

Tool Reliability

KR 21 : r = 0.63 (high)

Tool Validity (t)

High Group			Low group			t
N	Mean	SD	N	Mean	SD	4.89
50	26.45	8.81	50	15.36	5.12	

' t ' significant at 0.001 level

Scoring : 2, 1, 0 for A, B, C respectively.   Maximum Possible Score : 20 x 2 = 40   Least Possible Score : 20 x 0 = 0
Sample : (Volunteer) : (N) Size : 100 (Men : 50 ; Women : 50)   Teacher educators (Teaching Psychology) in colleges of education in Tamilnadu.

6. A MODEL LESSON PLAN
(Structured by S. Sathiyagirirajan)

Subject : Educational Psychology

Unit : Transfer of Learning

Objectives :

GIO (General Instructional Objective)

- The learner acquires the concept of transfer of learning and understands its process, theories and application.
- SLO's (Specific Learner outcomes)
- The learner
- defines the term , 'Transfer of Learning'
- identifies and illustrates types of transfer.
- identifies and illustrates modes of transfer.
- states and illustrates Thorndike's theory of identical elements.
- states and illustrates Judd's theory of generalization.
- distinguishes between the two theories.
- Identifies techniques of facilitating transfer.

Instruction

Mode   **:** Lecture cum Discussion

Duration   : 60 minutes

Content outline :

- Transfer of Learning defined and illustrated.

- Theory of Mental Discipline not the basis of Transfer of learning.

- Types of transfer - Positive, Negative and Zero.

- Intra Domain Transfer.

- Inter Domain Transfer.

- Knowledge to Knowledge.

- Knowledge to skills.

- Knowledge to Attitude.

- Thorndike's theory of identical / similar elements (explained and illustrated)

- Judd's theory of generalization (explained and illustrated).

- The two theories as complementary (not as contradictory) theories

- Methods and techniques of teaching to facilitate Transfer.

(The entire lecture verbatim is not outlined)

{Refer to standard books and prepare lecture notes ; The author's study materials on 'Transfer of learning' in his 'Psychology in Education' may be used}

Evaluation (Test items)

Free Response

Essay : State and explain the two major theories of transfer (of Thorndike and Judd). Are they contradictory or complementary? Substantiate (in about 750 words).

Short essay:

- Define the term, 'Transfer of Learning' Identify and illustrate the three types of transfer (in about 450 words)

- "Transfer does take place but it is not automatic; the teacher has to facilitate it" Discuss the implication of this statement (in the 300 words).

Guided Response

Simple recall :

- Which aspect of the two learning situations, according to Thorndike, facilitates Transfer of learning? (Ans: similarity).

- Which aspect of the two learning situations, according to Judd, facilitates transfer of learning (Ans : learner perception of similarity).

- Which type of research was employed by Judd to formulate the theory of generalization (Ans: Experiment)

Completion

- According to Judd it is not the mere similarity between the two learning situation but ------------ ---------------- of similarity that facilitates transfer (Ans : learner perception).

- According to Judd the degree of transfer depends upon the ----------- of the ---------- in addition to the size of identical elements (Ans: intelligence, learner)

- For effective transfer teaching must be -------------- and ------------(Ans: meaningful, integrated).

- According to Thorndike there will be transfer from one learning situation to another only when the two situations are ------------ (Ans : B)

   (A) related   B) similar   C) meaningful   D) integrated.

- According to Thorndike, the degree of transfer depends upon the size of ......
  in the two learning situations . (Ans: C)

  A) Learning outcomes   B) teaching points

  C) Identical elements   D) instructional points.

- The theory of generalization of Judd was formulated on the basis of a / an

  -------- (Ans : D)

  A) Survey B) case study C) action research D) experiment.

True / False

- The degree of transfer depends upon the size of similarity only (F)
- Transfer is facilitated by the learner's intelligence as well (T).

Matching

A   B

a) Positive transfer   i) unrelated activities

b) Negative transfer   ii) reinforcement of learning

c) Zero transfer   iii) lack of improvement

                                                   iv) debilitation of learning

                                                   v) facilitation of learning

Answer key:

a) (v)

b) (iv)

c) (i)

Evaluation Research in 'Teacher Education'
(S. Sathiyagirirajan)

This paper is a modest attempt to draw the attention of researchers in teacher education to evaluation research in Teacher education.

The purpose of any research is to improve the quality of performance in the field concerned. There have been numerous research projects on Teacher education. However only a few focused on evaluation of the programme. Evaluation research followed by remedial programme of action is likely to effect quality improvement in Teacher Education.

What are the objectives of Teacher Education programme in general and objectives of the programme in a specific academic discipline (such as Teaching of Mathematics / Physics sciences / Bio sciences / Social sciences and so on) in particular? Can we assess the degree of realization of these objectives? Can we quantify the degree of realization of these objectives?

According to Thorndike, any 'quality' exists in some 'quantity' and hence it can be quantified – measured, assessed and evaluated.

Any evaluative research, being diagnostic in nature, must be followed by remedial programme of action. And the remedial programmer of action must be feasible, flexible, practicable and down to earth.

Does our Teacher Education programme realize its objectives? (- in terms of behavioural changes (cognitive / affective / psychomotor) in our teacher-trainees)

Let us specify our objectives in behavioural terms. Let us assess students at the entry point / stage-entry behaviour (prognosis to be followed by guidance). Let us employ formative assessment to monitor the progress in their behavioural, diagnostic assessment to remedy learning difficulties (en route behaviour). Let us assess our students finally (summative) in the exit print / stage – exit behaviour.

Exit behaviour must be superior to entry behaviour .   Then only the objectives of the programme are realized.

Entry → | Teacher Education (Enroute Behavior) | Exit →
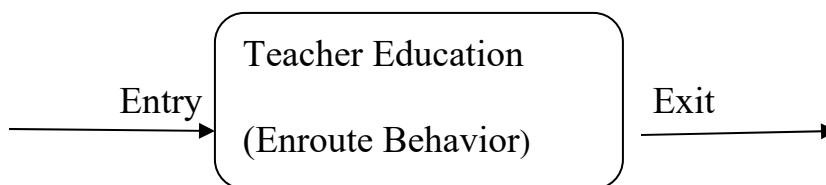
In addition to knowledge (cognitive) and skills (Psychomotor) the teacher – trainees are expected to master, they are also expected to develop in themselves positive personality traits. This approach may lead to a movement called **PERSONALITY BASED TEACHER EDUCATION (**similar to **CBTE).** Wha**t** deliberate attempts are being made in Teacher Education programme to develop these personality traits? Teacher – trainees must have developed what is called a 'Teaching Personality' by the time they reach the exit stage. Can we employ appropriate methods and techniques to develop in our teacher-trainees these personality traits through concomitant learning? Can we evaluate our attempts at the personality development of our teacher – trainees?.

Evaluation of Teacher Education programme is a collective venture. The principal of a College of (teacher) education and his/her team will all work together and 'miles to go' in this venture.

8 Teaching as a profession
(Source : Eric Hoyle)

Teaching meets the following professional criteria

- A unique social service.

- An essential social service

- Consequential

- Depends largely upon intellectual skills.

- Requires an intensive preservice training.

- Academic freedom

- Accountability.

- Professional organization.

- Code of conduct.

{Do Teachers perceive Teaching as a profession? Do they perform as professionals? These are the acid tests for enhancing the social image of the Teaching community}.

Thought for the Teachers' Day
(S. Sathiyagirirajan)

The best way to learn a subject is to teach it. Teaching will challenge the best efforts of the best teachers. Effective teaching is not an accident; It does not just happen . It is facilitated by mastery of the academic discipline, thorough preparation and effective presentation. Correlates of effective teaching are Aptitude for teaching and (a positive) attitude towards teaching – love of the subject, love of teaching and love of the students. Effective preservice education

periodically supplemented by effective inservice education enhances the quality of teaching . Efficient teaching is effortless teaching . (If teachers thoroughly prepare for classroom presentation). Effective teaching is ninety nine perspiration (preparation) and one percent inspiration (presentation).

There are three types of teachers: Teachers who are hated and forgotten: Teachers who are tolerated and forgiven: Teachers who are loved and remembered. Do our students love and remember us? This is the acid test for our teaching effectiveness.

Several good teachers are recognized and rewarded. Some great teachers are honoured and admired.

However there were and there are thousands of unknown teachers-good and great who are unsung and unhonoured. They were / are instrumental to the intellectual growth and development of their students. Let us remember them, today, and pray for them. God loves them and remembers them because they are sharing God's service- teaching the poor and the needy.

"A poor teacher complains:

An average teacher explains:

A good teacher teaches;

A great teacher inspires".

10. AN ENTRY BEHAVIOUR TEST BATTERY

For B.Ed students

This test battery is an attempt to assess the entry behaviour of students in English language mastery focussing on (i) verbal Reasoning (ii) Reading comprehension (iii) Language usage (common errors) (iv) Listening Comprehension The author (S. Sathiyagirirajan) used to administer these tests to the B.Ed students at their entry stage to study their language readiness for the course. The author was working as a lecturer in Eduational Psychology in the then Dr. Alagappa chettiar Training college (now Alagappa University College of Education) Karaikudi during 1970-76 . Test Materials were drawn from various sources.

Test 1

A) Verbal Reasoning (Guided Response)

In each of the following items, some statement is given, followed by five conclusions. Choose the most appropriate conclusion that can be drawn from it and indicate your response (A, B, C, D, E) in the brackets provided. Do not assume any additional data.

Practice Item

It is possible to improve the quality of Education if the teacher, the society and the government cooperate with one another.

A) There is perfect cooperation between the teacher and the society.

B) The quality of education can never be improved.

C) The quality of education can be improved.

D) The government must work for the improvement of the quality of education.

E) The quality of education depends upon the quality of teachers.   {C}

The most appropriate conclusion is the one in 'C' and hence 'C' is indicated in the brackets.

Item 1

'Either we work hard and flourish or keep idle and perish '

A) If we don't feel like working hard, we can keep idle.

B) The choice is between hard work and prosperity on the one hard and no work and penury on the other.

C) If we work hard we will prosper and other will perish since they keep idle.

D) We can work hard and prosper if necessary.

E) None of the above   [__]

Item 2

Sam always scores high marks in all the subjects.

A) Teachers are found of Sam and give him high scores.

B) Sam's parents give him academic support.

C) Teachers pay special attention to Sam while teaching.

D) Sam works hard and has effective study habits.

E) None of the above   [__]

Item 3

Text Books, however superior they are, can never replace teachers.

A) Text Book of high quality can easily supplant teachers.

B) Teachers will have no work if text books of quality are published.

C) Guides and notes are there to replace teachers.

D) Even text books of high quality can only supplement teachers.

E) None of the above   [__]

Item 4

An experienced teacher does not necessarily prove to be an efficient teacher.

A) The degree of relationship between experience and efficiency in teaching is not substantial.

B) The degree of relationship between experience and efficiency in teaching is substantial.

C) An experienced teacher is rarely an efficient teacher.

D) An efficient teacher is usually a new entrant to the profession.

E) None of the above   [__]

Item 5

The quality of education cannot be improved unless there is a drastic change in the examination system.

A) Even a drastic change in the examination system cannot improve the quality of education.

B) The quality of education can never be improved because educational authorities are not willing to make drastic changes in the examination system.

C) If we do not effect drastic changes in the examination system we cannot hope to improve the quality of education.   [__]

D) No one is interested in improving the quality of education because no one is interested in making drastic changes in the examination system.

E) None of the above   [__]

B) Reading Comprehension (Guided Response)

A passage is presented followed by a few questions on its content. Each question, in turn, is followed by four responses. Choose the most appropriate / best / the correct one and indicate your choice (A, B, C, D) in the brackets provided.

Practice Item

The difference between scientific psychology and popular psychology is the difference between knowledge gained through the scientific method and knowledge based on sporadic experiences, hunches, intuition, shrewd guesses and superstitious beliefs. Popular psychology is uncritical, lacks an exact terminology, is anecdotal and ignores negative cases.

The main thought of the passage is ....

A) There is a marked difference between scientific psychology and popular psychology.

B) Scientific Psychology is not popular.

C) Popular Psychology is not scientific.

D) Scientific Psychology is to be supplemented by popular Psychology   [C]

The most appropriate response is that indicated by 'C'. Hence 'C' is placed with in the brackets.

Passage

It matters very little where you go or when you go. It matters little what you do. The thing itself matters, and that thing is a holiday – the break from the monotony of routine and the discipline of earning a living. To get away , to be free for a brief spell, to feel that you know that you can linger over your breakfast, to realize that the usual train will depart without you, to look upon new scenes and strange faces, to breathe fresh air, to hear different sounds; to do different things, or, better still, to do nothing at all, that is holiday. Fix upon a place, no matter what place, anywhere; put a few things into a brief, the fewer the better, and go. The change, I repeat, is the thing. A scenery or amusement is hardly concerned in the great business, for unless man carries all the beauty of the world in his own mind and all the joy of life in his own heart, he will not find them anywhere. We have joys and sorrows and the world about is but material for their expression.

Item 1

The passage is about

    A) Peace of mind   B) Joys and Sorrows

    C) New Scenes   D) Holiday   [_]

Item 2

The most significant aspect of a holiday is ....

    A) Amusement   B) Scenery

    C) Change   D) Fresh air   [_]

Item 3

Holiday is most welcome because ....

    A) We need not get up at the appointed hour

    B) We need not do any thing

    C) We can be free for a brief spell

    D) We can rest and relax

Item 4

An environment is beautiful because ....

    A) the beauty is in the man himself

    B) it has beautiful scenery

    C) It gives the man the much needed change

    D) the man is in a holiday mood   [_]

Item 5

'Unless man carries all the joy of life in his own heart, he will not find it anywhere'- The thought mentioned above is

    A) A happy man will make others happy

    B) Only a happy man can enjoy a holiday

    C) If a man is not intrinsically happy he cannot find happiness outside

    D) Holiday will make one happy   [_]

C) English Language usage – Common errors – Corrected usage to be indicated (Free Response)

There is a common error (underlined) in each of the following sentences. Indicate the correct usage in the blank space under each sentence.

Practice item

I <u>am working</u> in this office since 2001.

Correct usage : I have been working.

Test items

1. This novel is <u>rather</u> interesting.
2. The <u>staff members</u> are rather late today.
3. Will you please <u>open</u> this knot?
4. One should always remain loyal to <u>his</u> country.
5. One of this cousins <u>have</u> arrived from Boston.
6. Please <u>remember</u> me to bring some cakes.
7. She sang very well, <u>Isn't it?</u>
8. I shall return this book <u>after</u> a week.
9. I wish I <u>know</u> how to do it.
10. Let me remind you lest you <u>will</u> forget.

Test 1

Scoring Key

A) Verbal Reasoning

1 B 2 E 3 D 4 A 5 C

B) Reading Comprehension

1 D 2 C 3 B 4 A 5 C

C) Common Errors

1 fairly , 2 The members of the staff, 3 untie, 4 one's, 5 has ,

6 remind, 7 Didn't she?, 8 in, 9 Knew, 10 should

Test II

A) Verbal Reasoning (Instructions & Practice item as in Test I)

Item 1

Examination determines not only the concept of education but the methods of teaching as well; in fact, the entire approach to education.

A) Periodic Internal Assessment should replace year end examination

B) Educational Institutions should bring forth drastic examination reforms.

C) Examination system dominates the field of education.

D) Examination system is a controversial issue.

E) None of the above   [_]

Item 2

Anand scored 75% of marks in Mathematics in a monthly test.

A) Anand is one of the best students of Mathematics

B) Anand will get a higher score in the next monthly test

C) It is not difficult to get 75% of marks in Mathematics

D) Anand's teacher taught Mathematics effectively

E) None of the above   [_]

Item 3

If a boy is intelligent he will not fail in the examinations. Ram has not failed in any examination. So Ram is intelligent. This statement is ....

A) true

B) not true

C) probably true

D) the only conclusion from the given data

E) None of the above   [_]

Item 4

Good English can never be built on weak grammatical foundations.

A) Efficient teachers of English teach grammar effectively.

B) Students must learn English grammar thoroughly.

C) Lack of knowledge of grammar will affect one's studies

D) A grounding in Grammar is a 'must' for effective communication in English.

E) None of the above   [_]

Item 5

'The destiny of India is being shaped in her class rooms'

A) Our educational institutions are not interested in our National Development

B) Our educational institutions are not doing their best to shape future citizens.

C) The expenditure on education is not productive

D) Adequate infrastructure facilities in educational institutions will shape the destiny of India

E) None of the above   [_]

B) Reading Comprehension (Instructions & Practice Item as in Test 1)

Passage

A man once ordered a new shirt from his tailor. When he tried it on at home he was disgusted to see that was 3 centimetres too long. He then went off to his office.

The man's wife thought she would give him a pleasant surprise. So she cut off three centimetres from the hem of the shirt and stitched it neatly again. Then she went to the market for shopping. On her way, she stopped at her mother-in-law's house and spoke about the mistake in tailoring. But as she was in a hurry, she did not wait to tell her mother-in-law what she had done with the shirt. Her mother-in-law was sorry that her son was disappointed with the shirt. So she went to his house immediately and shortened the shirt by 3 centimetres while her daughter – in – law was still shopping.

While he was going to his office the man had stopped at the tailor's shop to ask him to go to his house and take the shirt from his servant for alteration. The tailor did the alternation accordingly in his shop while the housewife was still out of home for shopping.

When the man on his way home from office stopped at the tailor's shop to try his altered shirt he really did get a surprise.

Item 1

How many times was the shirt altered?

    A) One time only   B) Two times

    C) Three times   D) Four times   [_]

Item 2

How was the shirt when the man tried it on the second time?

    A) nine centimetres longer   B) nine centimetres shorter

    C) three centimetres longer   D) three centimetres shorter   [_]

Item 3

Why did the man's wife not tell her mother – in – law about the alteration she made with the shirt?

    A) She had forgotten to tell her about the alteration

    B) She wanted to play some mischief

    C) She wanted to bring a bad name to her mother – in – law

    D) She wanted to give her husband a pleasant surprise   [_]

Item 4

The man really did get a surprise while trying his altered shirt. Who was responsible for his surprise?

    A) His wife

    B) His mother

    C) The tailor

    D) All the three together   [_]

Item 5

This story is ....

    A) Adventurous

    B) Humorous

    C) Superstitious

    D) Pathetic   [_]

C) English Language usage – Common errors – Corrected usage to be indicated (Instructions & Practice item as in Test 1)

Test Items

1. Shut the Window; it is <u>fairly</u> cold.
2. The teacher <u>accepted</u> to come with us.
3. Neither of his parents <u>are</u> Indian.
4. I have finished only <u>three-fourth</u> of this book.
5. She <u>denied</u> my offer of assistance.
6. This pen is superior <u>than</u> that.
7. A President's office is different from a <u>Prime minister</u>
8. I don't remember <u>him</u> ever helping others.
9. I am poor, I wish I <u>am</u> rich.
10. He has done his work very well. He <u>needs</u> not do it again.

Test II

Scoring Key

A) Verbal Reasoning

1 C 2 E 3 D 4 D 5 E

B) Reading Comprehension

1 C 2 B 3 A 4 D 5 B

C) Common Errors

1 rather, 2 agreed, 3 is, 4 three – fourths, 5 refused

6 to, 7 Prime Minister's 8 his, 9 were, 10 need not

Test III

A) Verbal Reasoning (Instructions & Practice item as in Test I)

Item 1

Most fatal accidents occur more at nights than during day time.

A) There are more fatal accidents at nights since drivers are very tired after a day's work.

B) At night drivers get into accidents when they are blinded by the lights of the oncoming vehicles.

C) The darkness of the night tends to increase fatal accidents.

D) The chance of a fatal accident is less during day than it is at night.

E) None of the above   [_]

Item 2

Raju is the most intelligent boy in his class.

A) In his class Raju scores the best marks in all the subjects.

B) In his class Raju scores the best marks in most of the subjects.

C) Raju's parents are intelligent.

D) Raju's teacher is efficient.

E) None of the above   [_]

Item 3

'Either the boy is badly taught, or he is exceptionally stupid"

A) If the boy is not badly taught, then he is exceptionally stupid.

B) Exceptional stupidity is the cause of bad teaching.

C) Exceptional stupidity cannot be cured by good teaching.

D) The child is badly taught and he is exceptionally stupid.

E) None of the above   [_]

Item 4

One of the reasons why a large number of students fail in the University

Examination is that they are weak in English. Padma has failed in a

University Examination. The conclusion that Padma is weak in English is

....

A) True

B) not necessarily true

C) not true

D) based on the information furnished

E) None of the above   [_]

Item 5

Boys in my school put on white uniform

A) Boys in my school like white uniform

B) Boys in other school do not wear white uniform

C) Teachers in my school have selected white uniform for our boys.

D) If you happen to see a boy in white uniform, he is probably from my
   school.

E) None of the above   [_]

B) Reading Comprehension (Instructions & Practice item as in Test I)

Passage

Mothers should guard against training their children to be dependent
and self – absorbed. Never lead them to think they are the centre, that everything
must revolve around them. Some parents give much time and attention to amusing
their children; but children should be trained to amuse themselves, to exercise
their ingenuity and skill. Thus they will learn to be content with simple pleasures.
They should be taught to learn bravely by their little disappointments and trails.
Instead of calling attention to every trifling pain or hurt, divert their minds; teach
them to pass lightly over little annoyances or discomforts. Let them learn to be
thoughtful for others. But let not the children be neglected. Burdened with many
cares, mothers sometimes feel that they cannot

take time patiently to instruct their little ones and give them love and sympathy. But they should remember that if children do not find in their parents and in their home that which will satisfy their desire for sympathy and companionship they will look to other sources where they may be misguided.

Item 1

One reason why children are likely to be misled is ....

    A) Mothers fondle them often

    B) They are motherless

    C) They are neglected at home

    D) They are dependent and self-centred   [_]

Item 2

What should mothers guard in training their children?

    A) love and sympathy

    B) amusement and merriment

    C) Pain and hurt

    D) dependence and self – importance   [_]

Item 3

How can mothers help children to endure trifles?

    A) by making them call attention to every little pain or hurt.

    B) by teaching them to endure courageously their little disappointments and difficulties.

    C) by teaching them to pass lightly little annoyances and discomforts.

    D) by diverting their minds from trifles   [_]

Item 4

Mothers do not give their children love and sympathy because ....

    A) they are indifferent to their children

B) they are loaded with heavy work

C) Children are misled and misguided

D) They are not trained in child education   [_]

Item 5

The main thought of the passage is that ....

   A) Mothers must give a sense of security to their children

   B) Mothers must make their children happy

   C) Mothers must train their children properly

   D) Mothers must teach their children to be thoughtful for others   [_]

D) Common Errors (Instructions & Practice item as in Test I)

<u>**Test Items**</u>

1. Your appearance as well as performance <u>are</u> against you.
2. This morning I got up <u>lately</u>
3. Kokila is married <u>with</u> a rich banker.
4. When I entered the compartment, there was no <u>place</u> for me.
5. He congratulated me <u>for</u> my success.
6. A study of these investigations <u>show</u> this fact.
7. I do not know <u>who </u>I can trust.
8. Hundreds of people <u>died</u> by earthquake.
9. He <u>dares not</u> take such a step.
10. If I were you, I <u>will</u> not go.

Test III (Scoring Key)

A) Verbal Reasoning

1 D 2 E 3 A 4 D 5 D

B) Reading Comprehension

1 C 2 D 3 C 4 B 5 A

C) Common Errors

1 is, 2 late, 3 to, 4 no room, 5 on,

6 shows, 7 whom, 8 were killed, 9 dare not, 10 would not

10B. LISTENING COMPREHENSION TEST BATTERY

(These tests – Test I, II and III may be appended to the Entry Behaviour Test Battery – to Test I, II and III respectively)

This test battery consists of three tests in Listening Comprehension

These passages are not given to candidates (who take the test) in written format. They are read by an English teacher (with correct pronunciation, modulation, phrasing and intonation) with a good speaking voice (or) recorded in a CD and played back to the candidates who take the test.

Passages are read three times (with a pause) one after the other. Candidates will listen to the oral presentations. In the first reading, they simply listen; in the second reading, they can take notes (jot down key points) ; in the third reading they can refine or supplement these notes.

Soon after the three presentations are over test items on the passages are given to the candidates and they are asked to indicate the right / most appropriate responses to the test items.

(The passages are drawn from various sources)

Test I

Passage 1

There is a great deal of confusion in current definitions of critical reading. Some writers think of it merely as a type of comprehension, as drawing conclusions or making inferences. Others conceive of critical reading as referring only to high-level comprehension abilities, requiring well-developed skills of analysis and interpretation. Even the term, 'Critical reading' is not in universal use. We find such alternatives as 'creative reading', 'evaluative reading', 'interpretative reading' and others.

Critical reading is more than the sum of the skills involved in summarizing, organizing, or judging the accuracy and relevance of materials; it may involve making judgement and inferences, distinguishing between fact and opinion, recognizing the author's purpose or point of view. Over and above these study skills, critical reading involves an active integration of author's facts and the reader's insights into a new interpretation of the passage.

Test Items

1. According to different groups of writers, critical reading is ....

A) Drawing conclusions   B) High level comprehension skills

C) Skills of analysis   D) Skills of Interpretation

E) All of the above   [_]

2. What is the alternative of Critical reading?

   A) Creative reading   B) Reflective reading

   C) Active reading   D) Passive reading

   E) None of the above   [_]

3. Critical reading distinguishes between ....

   A) rumours and news   B) opinion and hearsay

   C) opinion and fact   D) fact and fiction

   E) None of the above   [_]

4. Critical reading recognizes ....

   A) author's linguistic style touches   B) author's autobiographical

   C) author's diction   D) author's point of view

   E) None of the above   [_]

Passage 2 (A stanza of a poem)

        " There is so much good in the worst of us;

           And so much bad in the best of us;

           That it hardly becomes any of us;

           To talk about the rest of us."

Test Items

1. The first message of the poem is ....

   A) People are either perfectly good or perfectly bad

   B) People are neither perfectly good nor perfectly bad

   C) Good people outnumber bad people

   D) Bad people outnumber good people

   E) None of the above   [_]

2. The second message of the poem is ....

   A) Find fault with people and correct them

   B) Correct people without offending their feelings

   C) Nobody is perfect enough to find fault with others

   D) Some of us are in the habit of finding fault with others

   E) None of the above   [_]

Passage 3

Most of the studies on reading interests focus our attention of gender and age. Young children prefer stories of animals, other children, fantasy and fairy tales. At about the age of ten, an interest in realistic materials tend to appear. Boys tend to prefer those offering action and adventure, while girls are interested in home and social life. Boys show increasing interest in science and invention and a gradual decrease in interest for nature stories as they approach high school age. Gender differences in interest become marked after primary classes. Girls may read books popular with boys, but the reverse is rare.

During the teen ages gender differences in reading interests continue to be very obvious. Boys prefer adventure and science fiction. Girls like romances, poetry and stories on home and family life. Biographical and historical materials appeal to the above mediocre and superior readers. With growing maturity of later teenage period, reflective, philosophic and religious and artistic literature becomes more popular. As both genders approach adulthood the gender differences in reading lessen until finally it is the individual personality and taste that matters, not the gender.

Test Items

1. Studies on reading interests focus on ....

   A) Gender Differences

   B) Age Differences

   C) Both gender and age differences

   D) Economic status of the family

   E) Educational status of the family   [_]

2. When do gender differences disappear?

   A) At the advent of later child hood

   B) At the advent of teen age

   C) At the advent of late teens

   D) At the advent of adult hood

   E) Never   [_]

3. Which factor tends to overcome gender differences in reading interests?

   A) Individual taste   B) Maturity

   C) Peer group pressure   D) Higher Education

   E) Experience   [_]

4. The most appropriate title for this passage is ....

   A) Gender differences in Reading interests

   B) Factors influencing Reading interests

   C) Age differences in Reading interests

   D) Facilitators of Reading interests

   E) Debilitators of Reading interests   [_]

Test I

Scoring Key

Passage 1

1 E 2 A 3 C 4 D

Passage 2

1 B 2 C

Passage 3

1 C 2 D 3 A 4 B

Each right response is given a score of '1'. The maximum possible score is 10.

Test II

Passage 1

Most lectures are frankly expository, that is, their purpose is to convey information, subject – matter or techniques. This can be often done by a text book. In reading a book, you can go back over different passages and proceed at your own pace. In a lecture you cannot go back, and must adjust yourself to the rate at which the lecturer presents his material.

Lectures are sometimes criticized as a passive form of learning,- the lecturer talks, students listen and make notes,   Usually the lecturer is not interrupted or asked questions, but proceeds at a uniform pace, and does not know whether he is fully understood or not. Sometimes questions and discussion may be invited, but mostly the communication is one way. Some lecturers, however, are aware of their audience's reactions and they respect, recapitulate and present new illustrations to explain difficult concepts.

Listening to a lecture need not be passive. The lecturer's utterances can generate a thought process in the listeners who can link the thoughts and ideas of the lecturer with their existing body of knowledge. The impact of a good lecture is greater than that of a book because enthusiasm and attitudes are effectively communicated in personal contact.

Test Items

1. What is the purpose of a lecture?

   A) To convey Information

   B) To discuss a subject - matter

   C) To highlight certain techniques

   D) To generate a thought process in the listeners

   E) All of the above   [_]

2. A Text book is preferred to a lecture since............

   A) Text Books are more informative

   B) Text Books are more authoritative

   C) You can go back in a text book and learn at your own pace

   D) Reading is more effective than listening

   E) None of the above   [_]

3. It is doubtful whether listeners learn from lectures because
   ....
   A) Lecture is, usually, a one way communication

   B) Lectures are usually beyond the linguistic reach of the listeners

   C) Listeners are often passive.

   D) Lecturers are not aware of the audience's level of comprehension

   E) Most lecturers do not have a good speaking voice   [_]

4. Some lecturers are aware of the audience's reactions. Therefore they
   ....
   A) Respect their listeners

   B) Recapitulate the key points

   C) Give periodic breaks

   D) Start using a simpler language

   E) Slow down their pace of presentation   [_]

Passage 2 (A stanza of a poem**)**

> Lives of great men all remind us;
> We can make our lives sublime;
> And departing leave behind us,
> Foot prints on the sands of Time.

Test Items

1. According to this poem,
   A) Some are born great
   B) Some achieve greatness
   C) Greatness is thrust up on some
   D) Great people are social leaders
   E) None of the above   [_]
2. The message of the poem is ....
   A) Great people are good
   B) Great people are noble
   C) Great people are rare
   D) We can draw inspiration from great people
   E) Great people lead meaningful lives   [_]

Passage 3

All of us are interested in conversation. Aren't we? Man is the only creature who can talk himself into trouble; but he is also the only creature who can find a way out of trouble by talking it over. The history of any movement in Politics, Business or Society is a course of persistent, reasonable confrontation of facts and differing ideas with one another.

Conversation has the following objectives; to give information, to get information, to persuade others, to show interest in others, or just for emotional release.

Conversation is the simplest form of dialogue. It was conversation, in this form, in the age of Socrates – an age which laid the foundation of our civilization. It was conversation among scholars in a bookless world which revived learning.

Good conversation stretches our mind. To make the best use of it people must make conversation an art of communication and not purposeless utterances of casual thoughts.

Test Items

1. The purpose of conversation is.......................
   A) to furnish facts
   B) to collect facts
   C) to influence others
   D) to empathise with others
   E) All of the above   [_]

2. The greatest contribution of conversation in a bookless world was ....
   A) Revival of Teaching
   B) Revival of Learning
   C) Revival of Civilization
   D) Revival of Culture
   E) None of the above   [_]

3. Through Conversation one can ....
   A) run into trouble
   B) run out of trouble
   C) run into trouble as well as run out of trouble
   D) please oneself
   E) None of the above   [_]

4. Effective conversation is ....
   A) an utterance of random thoughts
   B) an art of communication
   C) an emotional release technique
   D) a good pastime
   E) an incidental and casual occurrence   [_]

Test II

Scoring Key

Passage 1

1 E 2 C 3 A 4 B

Passage 2

1 E 2 D

Passage 3

1 E 2 B 3 C 4 B

Each right response is given a score of '1'. The maximum possible score is 10.

Test III

Passage 1 (A stanza of a poem)

      Books are keys to wisdom's treasure;

      Books are gates to lands of pleasure:

      Books are paths that upward lead;

      Books are friends, come, let us read

Test Items

1. The basic intellectual activity that is focused in this poem is ....

   A) Imagining   B) Thinking

   C) Reasoning   D) Reading

   E) None of the above   [_]

2. Books are friends because they ....

   A) make us wise   B) make us happy

   C) elevate us to higher levels   D) give us profit as well as pleasure

   E) All of the above   [_]

Passage 2

     It is true that success in a man's life depends on his education, industry and honesty. But largely, Success in life depends upon the wise choice of a profession. What is a good profession today becomes dull and unprofitable tomorrow. Rich men do not mind what profession they choose. The question is very important to the poor.

Test Items

1. The most appropriate title for this passage is ....

   A) Success in a job   B) Job satisfaction

   C) Choice of a Profession   D) Education and profession

   E) Dullness of a profession   [_]

2. Wise choice of a profession is more important to ....

   A) the rich   B) the poor

   C) the hard working people   D) the educated

   E) the honest people   [_]

Passage 3

It is true that most people associate the notion of study with schools and colleges, or at the very best with books. But in the broad sense study consists in deliberately acquiring such familiarity with our surroundings as shall enable us to make ourselves thoroughly at home with them.

Indeed education is defined as the process by which the educated absorbs and is absorbed by the environment. As we learn, we are said to take possession of the outer world and make it a part of our mental life, while at the same time the outer world is taking possession of us and making us conform to all its conditions; the result is that we feel at home with our surroundings.

Test Items

1. Education is the process by which the learner ....

   A) masters the subject matter

   B) acquired essential skills

   C) Learns to discriminate between the good and evil

   D) gradually feels at home with his surroundings

   E) None of the above   [_]

2. Education is the process of which ....

   A) the learner takes possession of the outer world

   B) the outer world takes possession of the learner

   C) both A and B

   D) Absorption of the environment by the educated

   E) Absorption of the educated by the environment   [_]

Passage 4

Man has another fundamental need beyond the physical requirement of food and shelter: the need to communicate with his fellow – men, It is necessary for survival. Communication is the art of transmitting information, thoughts, ideas and attitudes from to one person to another. Upon this foundation modern men have built intricate, multifaceted machinery for delivering messages. The communication machinery is fantastic and conquers the physical barriers of the world.

Men in space travel send back radio message; Cameras mounted on rockets give us close up televised photographs of the moon's surface. With computers and instant transmission systems we are bending time and space. Yet all this costly structure is a meaningless toy unless its users have something to say. The study of communication thus involves two aspects – a broad communication of the mechanical means, and an understanding of how men use the tools.

Test Items

1. Communication is .... need of human beings.

   A) a supplementary

   B) a complementary

   C) a basic

   D) an avoidable

   E) a higher level   [_]

2. The communication machinery of the day has conquered ....

   A) the international borders

   B) machinery connected with other systems

   C) national borders

   D) space

   E) physical barriers of the world   [_]

3. Communication is the art of transmitting ....

   A) Information

   B) thoughts

   C) Ideas

   D) Attitudes

   E) All of the above [_]

4. All this costly structure of communication machinery is meaningless

   If ....

   A) the machinery does not work

   B) the operators mishandle the machinery

   C) we have nothing significant to communicate

   D) the students are not willing to communicate

   E) the receivers are not willing to be communicated [_]

Test III

Scoring Key

Passage 1

1 D 2 E

Passage 2

1 C 2 B

Passage 3

1 D 2 C

Passage 4

1 C 2 E 3 E 4 C

Each right response is given a score of '1'. The maximum possible score is 10.

11. RESEARCH READINESS TEST

(In Educational Research and Statistics)

(for Research scholars in Education)

Good research can never be attempted without a grounding in basics. This test makes an attempt to assess one's learning readiness for research leading to mastery of sophisticated skills. Mastery of Basics to be assessed by this test will lead one to get exposed to standard books on advanced research. This test can also be used as a self - assessment – to identify gaps in knowledge and skills so that a remedial programme can be sought as a follow-up.

This test is of multiple choice type. Each item has one stem and four options – A, B, C, D. Identify the correct/the best option for each item. Indicate your response in the separate response sheet provided for this purpose. Do not make any mark on the test booklet It is reusable. Do not skip any item unresponded. There are 60 items in the test. Duration of the test is 30 minutes you can spend around 30 seconds (on an average) for responding to an item.

TEST ITEMS

(Duration of the Test : 30 Minutes)

1. Hypothesis is a .... answer to the research question
   A. Tentative
   B. Reliable
   C. Valid
   D. Final

2. In this type of research a current problem unique to the researcher is analysed
   A. Basic
   B. Applied
   C. Action
   D. Exploratory

3. (a) Testing hypothesis (b) Framing the hypothesis (c) Arriving at conclusions (d) Analysing a problem (e) Identifying a problem. Which among the following indicate the proper sequence in research?
   A. b, a, d ,e, e
   B. b, a, c, d, c
   C. d, e, a, b, c
   D. e, d, b, a, c

4. A research attempts to guess academic performance of students when their I.Q's are known. What type of research is this?
   A. Relationship
   B. Prediction
   C. Casual – comparative
   D. Case study

5. No hypothesis need be framed in ....research
   A. Exploratory
   B. Experimental
   C. Survey
   D. Case study

6. The two major criteria of an effective tool of research are
   A. Objectivity and Reliability
   B. Reliability and Administrability
   C. Administrability and Validity
   D. Reliability and Validity

7. 'Item – Whole' correlation refers to .... of a tool of research
   A. Validity
   B. Objectivity
   C. Internal Consistency
   D. Scorbility
8. Validity index of an item refers to
   A. Reliability
   B. Objectivity
   C. Difficulty value
   D. Discrimination index
9. Multiple regression equation is used when there is one .... and more than one ....
   A. Independent variable, dependent variables
   B. Dependent variable, Criteria
   C. Criterion, Correlate
   D. Criterion, Dependent variable
10. If correlation coefficient is 'r' coefficient of determination will be.............
    A. ' r squared '
    B. 2r
    C. r/2
    D. square root of 'r'
11. The evaluation of the content of the data is called .... criticism
    A. Internal
    B. External
    C. Primary
    D. Secondary
12. A statistical technique to study the relationship between two variables is called ....
    A. Statistical analysis
    B. Assessment analysis
    C. Variable analysis
    D. Correlation analysis
13. A study conducted only once at one point of time is called ....
    A. Longitudinal study
    B. Cross-sectional study
    C. Period study
    D. Time study

14. A technique using two or more variables to classify the observation of a dependent variable is called ....
    A. Cluster analysis
    B. Factor analysis
    C. Discriminant analysis
    D. Variable analysis

15. The statistical technique that focuses on the structure of simultaneous relationship among three or more variables is called................
    A. Structural analysis
    B. Variable analysis
    C. Correlation analysis
    D. Multivariate analysis

16. Hypothesis is to be.............
    A. Proved
    B. Justified
    C. Tested
    D. Disproved

17. A theory is a statement that establishes a .... relationship between two variables.
    A. Thesis – hypothesis
    B. Problem - solution
    C. Analysis – synthesis
    D. Cause – effect

18. Which technique is likely to be employed in qualitative research?
    A. A questionnaire
    B. An observation
    C. An achievement test
    D. A personality inventory

19. 'Entry and Exit behaviours of the participants of a course in research methodology' is a topic under .... research
    A. Survey
    B. Case study
    C. Evaluation
    D. Expostfacto

20. Every member in the population has equal chance of being selected in the sample, which type of sampling does this imply?
    A. Stratified
    B. Cluster
    C. Random
    D. Volunteer
21. 'Halo' error is an error associated with .... a /an
    A. Attitude scale
    B. Opinionnire
    C. Achievement test
    D. Rating scale
22. The key term that refers to Likert's method of structuring an attitude scale is ....
    A. Facility index
    B. Summated ratings
    C. Scaled values
    D. Validity index
23. Regression weights indicate the level of influence of ....on ....
    A. Correlate, Criterion
    B. Criterion, Correlate
    C. One criterion, an another criterion
    D. One correlate, another correlate
24. A measurement question that poses several options and gives scope for multiple responses is called ....
    A. A schedule
    B. A multiple question
    C. A check list
    D. None of the above
25. In factor analysis, factors emerge based on .... among variables
    A. Interactions
    B. Intercorrelations
    C. Casual effects
    D. Casual effects
26. A study of observations and propositions based on experience is called ....
    A. An empirical study
    B. An experimental
    C. An observational study
    D. An inductive study

27. A statistical tool that predicts values of a criterion from the values of correlates is called ....
   A. Correlate equation
   B. Prediction equation
   C. Criterion equation
   D. Multiple regression

28. In this type of research a new theory is being framed
   A. Action
   B. Applied
   C. Basic
   D. Exploratory

29. The evaluation of the source of the data is called............. criticism
   A. Internal
   B. External
   C. Primary
   D. Secondary

30. The acid test of a scientific truth is its ....
   A. Reliability
   B. Validity
   C. Verifiability
   D. Applicability

31. When experimental study is not feasible a researcher takes up a .... study
   A. Survey
   B. Case
   C. Casual – Comparative
   D. Prediction

32. 'Effectiveness of discussion on academic achievement' is a/an .... research
   A. Experimental
   B. Evaluation
   C. Assessment
   D. Casual – Comparative

33. A sample is .... sub group of the population
   A. A random
   B. A representative
   C. A convenient
   D. A volunteer

34. Reliability is the .... of a tool of research
   A. Consistency
   B. Trustworthiness
   C. Objectivity
   D. Scrobility

35. 'High group – Low group' discrimination determines the .... of an item
   A. Reliability
   B. Objectivity
   C. Validity
   D. Scrobility

36. The 't' test is employed for .... study
   A. Association
   B. Differential study
   C. Relationship study
   D. None of the three

37. The level that indicates that results will be correct is called ....
   A. Probability level
   B. Possibility level
   C. Confidence level
   D. Correctness level

38. A study which attempts repeated measures over an extended period of time tracking changes in variables is called ....
   A. Cross – sectional study
   B. Longitudinal study
   C. Period study
   D. Change tracing study

39. .... is a field setting participant observation and unstructured interview
   A. Informal interview
   B. Informal observation
   C. Ethnography
   D. Incidental research

40. Path analysis describes the relationships among variables through........ and .... linkages
   A. Prediction, causal
   B. Regression, causal
   C. Prediction, casual
   D. Regression, casual

41. What is the significance of 4 groups in the following experimental design?

A. R C 01   A. Effect of Posttesting

B. R X 02   B. Effect of pretesting

C. R 0 3C 04   C. Effect of treatment

D. R 05 X 0 6   D. Effect of contrast

42. Sampling is a technique usually associated with .... research

A. Survey

B. Case study

C. Experimental

D. Action

43. Validity refers to .... of a tool of research

A. Truthfulness

B. Consistency

C. Trustworthiness

D. Objectivity

44. Facility index of an item refers to its ....

A. Discrimination index

B. Difficulty value

C. Reliability

D. Validity

45. The utility of a social research depends upon its..............

A. Social significance

B. Social implication

C. Social relevance

D. Social appeal

46. The chi square test is employed to test ....between two variables

A. The association

B. The difference

C. The correlation

D. None of the above

47. Correlation does not imply ....

A. Prediction

B. Regression

C. Progression

D. Causation

48. A study of the dependent variable in actual environmental condition is called ....
    A. Field experiment
    B. Environmental study
    C. Experimental study
    D. Field survey

49. The primary data and secondary data are usually associated with
    A. Historical research
    B. Descriptive research
    C. Experimental research
    D. Exploratory research

50. "Human values as revealed in Shakespearean tragedies" What type of research is this?
    A. Survey
    B. Case study
    C. Relationship study
    D. Content analysis

51. A researcher attempts to study why students drop out of schools and in this process as a contrast he studies what make students stay in schools. This type of study is called.
    A. Survey
    B. Prediction
    C. Relationship
    D. Casual – comparative

52. In surveys, the focus variable is called .... and other variables used to predict the focus are called ....
    A. Criterion, correlates
    B. Correlate, criteria
    C. Criterion, dependent
    D. Department, criterion

53. In experimental research, the criterion and correlates are called ....
    variable and .... variables respectively
    A. Independent, dependent
    B. Dependent, independent
    C. Interdependent, dependent
    D. Dependent, interdependent

54. In the 'double blind' experiments both the....... and .... are kept blind about the treatment and the treated respectively

    A. The subjects and the tester

    B. The experimental group and the control group

    C. The experimental group and the tester

    D. The control group and the tester

55. ....is a process of validating an achievement test

    A. Item / whole correlation

    B. Item analysis

    C. Validity index

    D. Facility index

56. The key term that refers to Thurstone's method of structuring an attitude scale is ....

    A. Summated ratings

    B. Scaled values

    C. Facility index

    D. Validity index

57. A statistical analysis that structures chains between correlates leading to the criterion is called

    A. Chain analysis

    B. Statistical model

    C. Conceptual model

    D. Path analysis

58.A factor that affects the observation but cannot be measured is called

....

A. Extraneous variable

B. Invisible variable

C. Intervening variable

D. None of the above

59. In this research a theory is being tested

A. Basic

B. Action

C. Applied

D. Exploratory

60. Experimental research refers to what.............

A. Was

B. Will be

C. Is

D. Should be

Research Readiness Test
- Response Sheet

1	A B C D	21	A B C D	41	A B C D
2	A B C D	22	A B C D	42	A B C D
3	A B C D	23	A B C D	43	A B C D
4	A B C D	24	A B C D	44	A B C D
5	A B C D	25	A B C D	45	A B C D
6	A B C D	26	A B C D	46	A B C D
7	A B C D	27	A B C D	47	A B C D
8	A B C D	28	A B C D	48	A B C D
9	A B C D	29	A B C D	49	A B C D
10	A B C D	30	A B C D	50	A B C D
11	A B C D	31	A B C D	51	A B C D
12	A B C D	32	A B C D	52	A B C D
13	A B C D	33	A B C D	53	A B C D
14	A B C D	34	A B C D	54	A B C D
15	A B C D	35	A B C D	55	A B C D
16	A B C D	36	A B C D	56	A B C D
17	A B C D	37	A B C D	57	A B C D
18	A B C D	38	A B C D	58	A B C D
19	A B C D	39	A B C D	59	A B C D
20	A B C D	40	A B C D	60	A B C D

SCORING KEY

1	A	16	C	31	C	46	A
2	C	17	D	32	A	47	D
3	D	18	B	33	B	48	A
4	B	19	C	34	B	49	A
5	A	20	C	35	C	50	D
6	D	21	D	36	B	51	D
7	C	22	B	37	C	52	A
8	D	23	A	38	B	53	B
9	C	24	C	39	C	54	A
10	A	25	B	40	B	55	B
11	A	26	A	41	B	56	B
12	D	27	D	42	A	57	D
13	B	28	C	43	A	58	C
14	C	29	B	44	B	59	C
15	D	30	C	45	C	60	B

12. GUIDELINES ON PREPARATION OF ARTICLES FOR JOURNALS

(A)   Theory Oriented Articles

Identify latest / current / standard books on the theory you are interested in. Read them and prepare notes (with relevant citations). Organise your materials. Prepare your draft beginning with an abstract of about 100 words. Let the title be brief and striking.

[Eg.] Title : **Towards a Positive Personality**

Abstract : This article outlines the need for the development of a positive personality to achieve success and happiness in life. Definitions and theories are outlined. Behavioural manifestation of a positive personality are identified. Need for a positive personality is highlighted. Steps to develop a positive personality are furnished. The last paragraph is a fitting finale of the article establishing how a positive personality leads to success and happiness.

The following subtitles are to be elaborated:

- What is Personality?

(Current Key definitions stated by Standard authors / Psychologists are furnished)

- Theories of Personality

(Current theories of Personality as supplementary and complementary to earlier theories are stated and explained)

- What is Positive Personality?

(Behavioral manifestations of Positive Personality are outlined)

- Need for Positive Personality

(How does a Positive Personality facilitate success and happiness to life?)

- Steps to develop a positive personality

(Practical tips / steps to develop a positive personality are furnished)

- A final word (This is the last paragraph stating how a positive personality leads one to success and happiness in life)

Positive Personality -→ Success ---→ Happiness.

- References / Documentation

(Current format for citations / Bibliography : A.P.A manual is to be referred to)

(B)   Research Oriented Articles

Identify a research theme. Identify a standard research tool. Identify an appropriate population and sample. Administer the tool to the sample. Analyse the Data collected. Sum up your interpretations, findings and implications. Organise your materials and prepare a research report.

(E.g.) : Title : **Gender Differences in Intelligence**

Abstract:

A standard Intelligence test battery structured and validated by the centre for Educational Research, Madurai Kamaraj University was administered to a stratified sample of 1000 college students (Boys 500; Girls : 500) in Madurai. There was no significant gender difference in overall intelligence (aggregate score). However, Boys generally speaking were superior to girls in Numerical ability. Space factor and Reasoning; Girls generally speaking were superior to boys in Verbal comprehension. Word fluency and Perceptual factor: there was no significant gender difference in Memory (Meaningful 'Memory', not 'Rote')

The following subtitles are to be elaborated :

- Need and significance of the study.

(What made the investigator choose this theme for research)

- Current definitions, type and theories of Intelligence.

(A brief presentation on these aspects is made and the vital factors of – Intelligence --- general mental ability are indicated)

- The study [Statement of the problem, objectives, Hypotheses, sample. Tool of research (Intelligence test battery). Administration, Collection of data, Analysis, Interpretation and findings]: Key section of the article.

- Educational Implications of the study

- Limitations of the study & scope for further research.

- Reference (Current format : A.P.A. manual)

(P.S. It is not potential (intelligence) but functional intelligence – Performance that counts. Success in life (Achievement) depends upon performance (not the mere potential). How one makes the best use of one's intelligence, determines success in life.)

13. Guidelines for Preparation and Presentation of Seminar Papers.

A Seminar is a discussion meeting. Discussion is the key activity of a seminar. In a seminar you have to present your paper and defend it as well. Don't read your paper. Make a brief oral presentation highlighting key points, striking statements and implications. Have a copy of your paper for reference. (Copies of your paper may be circulated to the participants well in advance to facilitate their perusal before the conduct of the seminar). You can quote some key lines, here and there, from the paper during the (oral) presentation. After your presentation, you must be ready to defend your paper – by responding to the questions likely to be posed by the participants --- seeking clarifications from the paper presenter.

Usually a topic is assigned to the paper presenter. There are also times when several broad themes are indicated and you are permitted to choose your own topic under any one of the broad theme areas. Be creative, innovative, current and up-to-date in choosing a topic for your paper. The paper may be research-oriented or theory – oriented or a blend of both.

Guidelines advocated for research – oriented and theory – oriented articles are equally applicable to the seminar paper as well.

[E.g.] Title : **Teacher Competency**

Abstract :

This paper makes an attempt to identify the three key layers of Teacher competency – Cognitive (Knowledge) based competencey ('What and How') ; Performance based competency and Consequence based competency and how they are related to one another. Measures to develop these competencies through pre-service and in-service programmes are also advocated. 'How Teacher competency facilitates student (academic) achievement ' is the final phase of the paper.

The following subtitles are to be elaborated:

- What is Teacher Competency ?
- (Definition Teacher Competency)
- Cognitive based (Knowledge Based) Competency

[Knowledge of the subject matter (what) – Mastery of the subject matter – updatedness; knowledge of the methods of teaching (How)] – <u>Knowledge.</u>

- Performance based competency

[Classroom presentation – set induction – presentation – closure – clarity of thought and expression – pacing – organization of ideas – good speaking voice – sense of humour] – Efficient

- Consequence based competency.

[Is teaching consequential? Do students learn because of teaching? Does teaching result in student (academic) achievement? To what extent are instructional objectives realised] – Effective.

- Path Analysis

What

Knowledge   Performance   →   Consequence

How
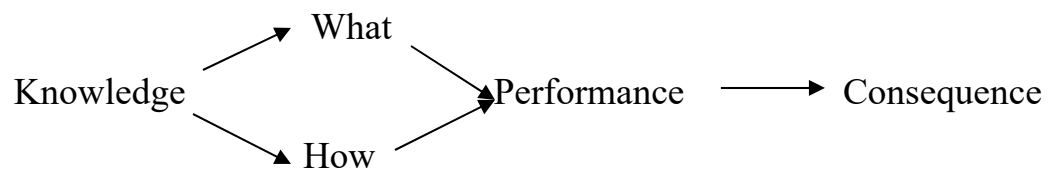
(A few striking recent research studies are quoted to establish that teacher competency facilitates student (academic) achievement.

- References (current format : APA manual)

14. Self – Instructional Packages

A learning package deals with a unit of a course of study. You will find in it a list of objectives you are expected to attain at the completion of your work with the package. As you work on see that you assimilate the concepts dealt with In the package . The package consists of several units. As you go through these units you will get an exposure required for the mastery of the subject. The enrichment activities will provide you opportunities to practise the skills required of you and enrich and broaden knowledge you have already acquired .   The test at the end of the unit of study will help you to assess for yourself the level of your achievement. If you have achieved the required mastery, you can, with confidence, proceed to the next package. If you have not attained the mastery level you are required to go through the unit again which action will be in your own favour.

(A). A Study unit in Educational Psychology

(for B.Ed students)

Psychology – An introduction

After reading, you should be able to

= Define Psychology

- Identify the three major domains of behaviour

- Identify the different approaches to the study of human behaviour

- State how these approaches supplement one another

Psychology

       There are many false notions about Psychology and Psychologists. Psychology is not mind reading and psychologists are not gifted with mystic powers; they are not demi – gods with spiritual powers. They cannot size up people at a glance; they cannot assess the character, the personality of the individual at a glance. There are many self – styled psychologists who claim to study personality and thoughts of an individual by his physical features, his hand writing, by the way he is seated, by the style of his walking. They are psycho – quacks. Psychology is a science and psychologists is a scientist. Science is a body of verifiable knowledge based on observation and experimentation. Scientists do not take things for granted; they observe, investigate and find truth by themselves. Science begins with observation. The fundamental principle of science is to seek facts rather then depend upon authority or sheer speculation. Scientist begins with question, looks for relevant information and observes under controlled conditions. He is not trying to prove something. He is tested something. He is impartial and objective ; he is intellectually honest and open –minded.

       Psychology was once a branch of Philosophy. It was defined as a study of soul; then as a study of mind (mental philosophy) and later as a study of consciousness and now as a study of behaviour, psychology is a scientific study of human behaviour.

       Any factor which initiates an a activity is referred to as a stimulus; any activity that depends upon a stimulus is a response; in the most general sense psychologists deal with response of organisms to stimulation. This is know as S-R approach to behaviour.

Behaviour is the total response of organism to a situation with which it is confronted. Behaviour may be internal, implicit, covert or external, explicit, overt. Any behaviour which can be easily observed, interpreted and evaluated is external, explicit, or overt. Our physical movements, gestures and facial expressions, the way we talk to others, the way we walk, and the like constitute external behaviour. Internal behaviour refers to our thoughts and feelings, which cannot be observed directly. For example action is external; motive is internal. For every action there is a corresponding motive, no action is motiveless. There may be different motives for the same action. A motive may bring about different actions. Internal behaviour and external behaviour are equally important in psychology and often internal behaviour is more important then the external one in psychological studies. Psychologists who attempt to modify or refine external behaviour must investigate and identify the corresponding internal behaviour ; then only their attempt will be effective.

Psychologists view human behaviour as a result of 'inside' forces or 'outside' forces. Inside forces imply needs, wants, anxieties, interests, attitudes, feelings of guilt and so forth. Outside forces refer to attractive or disturbing aspects of the situation, attitudes and expectations of others, rewards, dangers, threats and so forth.

Psychologists also identify three domains of behaviour – cognitive, affective and psycho motor.

- Cognitive domain (thinking, intellectual outcomes)
- Affective domain (feelings, attitudes, emotions)
- Psycho motor domain (acting or doing , motor skills)

Different Approaches to Study of human behaviour

Psychologists belonging to different schools of thought employ different approaches to study human behaviour. Modern books on psychology outline the following approaches:

Neurobiological Approach:

This is the approach of physicians, medical scientists and biological scientists. The human brain (the central nervous system) is the most sophisticated computer system. Psychologists who employ neurobiological approach to study human behaviour try to identify a part or a point in the central nervous system especially in the brain for any human behaviour to be associated with. For any change in that behaviour (appearance or disappearance. Improvement or decrease) the particular part or point is to be treated through medicine or exercise; for example the role played by temporal lobe in memory (through memory trace); the role played by hypothalamus in emotions and so on. However this approach is not in a position to change human behaviour completely in several situations.

Behaviourists mean external behaviour when they use the term, 'behaviour'. According to them only those behaviours which can be seen or observed by others are verifiable and hence they only constitute the study of psychology. They believe in conditioning – classical, instrumental.

They believe in 'shaping' behaviour as advocated by skinner. They advocate intensive training and physical occupation (rigorous physical exercises) as modes of modification of behaviour. Some psychologists call it a 'black box' approach to 'inside the organism' (human mind), which, according to them, is largely responsible for behaviour.

Cognitive Approach:

The focus of cognitive psychologists is entirely on cognitive processes like perception, imagination, thinking and reasoning. In addition to those processes behaviour is caused by affective process (feelings, emotions, and urges) too. Hence any approach to study human behaviour entirely on cognition is not likely to be effective.

Psycholo – Analysis:

Freud and his followers highlighted the role of 'the unconscious mind' in human behaviour. We do agree that there are behaviours which are caused by unconscious impulses. But we cannot attitude all behaviour to the unconscious. Further only psychiatrists will be in a position to identify the unconscious motive or drive which is instrumental to a particular behaviour. Psycholo – analysis is theoretically interesting but, in practice, extremely difficult.

'Humanistic Approach'

Humanistic psychologists have 'soft corner' for human beings. Freud can observation is; man is basically bad driven by infrahuman motives; he is to be sublimated and refined. Humanistic psychologists are of the opinion: man is basically good; it is the environment that makes or mars him. Their focus is on the current motives and drives – what has happened right here, right now. Their approach is also called 'here and now' approach. They give least importance to genetic influence, historical roots or the unconscious motives. Counsellers of the day employ humanistic approach to study and modify human behaviour.

Finale :

The different approaches outlined above are similar to different systems of medicine. Modern approach is integrated in nature. Hence our approach is a judicious mixture of the most appropriate ones depending upon the nature of the person, the nature of the problem, the nature of the circumstances and such other related factors. These approaches are not contradictory but complementary.

LPQ1

SATYA, a teacher educator, after discussing (with students) the different approaches to study human behaviour narrated an anecdote how a problem behaviour of a student was analysed by different teachers differently, each one emphasizing one of the approaches. What did he attempt to highlight through this illustration?

    A, These approaches are contradictory

    B. These approaches are complementary

    C. These approaches are subjective

    D. These approaches are objective

    E.   Though these approaches seem to be contradictory, they are, in fact , complementary.

Methods of study

After reading this section, you should be able to

- Identify different methods of study of human behaviour employed by psychologists.
- Identify the merits and limitations of each method
- Select appropriate method depending on the situation /case to be studied.

Introspection:

It is self – observation – looking within 'or looking inward'. To introspect means to attend to the working of one's own mind in a systematic way. Mental experiences are observed as and when they occur and attempts are made to understand their nature so that generalizations can be made. The results of introspection are usually subjective; they are not scientifically valid. Further the moment you begin to study a mental state, it tends to disappear. In case of anger or fear one becomes emotional. In such circumstances one cannot look within, suppose you are being chased by a wild animal, you start running under the grip of fear. Suppose you have become extremely angry because of disturbance caused by somebody, you are charged with emotion. In such frightened or emotionally charged circumstances, you can never introspect. The remedy suggested is

Retrospection – observation of the mental process immediately after it is over, when the impression or memory is still fresh. To think about a present experience is introspection, to collect a past experience is retrospection. As a result of a gap between the present and the past the original account may be distorted. Introspection cannot be used to study the behaviour of children, animals or insane people. In spite of its limitations, introspection, as a method of study of human behaviour, is still valid with special reference to mental processes like thinking or reasoning.

Extrospection (observation) :

While introspection is subjective extrospection is objective. We observe the mental processes of others by observation their behaviour – overt behaviour and motor reactions. When we want to study the experience of the individual not only from the point of view of covert expressions, feelings, this method will have serious limitations.

Observation is regulated perception – disciplined perception – perception with a specific purpose. By observing external behaviour, we attempt to study and interpret internal behaviour. There are different kinds of observation – direct and indirect, scheduled and unscheduled, participant and non – participant . The observer should specify the objectives of observation in clear and operational terms.

Experimental Method:

Experiment is observation under controlled conditions.   Modern psychological science is largely based on experimental method. It is not able to depend wholly on this kind of method (experimental) used by exact sciences because of the subject matter of psychology, the human being. Experiment consists of objective observation of actions performed under rigidly controlled conditions. The purpose of experiment in psychology is to identify the causal factors of behaviour.

If two or more instances have everything in common except one, the one in which they differ is the cause of the phenomenon. This is the basic assumption of experiment in psychology. In other words, if two situations are alike in every

respect and one factor is introduced or withdrawn from the one but not from the other, any different that emerges is the result of the operation of that factor.

Here is an illustration. Suppose we want to study the effect of encouraging remarks on the answer scripts, two equivalent group of students are identified. No remarks are made on the answer scripts of one group (control). Encouraging remarks are made on the answer scripts of the other group (experimental). This treatment continues for 6 monthly tests. If the academic performance of the experimental group improves faster than that of the control it can be concluded that encouraging remarks do facilitate better academic performance. A case study is also known as the case history of the individual because it is the analysis of the most important aspects of the individual- the analysis is in the form of past record, present position and future possibilities. The objective of case study is to study of individual or the group to diagnose specific problems and suggest remedial measures. The complete and detailed study of a case may involve the use of observations, interview, medical examination and use of various tests in intelligence, interest, aptitude and personality. Case study may involve a group of individual, an institution, or a psychological phenomenon and the like.

Survey :

Case study is intensive whereas survey is extensive. With the application of psychology to various aspects of life it has become necessary to collect data from a large number of people – attitudes, beliefs, prejudices and the like, Questionnaires, attitude scales, rating scales, observation schedules, interview schedules, personality inventories and such other tools of research will be employed to collect data. Appropriate statistical techniques will be used to analyse and interpret data.

LPQ2

GIRI, a teacher educator, after discussing (with the students) the different research methods of study of human behaviour highlighted the role of 'experiment' in psychological research because.........

    A. Experiment is a hall mark of science

    B. Experimental research is the current trend.

    C. Psychological research becomes more interesting

    D. An experiment is less me – consuming than other method of study

    E. Experimental research in psychology will be a future trend.

What is educational Psychology?

After reading this unit, you should be able to

- Define educational psychology
- Identify the three focal areas of educational psychology
- State the specific objectives of educational psychology

Educational psychology is not merely the application of principles of Psychology to educational situations but something more than that. It is the study of the psychological aspects of educational situations. The objective of educational psychology is to help teachers develop an understanding of educational processes especially class room learning.

Educational psychology is concerned with three focal areas- the learner, the learning process and the learning situation.

The Learner:

Teachers must have an understanding of the psychology of the learner – the various psychological forces which operate in his field – interests, attitudes, feelings, sentiment emotions, needs, urges and the like.

The learning process:

If focuses on what happens to the individual when he learns, why he learns what the teacher wants him to learn, why he does not learn what the teacher wants him to learn. It attempts to pinpoint specific behaviours of learning.

The learning situation:

It is concerned with those factors or conditions that influence the learner and the learning process - class room climate conductive to effective learning/ Can we identify and introduce factors which facilitate learning? Can we identify and remove factors which affect learning?

Good teaching is much more than understanding these areas. But understanding is a basic requirement. The specific objectives of educational psychology are :

- To develop a scientific attitude in the teacher towards educational problems.
- To help the teacher set up appropriate educational situations so that changes in behaviour of the learners can be brought about towards desirable goals.
- To help the teacher in treating his students with sympathy and empathy.
- To help the teacher organize the academic content to be taught.
- To help the teacher realize that the social relationships are of utmost importance in the educational process.
- To help the teacher develop a problem solving research attitude.
- To help the teacher in providing guidance and counselling to his students.
- To help the educational administrators organize and administer the institutions.
- To provide the teacher with effective methods of teaching.

LPQ3

RAJAN, a teacher educator, while discussing the focal areas of Educational Psychology draw a diagram of a Triangle and labelled each vertex as a focal area. What did he try to emphasize?

    A. The three focal areas operate in isolation.

    B. The three local areas are independent.

    C. The three focal areas are interdependent.

    D. The three focal areas are equally important.

    E. None of the above.

Test

Section A

There are five items in this section. For each item there are four responses. Indicate the correct / the most appropriate response (A,B,C or D) in the brackets provided.

1. A Psychologist is trying to .... a phenomenon.

    A. Prove   B. Test

    C. disprove   D. Manipulate   ( )

2. Psychology is a/an ....

    A. Science   B. Art

    C. academic discipline   D. area of human experience   ( )

3. Focus on 'Thinking' is advocated by .... approach

    A. Behaviourstic   B. Psycho-analytic

    C. Cognitive   D. Neuro-biological   ( )

4. The casual factor of behaviour is studied by

    A. a survey   B. a case study

    C. an observational study   D. an experiment   ( )

5. Human Behaviour is the result of ....

    A. situational factors   B. inside factors

    C. outside forces   D. all of the above   ( )

Section B

    Indicate whether each of the following statements is True (T) or False (F)

6. The very first method by psychologists employed to study Human Behaviour
   was 'Experiment'   T F

7   The different approaches to Human Behaviour are complementary   T   F

Section C

    Match the following – each item in X is to be matched with the most appropriate option in Y

X	Y
8. Focus on current Motives and Drives	A. Neuro - biological approach
9. Focus on the unconscious	B. Behaviourstic approach
10. Focus on genetic factors	C. Cognitive approach
	D. Psycho - analytic approach
	E. Humanistic approach

Key

  1. B   4. D   6. F   8.E

  2. A   5. D   7. T   9.D

  3. C   10. A

  LPQ1 : E   LPQ2 : A   LPQ3 : C

Summative Education

1. What is Psychology? (in about 75 words)

2. Define 'Behaviour'. Identify and briefly explain the three domains of behaviour (in about 75 words)

3. Attempt a critical estimate of the different approaches to human behaviour (in about 750 words)

4. Distinguish between introspection and extrospection (in about 150 words)

5. Define and explain experimental method in psychology (in about 300 words)

6. Distinguish between case story and survey (in about 300 words)

7. Define the term, 'Educational Psychology'. Identify and briefly explain its three focal areas. Briefly outline its specific objectives (in about 300 words)

8. To what extent does a knowledge of Educational Psychology enrich the professional performance of a classroom teacher? (in about 300 words)

(B). A Unit in Educational Research

(for M.Ed students)

Hypothesis

Researchers commence their research with their research questions. They collect reliable and valid data. They analyse data by appropriate statistical techniques. Earlier they formulate some answers based on their previous experience and previous research or theory. These answers are called 'Hypotheses' (plural for hypothesis). 'Hypo' means below, Hypothesis means below Thesis. Hypothesis furnishes a tentative answer – a temporary answer – for the time being answer – an ad hoc answer to be tested through the process of research.

A research formulates a major hypothesis and supportive hypothese which can be split into several specific hypotheses based on his exposure to related studies, review of literature and personal experience. Formulation of hypothesis gives direction to the research process: What data are required? How to collect these data? What tools of research are required? How to analyse data? What statistical techniques are required? How to test the hypotheses?

A good hypothesis should be

- Reasonable
- Consistent with current theories
- Capable of being tested
- Stated in concise and lucid terms

Formulation of hypothesis before the data gathering process is essential for an unbiased investigation. It is not inappropriate to formulate additional hypotheses during the process of investigation but they must be tested on the new data collected by the investigator.

Hypotheses are stated not to be proved but to be tested. Some investigators develop sentimental attachment with their hypotheses and try to prove them at any cost. They are not intellectually honest.

Intellectual honesty is an aspect of scientific attitude. Scientific attitude is a vital personality trait of a researcher. There is absolutely no harm if our hypotheses are rejected (proved false) by appropriate statistical analysis. In several dissertations and theses (which are highly commended by examiners) several of the investigator's hypotheses are rejected.

Test your hypotheses

Do not try to prove your hypotheses

LPQ1

SATYA, a teacher educator, brought to the notice of his students several instances where the research process became time-consuming, laborious and chaotic when researchers did not frame hypothesis in advance.   What did he attempt to highlight?

   A. Hypothesis is a tentative answer to research question
   B. A research design will be incomplete without Hypothesis
   C. Examiners study the mode of hypothesis testing
   D. Hypothesis gives a sense of direction to research process
   E. Hypothesis is to be tested – not to be proved.

Almost all teachers are confronted with 'Hypothesis testing' even when they do not undertake formal research projects. Here is an illustration: (No rigorous research is undertaken; no sophisticated statistical techniques are employed). Here is a case; a typical teacher attempts to find an answer to his question after rejecting several initial answers; what causes low academic achievement? Low socio-economic status? (H1) No.H1 is rejected. (There are around 5 students with low socio-economic status who happen to be high achievers) Is obesity the cause of low achievement? (H2) No.H2 is rejected (There are a few bulky and fat fellows who achieve high) Is back benching the cause of low achievement? (H3) No.H3 is rejected. (Three of the back benchers happen to be high achievers) Irregular attendance? (H4).Yes.H4 is accepted. Ineffective study habits (H5) yes. H5 is accepted, Inattention? (H6) Yes H6 is accepted. Lack of conducive academic climate at home? (H7) Yes H7 is accepted (based on an informal interaction with low achievers) Unmotivated and delinquent peer group? (H8) Yes H8 is accepted (based on informal investigation). Non – functional hypotheses are rejected and functional hypotheses are accepted (for structuring a remedial and counselling Programme.)

Hypothesis is a shrewd guess – resourceful hunch based on one's study and experience. (A research soliloquy).

Types of Hypothesis:

If a researcher wants to study 'Gender difference in Emotional Intelligence' he may frame one of the following hypotheses:

    Men and Women do not significantly differ in Emotional Intelligence (1)

    Men and Women differ significantly in Emotional Intelligence (2)

    Men are significantly superior to Women in Emotional Intelligence (3)

    Women are significantly superior to Men in Emotional Intelligence (4)

The first is called the Null Hypothesis. It finds no significant difference between the two genders. It nullifies the difference.

The second is called Alternative Hypothesis (alternative to the first). It is non-directional.

It doesn't indicate the direction. It doesn't indicate which gender is superior.

The third and fourth are Alternative Directional Hypotheses. They indicate direction. They indicate the superiority of one gender over the other (the 3rd in favour of Men and 4th infavour of Women).

These hypotheses are general in form. They can be split in to specific ones. In other words, Hypotheses can be formulated for each of the five components of Emotional Intelligence: Self – awareness; Self – regulation: Motivation; Empathy; Social skills.

Statistical Hypotheses are symbolic, M1 and M2 are the two groups taken for comparison.

H0; M1=M2 (Null)

H1   M1#M2   (Alternative Non-directional)

H2   M1>M2   (Alternative Directional, in favour of group1)

H3   M1<M2   (Alternative Directional, in favour of group2)

Research Hypothesis is a formal affirmative statement predicting relationship between variables. If Hypothesis is to be testable, variables are to be operationally defined. The researcher has to specify the operations and tests used to measure the the variable.

Eg. Emotional Intelligence is operationally defined as the score obtained by the subject in Rajan Emotional Intelligence inventory.

[To asses Emotional Intelligence (and its components) of the sample Emotional Intelligence inventory structured and validated by Rajan was administered].

A research hypothesis is a tentative statement between two or more variables. The statement indicates the predicted results. Problem statements and Hypotheses are similar in content . Hypotheses are specific, clearly testable and indicative of the expected results. For the research problem, 'Is there any relationship between General Mental Ability and Academic Achievement?'. The Hypothesis may be : There is a positive and substantial relationship between General Mental Ability and Academic Achievement. (There are several factors of General Mental Ability, For each factor, there will be corresponding research hypothesis).

Although 'relationship' is not used in every hypothesis, relationship expressions as such as 'will achieve', 'produce', 'is a function of' and 'effects' connect variables.

A hypothesis implies 'if then 'logic. An Illustration:

An Experimental study

Statement of the problem : Does peer tutoring improve the academic performance of students of Standard XI in Geometry?

Hypothesis: Low achievers of Standard XI will improve their academic performance in Geometry through peer tutoring (tutored by high achievers with aptitude for teaching)

Two low achieving groups are matched based on academic performance in Geometry (Previous knowledge and skills required to master the new units to be taught),

One group is peer- tutored and the other is non-peer tutored (self – study). After a specified period of peer tutoring (treatment), both groups are tested on their academic performance in Geometry. Research Hypothesis may be accepted or rejected based on statistical analysis.

In the early stage of the study, an affirmative research hypothesis as a prediction of treatment is stated. Later when hypothesis is to be tested, research hypothesis is converted (reformulated) into null form and the appropriate statistical analysis applied. Hypothesis is broadly classified into two types – Research Hypothesis – Directional or Non-directional and Null Hypothesis.

LPQ 2

Giri, a teacher educator, attempted to bring out the difference between the statement of the problem and research hypothesis (though both indicate the same content) and simultaneously their inevitable relatedness and sequence in the process of research. What sequential similarity did he try to highlight?

    A. Thesis, Antithesis

    B. Answer, Question

    C. Question, Answer

    D. Analysis, Synthesis

    E. Synthesis, Analysis

<div align="center">

Formulating and Testing Hypothesis

</div>

<u>Sequential Phases:</u>

1. Identify a problem area – a problem
2. Define and state your problem
3. Read and Reflect Related Literature (Theories and Studies)
4. Formulate Your Hypothesis
5. Identify and structure appropriate tool(s) of research
6. Collect and organise relevant, reliable and valid Data
7. Test your Hypothesis
8. Accept or Reject your Hypothesis
9. Identify solution to your problem.

(4,7 and 8 indicate to phases of operation of Hypothesis)

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Formulating and Testing Hypothesis (sequential phases) Diagrammatic presentation

1 Identify → (a problem area)

(a problem)

2 Define and state

(your problem)

3 Read and Reflect

(Related Literature (Theories and Studies))

4 Formulate

(Your Hypothesis (to be operationally defined))

5 Identify or Structure

(Tools of Research)

6 Collect and Organise

(Relevant, reliable and valid Data)

7 Test

(Your Hypothesis)

8 Accept or Reject

(your Hypothesis)

9 Identify

(Solution to your problem)

4,7 and 8 Indicate the phases of operation of Hypothesis

Here is an illustration:

(Formulating and Testing of Hypothesis)

Topic : Personality and Mental Health of college Teachers in Madurai.

Hypothesis (Formulation)

1. There is positive and substantial relationship between Personality and Mental Health of College Teachers in Madurai.

   (Personality of College teachers in Madurai refers to the scores obtained by them in Rajan Personality Inventory;

   Mental Health of college teachers in Madurai refers to the scores obtained by them in Rajan Mental Health Inventory.)

   The Correlation Coefficient (Pearsons' 'r') will be greater than + 0.40 ('r' between Personality Score and Mental Health Score).

   This is a general (omnibus) Hypothesis. There are 10 dimensions (traits) in Rajan Personality Inventory (Rajan 10 PT1). There are 10 dimensions in Rajan Mental Health Inventory. There will be 10x10 correlations. (Inter correlations). There will be 100 specific hypothesis (Readers may refer to the tools concerned)

2. College Teachers in Madurai with more positive Personality traits will be superior to college teachers in Madurai with less positive Personality traits in Mental Health.

   (High group (more positive Personality) refers to the top 27% (of the sample) in Personality (aggregate) score. Low group (less positive Personality refers to bottom 27% (of the sample) in Personality (aggregate) scores).

Hypothesis 1:

Null form: The relationship between Personality and Mental Health of college Teachers will be neither positive nor substantial (this applies to the Inter Correlations - Correlation Matrix – 10 x10 as well).

Statistical Test : Calculation of Pearson's r' s

Interpretations will be based on reference to appropriate tables furnished in standard text books on statistics. (Interpretation of the magnitude of 'r' and its significance).

Hypothesis 2:

Null form:

College Teachers in Madurai with more positive Personality (Top 27%) will not be significant different from college Teachers in Madurai with less positive Personality (Bottom 27%) in Mental Health.

Statistical test: The 't' test

LPQ3

Rajan, a teacher educator, highlighted the role of Hypothesis in the process of research through a flow chart with sequential phases. What are the two significant phases of the research process which are sandwiched between Formulation of Hypothesis and Testing of Hypothesis?

A. Definition of the problem and statement of the problem

B. Exposure of theories and exposure to studies

C. Problem and solution

D. Structuring Tools of research and collection and organization of Data

E. Problem area and problem.

Self – evaluation:

This test is of multiple choice type; choose the most appropriate / the best / the correct option.

1. Hypothesis is .... answer to the Research Question.
A. the final
B. a valid
C. a tentative
D. a reliable

2. Hypothesis is to be..............
A. Proved
B. tested
C. justified
D. verified

3. Researchers will not hesitate to reject their hypotheses based on statistical analysis if they are ....
A. Intellectually honest
B. sentimentally charged
C. rationally oriented
D. negatively oriented

4. When is Research Hypothesis formulated? Soon after ....
A. Identification of a problem
B. statement of the problem
C. exposure to related literature
D. collection and organization of Data

5. When is Research Hypothesis reformulated in Null form? At the advent of ....
A. statistical analysis
B. formulation of Research Hypothesis
C. Statement of the problem
D. collection of Data

6. If Hypothesis is not formulated then the research process will be ....
A. time consuming
B. directionless
C. laborious
D. frustrating

7. Operational reformulation of Hypothesis facilitates
A. specific results
B. appropriate statistical testing
C. appropriate findings
D. resourceful interpretations

8. Which among the following is an alternative directional hypothesis?
A. There will be no significant difference between boys and girls in intelligence
B. There will be significant difference between boys and girls in Intelligence
C. Boys and girls are at the same level of Intelligence
D. Boys are superior to Girls in intelligence.

9. Statement of the problem is to be followed by ....
A. a research Hypothesis
B. a Null Hypothesis
C. a Non-directional Hypothesis
D. a Directional Hypothesis

10. A Research Hypothesis....................
A. Nullifies the difference
B. Establishes the difference
C. Is affirmative and predictive
D. a negative and predictive

Key :
LPQ1 : D
LPQ2 : C
LPQ3 : D

Self – evaluation

1.C	6. B
2. B	7. B
3. A	8. D
4. B	9. A
5. A	10. C

Summative evaluation:

1. Define 'Hypothesis' What role does it play in the process of Research?
2. What are the different types of Hypothesis? Illustrate.
3. Formulate Null and Alternative (Directional / Non-Directional) for the topics: 'Gender differences in Personality'. Effectiveness of Discussion in learning History'.
4. What are the bases of framing Hypothesis?
5. Frame a general hypothesis and split into specific ones.

Activity:

Informally interact with teachers teaching different disciplines in schools and colleges. Collect several hypotheses from them on "Why do students become problem students." Split them into specific ones. Convert them into specific, clear statements with a single thought or idea. Prepare a long list of statements in a checklist. Distribute this checklist to a stratified sample of teachers at the school and college level. Collect and analyse the results. Now you will have a valid list of functional hypotheses for your research project.

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A final word to Teacher Educators

To what extent is preservice education useful to teachers inservice?

Teachers inservice feel their knowledge of Teaching and Learning is not used / cannot be used / need not be used. Why? Is the exposure useless? Is the exposure only theory – based but not practicable / feasible? According to scientists, there is nothing more practical than a sound theory. (Theory emerges based on experiments – practicals). Because one does not use a theory, can one call it useless? Why are teachers inservice reluctant to employ the methods of teaching they got exposed to in their preservice education? Are these methods time – consuming, laborious, taxing, impracticable? Why are most teachers inservice sceptical about these methods? (some of them are even cynical)

They show the same attitude (sceptical / cynical) towards the core subjects – especially Educational Psychology. Why?

Is the content and mode of presentation of preservice education entirely useless to the teacher- trainees? (except in helping them earn a degree – B.Ed – an eligibility to take to teaching?).

An extensive survey research is the need of the hour – to respond to these questions.

[The author (S. Sathiyagirirajan) was a school teacher for around three years and half before joining college of education as a lecturer. As a school teacher he was employing the methods of teaching (he was taught in his teacher training college) in English and Mathematics classes with a substantial measure of success. The Head Master of the school and other senior teachers appreciated his mode of teaching. This is perhaps an exceptional case].

APPENDIX

RESEARCH IN EDUCATION

(Practical Guidelines)

A   HAND   BOOK

by

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FOREWORD

This is not a Text Book on Educational Research covering the entire content prescribed by universities for M.Ed and M.Phil (Edn) students

Readers are requested to refer to standard Text Books on Educational Research and Statistics to attain mastery of the subject.

This handbook is a modest attempt of the author to furnish Research scholars (Education) with practical guidelines with an overview of basic theories at the advent of selecting a topic for Research by them.

It is likely to be useful to Research scholars for their M.Ed/M.Phil (Edn) dissertations and Ph.D theses – and to Teacher educators and Research assistants for initiating any Research Project in Education.

Feed back is most welcome.

<div align="right">S. SATHIYAGIRIRAJAN</div>

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TABILE OF CONTENTS

1. WHAT IS RESEARCH?

A problem identified must be <u>Researchable</u>. Researchability of a problem refers to the availability of reliable and valid data. It also refers to the investigator's accessibility to reliable and valid data required for Research.

Research

Research is a venture, an adventure-an intellectual adventure, it is a search for knowledge, a quest for knowledge based on thirst for knowledge.

According to John W.Best, ' Research is a formal, systematic, intensive process of carrying on a scientific method of analysis'.

Science is a body of verifiable knowledge based on observation and experimentation. In research terminology, science does not refer to a body of knowledge but refers to the approach, method, spirit.

Scientific Enquiry

According to John Dewey, the sequential phases of scientific enquiry are as follows:

- Identification and Definition of a Problem
- Formation of Hypothesis (Shrewd guess, hunch)
- Collection, Organization and Analysis of Data
- Formulation of Conclusions – Findings (Based on testing of hypothesis)
- Verification of Conclusions / Findings

2. TYPES OF RESEARCH

Research can be classified in two ways: (A) based on objectives of the investigation and (B) based on mode of operation

(A)	(B)
Based on Objectives	Based on Mode of operation
- Basic Research (I)	- Historical Research (I)
- Applied Research (II)	- Descriptive Research (II)
- Action Research (III)	- Experimental Research (III)

A(1) – Basic / Pure / Fundamental Research – Development of theories (e.g. learning theories) ' A theory is a statement which establishes a cause – effect relationship between factors/ variables'

2 Applied Research (A theory is being tested for its applicability; most educational research is applied research)

3 Action Research – While in action (while performing your job) you come across a problem; it is unique (it cannot be generalized) – to you and to your situation; you want immediate solution; you plunge into a research activity-it is action research; its findings have only local applicability.

B(1) Historical Research (What was)

It is a systematic search for sources on the past-study the past, understand the present, predict and plan for the future.

A knowledge of the past will give us a better perspective of the present.

According to Edward Carr, History is an unending dialogue between the past and the present.

Historical Research – Data discovery through sources; Non – Historical Research – Data creation by administering tools of research.

<u>Sources</u> (Documents)

Primary	Secondary
(written by persons present at the Time of occurrence of the event)	(written by persons not present at the time of occurrence of the event)
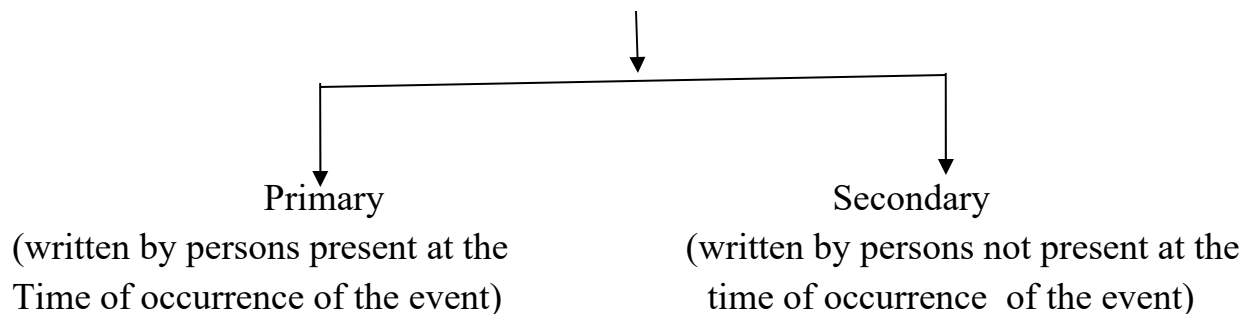
Sources must be evaluated objectively. Data must be reliable and valid. Research findings do depend upon the quality of Data.

<u>Evaluation of Sources</u>

External criticism	Internal criticism
(Nature of the source)	(Nature of the information)
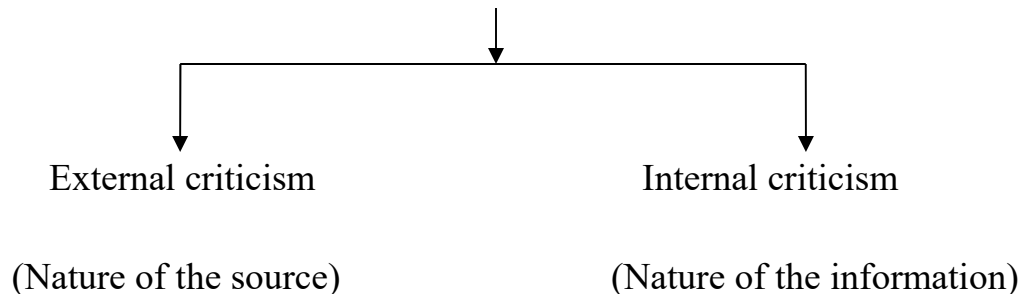
Sources of Data of must be reliable (trustworthy). This refers to external criticism
Data must be valid (truthful). This refers to internal criticism.

Illustration:

'The Growth and Development of Pre-Primary Education in Madurai'.

Organisation of the research report:

Chronological :	Thematic :
In 1940's and 50 's	Objectives 1940's - 2020
In 60's and 70's	Instruction 1940's - 2020
In 80's and 90's	Curriculum 1940's to 2020
In 2000 – 2020	Evaluation 1940's to 2020
Current Trend and Future Scenario	Future Scenario all aspects

Allwyn Toffler in his ' Future Shock' observed 'Future is coming ahead of schedule'   If appropriate Historical Research is effectively undertaken in our educational system , we can fairly predict the future scenario and get ourselves prepared for it.

B (2) <u>Descriptive Research</u> (What is)

It involves description, analysis and interpretation of conditions that exist – some kind of comparison and contrast – discovery of relationship between existing factors (variables)

(a) - Assessment research : fact finding / stock taking – 'status report' – No value judgement – No hypothesis – No relationship

(e.g.) Infrastructure facilities in self – financing Engineering Colleges in T.N.

(b) - Evaluation research : It is an extension of Assessment : Assessment + Value judgement – social utility, effectiveness of a process, product or a programme in terms of objectives (defined / stated). It may include recommendations for actions: it is not concerned with generalizations.

(e.g.) Effectiveness of a Refresher Course in Research Methodology in improving college teacher research competency.

Entry Behaviour | Refresher Course | Exit Behaviour

Effectiveness of Remedial Programme in Spoken English

Entry Behaviour | R.P | Exit Behaviour

The exit performance of the participants is compared with their entry performance?   Is it superior? To what extent are the objectives of the course / programme realised?

(c) Survey : Extensive study on a large sample (i) single variable

(e.g.)

- Study Habits of college students

- Reading interests of school students

- Professional ethics of college teachers

- Problems of adolescent students

- Spoken English of U.G. Students

- Political awareness of college students

- Research perception of Research Scholars

- Scientific attitude of P.G. Students of Science groups

- Historical sense of students of History at the P.G. level.

(ii) Two variables – Relationship study / Correlation study

One variable (the focus – major concern of the investigator is called -

CRITERION. The other one hypothetically related is called CORRELATE.

CRITERION -   Dependent variable

CORRELATE - Independent variable

(e.g.) Home climate and Academic Performance.

Intelligence and Academic Performance

Motivation and Academic Performance

Personality and Academic Performance

Scientific Aptitude and Academic Performance in Science.

(In each of the topics mentioned above, Academic Performance is the criterion and the other is the correlate).

(iii) Prediction Study (Survey)

(More than two variables – one criterion and the other correlates; promising / effective correlates are called predictors)

(e.g.) Correlates of Academic Achievement

Correlates of Teacher Competency

(iv) Case Study : An Intensive study on a relatively small sample – an indepth study. All aspects of the case are studied.

In other types of Descriptive studies, findings can be generalised to similar populations . In case studies findings cannot be generalized. Yet, they can be used as 'Hypotheses' for other types of Descriptive Research.

e.g. – Case studies of Low Academic Performers

- Case studies of High Academic Performers

- Case studies of Gifted Teachers

- Case studies of Problem Teachers

(v) Causal – Comparative Study (survey) (expost facto study)

Two extreme / contrasting groups are compared – Criterion group and non-Criterion group.

(e.g.) Causes of problem behaviour – A causal comparative approach (problem persons are compared with non-problem persons).

Causes of Drop outs (Drop outs compared with stayins) ; Correlates of Effective Teaching (More effective teachers compared with less effective teachers)

(H) Content Analysis

  (e.g.) Educational thoughts of Thiruvalluvar ;

       Educational thoughts of Emerson / Rousseau / Plato

       Basic human values as revealed in I year English Text Books

       Text Book Analysis (Evaluation of Text Books based on objectives)

       Question paper Analysis (Frame of reference : Bloom's Taxonomy)

B (3) Experimental Research (What will be) Experiment is observation under

       controlled conditions. Experiment is a hallmark of Science. When

Research

       is based on Scientific enquiry; it is but natural that   Educational Research,

       today, mostly focusses on 'Experiments'

       Experimental Research follows ' if .... then .... approach.

       It compares the effect of a Treatment with that of another Treatment or no

       Treatment on a specific criterion / factor of the investigator's choice.

Comparison of the effect of one treatment with that of another or no treatment.

Treatment	Achievement
Cause	Effect
Independent Variable	Dependent Variable

Two equivalent (based on entry behaviour) groups (experimental and control).

Matching or balancing, They are observed / tested before and after treatment /no

or control treatment.

     The pre test / post equivalent groups design

                R O1 C O2

                R O3 X O4

R – Random assignment of subjects	X – Experimental variable
C – Control variable	O – Observation / test

Learning Gains O2 – O1 ; O4 – O3

$$\text{Gap Closure} = \frac{\text{Post test Mean} - \text{Pre test Mean}}{\text{Perfect Score} - \text{Pre test Mean}} \times 100$$

[Subjects – Persons who are subjected to the experiment]

R O1 C O2   Post test performance of pre-tested and Non –pre-tested
R O3 X O4   groups are also compared
R C O5   in addition to effectiveness of experimental treatment.
R X O6

Threats to experimental validity

- Experimental mortality (loss of subjects)

- Carry over effect (effect of treatment is being passed on to the control group through interaction between the two groups – control and experimental)

- Contamination (Tester's / observer's subjective evaluation;

Known subjects are likely to be given higher score)

- Experimental effect (members of the experimental group getting higher score because of auto – suggestion)

[Testers are blinded; they do not know whether they are valuing the performance of the experimental group or control group   Subjects are blinded; they do not know whether they are subject to experimental treatment or control treatment. Thus the experiment is double blinded.]

e.g. – Effectiveness of Discussion as a supplement to lecture in teaching – An experiment

- Effectiveness of peer tutoring low achievers – An experiment

- Effectiveness of self – instructional packages – An experiment

- Effectiveness of inservice programmes – An experiment

In Action Research, a teacher faces a unique problem –not necessarily applicable to other teachers or other classes or other institutions. He can take up a modest, less sophisticated a quasi – experimental study:

$$O1 \ X \ O2$$

(A pre test – Post test single group study)

He can study the entry and exit performance of his class O1and O2 X refers to his experimental treatment. If the treatment is effective he can share it with his fellow –teachers. He can also go ahead with more rigorous and sophisticated studies.

3. HYPOTHESIS

Hypothesis (hypo-below) is a tentative answer, an adhoc answer, a 'time-being' answer to the researcher's question (problem is stated in the form of a question). The investigator formulates a major hypothesis and several sub-hypotheses. Hypothesis is formulated only to be tested, not to be proved. While framing a hypothesis, the following criteria should be borne in mind.

- Clarity and brevity

- Relationship between variables

- Testability

- Rational support from theory, research or personal experience

<u>e.g.</u> Title Gender difference in Intelligence

Research Hypothesis:

Boys and Girls differ from each other group in Intelligence (Non- directional)

Boys are superior to Girls in Intelligence

OR

Girls are superior to Boys in Intelligence

(Directional)

Null Hypothesis:

Boys and Girls do not differ from each other group in Intelligence

Null Hypothesis nullifies Research Hypothesis Research Hypothesis of the investigator is restated in Null form in 'Data Analysis' section at the advent of application of statistical application. Hence Null Hypothesis is also called Statistical Hypothesis.

Role of Hypothesis in Research

1) Identify   ⟶ a problem area

2) Identify   ⟶ a problem

3) Define and State   ⟶ the problem

4) Read and reflect   ⟶ Related theories

5) Read and reflect   ⟶ Related studies

6) Formulate   ⟶ Hypotheses (With variables labelled)

7) Formulate   ⟶ Hypotheses (with variables operationally defined)

8) Identify or Structure   ⟶ Instruments

9) Collect, Organise and analyse   ⟶ Data

10) Test   ⟶ Hypotheses

11) Accept or Reject   ⟶ Hypotheses

12) Identify solution to   ⟶ the problem

Steps 6, 7, 10, and 11 refer to the Role of Hypotheses in Research

Hypothesis with variable labelled

Boys and Girls differ significantly in personality factors

Hypothesis with variable operationally defined:

Boys and Girls differ significantly in their scores obtained in each factor of Cattell 16PF (Personality factors, here, are operationally defined)

4. POPULATION AND SAMPLE

Population is a group of individuals one or more characteristics of whom the researcher intends to study. Sample is a subgroup representative of the population.
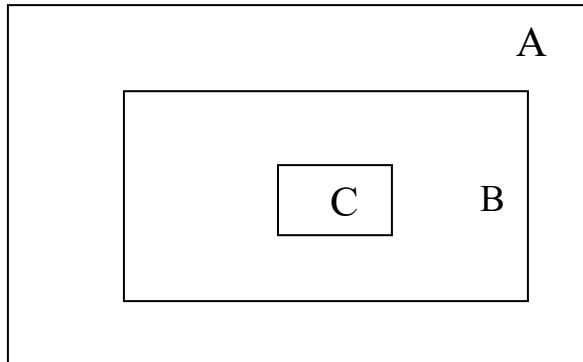
A - Target population (universe)

B - Accessible population

C – Sample

A – Target population (universe) : College Teachers of Madurai District

B – Accessible population   : College Teachers in and around Madurai city

C – Sample   : A sub group of B based on appropriate sampling technique

If the population itself is very small the entire population will serve as sample.

Population and sample are more relevant in Descriptive Research - surveys, Relationship studios, Prediction studies and causal – comparative.

In case studies it depends upon the available and accessible cases.

In experiments studies the size should not be less than 30 in each group (According to statisticians the 't' test will not be robust if N is less than 30).

Sampling Process

- Define your population

- Procure an accurate and complete the list of units in the population

- Draw representative units from the list

- Obtain a sufficiently large sample to represent the characteristics of the population.

Sampling Techniques

Random Sampling

Each subject in population has an equal chance of being selected for the sample ('lottery' method: random method; systematic random)

Stratified Random

Sub-groups of the population will be represented in the sample in proportion to their size in the population; selection will be at random

Suppose Population of your study consists of 5 different strata in the ratio of 5:4:3:2:1 the same ratio must be maintained in the sample as well. Selection of subjects from each stratum must be at random.

Cluster Sampling

The unit of sampling is not the individual but a naturally occurring cluster (group). Cluster sampling (or area sampling) is employed when it is not possible to obtain a list of all the members of a population. Suppose your study is on 'School teachers in a city' and there are 50 schools and you do not have access to all the schools. Then choose 10 schools representing the different types and involve all the teachers of these 10 schools.

Volunteer Sampling

When the sampling techniques cited earlier are not possible this is being resorted to Incidental Sampling :

Incidental Sampling (or accidental Sampling) is a technique of using easily or readily available casual groups. (e.g. participants in a seminar)

Sample Size

As large as possible. It is relative. In case studies and experimental studies the minimum number required will be 30 in each group. In surveys, the minimum will be 100.

5. TOOLS OF RESEARCH

(A) Reliability and Validity

Tools of Research are data gathering devices (also called evaluative Instruments). Instrumentation is the process of structuring and validating instruments.

Reliability (Trustworthiness):

It refers to the consistency or stability of the measuring instrument.

In test-retest mode of administration, the same tool is administered twice at an interval of 15-30 days and the two sets of scores are correlated. The correlation coefficient is the index of reliability. In split-half method, the instrument is divided into two equal halves (comparable) and two sets of scores are correlated)

Item reliability and Tool reliability : Item reliability is measured by internal consistency – 'item/whole' correlation.

Tool reliability is measured by test-retest mode of operation or split – half technique or KR 20/21 (Kuder – Richardson formula).

When an investigator gathers data for his research the first criterion he applies for his data is naturally its Reliability. When data ae not reliable findings will be erroreous.

Validity (Trustfulness)

A measuring instrument is said to be valid if it measures what it is supposed to measure. (A test should test what it ought to test). Content validity refers to the suitability of the content of items of the instrument to serve its purpose. Concurrent validity refers to the extent to which the instrument concurs with a standard instrument. Criterion validity refers to the extent of agreement of the instrument with an external criterion (student evaluation of teaching is related to the assessment of teaching by experts). Predictive validity refers to the extent to which the instrument predicts future behaviour (Aptitude tests). Construct validity refers to the extent to which the instrument measures the overt behaviour of the convert psychological factor (construct); for example intelligence (a construct) is measured by intelligent behaviour.

Item Validity and Tool Validity

Item validity is measured by the 't' value of the differential study – the significance of the difference between means of the two discriminating groups ('High' and 'Low) in the item score.

Tool validity is measured by the 't' value of the differential study – the significance of the difference between the means of the aggregate scores – discriminating groups – two groups known to be 'high' and 'low' in the criterion.

Cent person validity or reliability is not feasible. A measuring instrument should be valid enough and reliable enough to serve the purpose of the investigation.

(B) Achievement Test

Sequential phases of constructing an Achievement Test.

- List the specific instructional objectives in terms of specific learner outcomes for the unit for which you intend structuring a test.

- Write items (questions) – at least two for each SLO.

- Present the draft to a panel of judges for expert opinion (at least 3 experts)

- Present the draft to around 9 students (3 high achievers; 3 mediocre achievers; 3 low achievers for student reaction on the clarity of the statements of the questions.

- Refine / Modify / Improve the items based on expert opinion and student reaction.

- Try it out by administering the test to around 100 students (representing High, Mediocre and Low achievers – heterogenous group)

- Score the answer scripts.

- Perform item analysis*

- Select items for the final test.

*Item Analysis :

Two groups (High and Low) are identified. The top 27% of students (in based on the aggregate score) form the high group and bottom 27% form the low group.

D.I (Discriminating Index) or Validity Index = $\dfrac{RH - RL}{\frac{1}{2}T}$

RH – No. of students who have answered the item right in the high group.

RL – No. of students who have answered the item right in the low group.

T – Total number of students (both groups put together)

(Good items discriminate between High achievers and Low achievers)

D.V (Difficulty Value) = $\dfrac{RH+RL}{T}$ X 100

(Facility Index) (usually given in percentage)

Items with D.I. not less than 0.20 and D.V. ranging from 25% to 75% are selected

(Too difficult items and Too easy items are rejected)

Item	D.I	D.V	R/S	R – Rejected
	.	.		S – Selected

Multiple Choice :

Stem, options (4 or 5), Keyed response (KR), Distractors

(Right answer type / Best answer type)

Correction Formula $S = R - \dfrac{W}{(n-1)}$

S – Score ; R - Right answers ; W – wrong answers ; n – number of options

Option Analysis : each option must be chosen by not less than $\dfrac{N}{n^2}$

(n – Number of options, N –Number of students taking the test)

Distractors must be capable of distracting

Effective Testing, like effective Teaching, is not an accident. It does not just happen. The process is time – consuming laborious and often taxing. However the results are rewarding. Effective Testing is the best feedback to effective Teaching. Effective Teaching is incomplete without effective testing.

In most Research studies involving construction of Achievement Tests around 50% of the items initially written are likely to be rejected since they may not meet the criteria. Investigators must have this in mind, while preparing the first draft of items.

(C) RATING SCALE

It involves a qualitative description of a trait of a person or his ability on a scale with defined points

(e.g.) Leadership : Excellent / Good / Average / Below Average / Poor (intensity / Degree of the Trait / Quality)

Better Scale (Frequency) Does he lead his Co-workers effortlessly? Always / Often / Sometimes / Rarely / Never

Does he lead his co-workers effortlessly?

   A. To a great extent / Exactly   B. To a substantial extent / Nearly

   C . To a certain extent / somewhat   D. To a marginal extent / occasionally

   E. To a negligible extent / rarely

A well – structured Scale :

Behavioural manifestations of Leadership (Rating points A, B, C, D, E indicate the same frequency / attribute as in above)

Statements	Rating Points
1. He is able to seek the cooperation of his co-workers	A B C D E
2. He is able to make his co-workers work for the realisation of the objectives of the organisation	A B C D E
3. He is able to motivate his team to give its best	A B C D E
4. He is able to make his co-workers take right decisions	A B C D E
5. He is a Role Model	A B C D E

Limitations of rating scales :

- Lack of opportunity to observe
- Covertness of the trait (e.g. honesty)
- Ambiguity of the meaning of the trait (e.g. adjustment, intelligence ,personality, initiative)
- Lack of uniform standard of reference (adjectives / attributes employed will give different meanings to different raters)
- Generosity (some raters are 'generous' and give high ratings to all the ratees)
- 'Halo' error (if the first rating is high or low for a ratee the same rating) is carried over to the ratee's other traits as well)

- How to improve the quality of rating scales

  - the stem to be clearly defined

  - the rating points to be made specific

e.g. Intelligence (too general ; too vague) ; Resourcefulness (specific) He finds a way out of difficulty; Always / often / sometimes / rarely/ never

Trait – Resourcefulness

Rating points (behaviour manifestations of the trait at different levels) A.B, C D, E

A. He finds a way out of any difficulty

B. He finds a way out of most difficulties

C. He meets any difficult situation

D. He is discouraged by obstacles

E. He goes to pieces at the onset of any difficulty

ersonality (general); Effective in social situations (specific)

Trait : Social effectiveness; Rating points : A, B, C, D, E

(different levels of manifestations of social situations)

A - Sought after by others

B – Accepted by others

C – Welcome member of any group

D – Tolerated by others

E – Avoided by others

A trait of personality – self confidence

	A	B	C	D	E
Is he self-confident?	Always	Often	Sometimes	Rarely	Never

Better rating scale will be an attempt to specify behavioural manifestations of self – Confidence.

Positive
- He trusts his ability   A B C D E
- He feels at home even in unfamiliar situations   A B C D E

Negative
- He is diffident even in familiar situations   A B C D E
- He becomes nervous in any situation   A B C D E

Scoring : 5,4,3,2,1 for A, B, C, D, E respectively for Positive items. Scoring will be in the reverse order for negative items.

Several rating scales are 'self – appraisal' ones subjects are expected to be honest and frank in their responses. Investigators must be resourceful in this venture.

(D) ATTITUDE SCALE / OPINIONNAIRE

Attitude refers to the mental set of an individual to behave in a set pattern. It is covert. Opinion is the verbal expression of an attitude

- Limitations of Attitude Scales

People may conceal their attitudes and express socially acceptable attitudes: may not really know how they feel about a social issue (they may not have given serious consideration): may be unaware of their attitude until confronted with a real situation.

Thurstone's technique of scaled values

Statements which express various points of view on an issue are gathered and submitted to a panel of judges for expert opinion. The panel arranges the statements in eleven groups ranging from one extreme to another in position.

Most favourable ←----------------------- Neutral-----------------→ Most unfavourable

11	10	9	8	7	6	5	4	3	2	1
+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5

When there is marked disagreement between judges in assigning a position to an item, the item is discarded. For items that are retained each is given its median value between 1 and 11 as established by the panel (or between -5 and + 5)

The list of statements is given to subjects who are asked to check statements with which they agree. The sum of the median values of the statements that one checks indicates one's score.

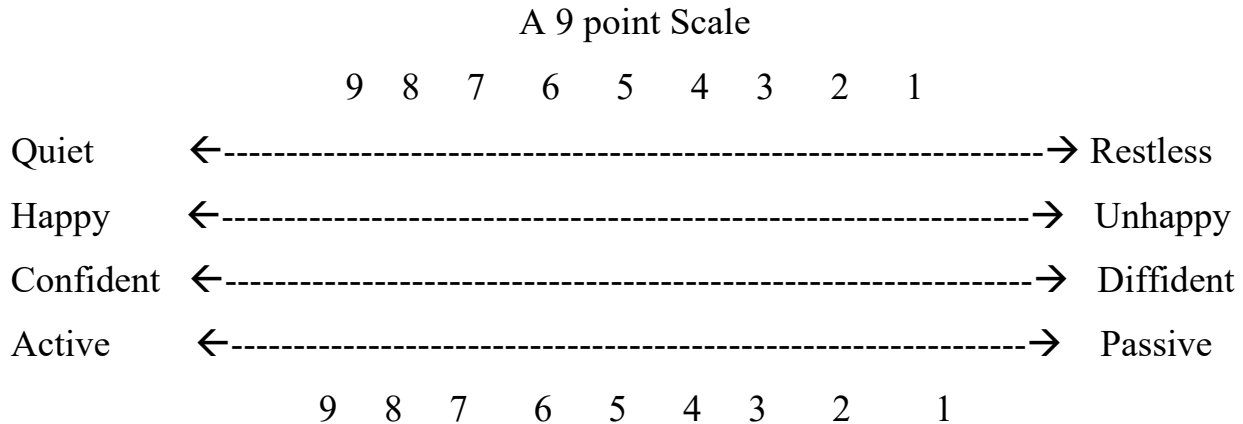## LIKERT'S METHOD OF SEMMATED RATINGS

Collect a number of statements (positive and negative). If they express opinions held by a substantial number of people they may be used as items of the scale (positive / favourable and negative / unfavourable statements may be equal in number). The list of statements may be presented to a panel of judges for expert opinion. Items will be split into single thought statements. Language aspects of the items will also be scrutinised. Items will be refined based on the suggestions of the panel. Each item will be reacted on a five point scale:

S.A. -   Strongly Agree,   A – Agree

UC -   Uncertain,   DA – Disagree

SDA -   Strongly Disagree

Scoring formula:	SA	A	UC	DA	SDA
Positive items	5	4	3	2	1
	+2	+1	0	-1	-2
Negative items	1	2	3	4	5
	-2	-1	0	+1	+2

The first draft of items will be tried out on a sample (similar to study sample). Only those items which meet the criteria of item reliability and item validity will be included in the final draft. Tool reliability and tool validity will be established on the final study.

(E). Semantic Differential

'Semantic Differential' is a method using 'bi-polar' adjectives . This method was developed by Osgood for assessing a trait.

A 9 point Scale

9 8 7 6 5 4 3 2 1

Quiet   ←--→ Restless

Happy   ←--→ Unhappy

Confident ←--→ Diffident

Active   ←--→ Passive

9   8   7   6   5   4   3   2   1

The left extreme will have a score of 9 and the right extreme will have a score of 1 and other rating points between them depend upon the position of the ratee in the trait concerned.

Some Personality inventories (Self – appraisal as well as others' appraisal) are using Os good's semantic Differential bipolar adjectives.

(F) Questionnaire

It consists of a series of questions to which the subjects are requested to respond. It gathers necessary data for the investigation. Good rapport should be established with the subjects before administration. Questionnaire are administered either in person or mailed.

Questionnaires may be 'unstructured', 'open ended' or 'free response type' or 'structured'. 'close ended' or 'guided response / restricted response' type.

A Questionnaire

- should seek information not obtainable from other sources
- should consist of relevant and useful questions
- should consist of questions written in simple clear and concise language.
- should consist of sufficient number of questions
- should contain 'single information' questions
- should have ' a rapport establishing preliminary', if mailed.

(G)Observation Schedule

It consists of a set of questions to facilitate objective observation. It also provides specific guidelines on what to observe and how to assess the situation / phenomenon / behaviour under observation.

(H) Checklist

It consists of items and the presence or absence may be indicated by a tick or cross mark or by checking 'yes' or 'No'.

(I)   Interview

It is a face – to – face interaction.   Interview schedule facilitates Objectivity in collecting the required Data.

Good rapport is to be established to create a 'Comfort Zone' for the person being interviewed (to make him feel 'at home')

Interview may be formal or informal or a combination of both – the first phase to be informal and the second phase formal.

Success of the Interview depends upon the resourcefulness of the Interviewer (the investigator)

Finale

The type of Tool of Research depends upon the type of research and its objectives. An investigator may employ several types of research tools depending upon the objectives of his investigation.

In any research, the Data collected must be reliable and valid.

The preliminary drafts of the tools are to be scrutinised by a panel of judges for 'expert opinion' and tried out on a sample (similar to study sample) for validation.

6. RESEARCH DESIGN

Research Design is a blueprint for research action. After an exposure to theoretical background and related studies in addition to formal and informal sittings with his Research Guide, other members of the faculty and fellow – research scholars a research scholar selects a topic of his research interest. He prepares a Research Design.

This Research Design is presented in Research Colloquiums – formal gatherings of the members of the faculty and Research Scholars. They react to his Design. Their constructive suggestions will be incorporated in his Design before he plunges into Research Action.

MODEL RESEARCH DESIGNS
(shortened versions)

Following are two Model Research Designs for reference:

(A) A topic for M.Ed / M.Phil (Edn) Dissertation

Type of Research : Survey – A Relationship study

(1) Title: Job satisfaction and Job Performance of Higher Secondary Teachers in MADURAI.

(Title should indicate the major variables and the population of the study)

(2) statement of the Problem: Is Job satisfaction of Higher Secondary teachers in MADURAI related to their Job Performance? If so, to what extent?

(3) Objectives of the study:

- To structure and validate a rating scale to study the Job satisfaction of Higher Secondary teachers in MADURAI.

- To structure and validate a Rating scale to study Job Performance of Higher Secondary teachers in MADURAI,

- To study the job satisfaction and job performance of Higher Secondary teachers in MADURAI.
- To study the relationship between job satisfaction and job performance.
- To study the gender difference in job satisfaction and job performance.
- To study the association between the type of school (Govt/corporation/Aided / Non-Aided) and job satisfaction and Job Performance.
- To predict job performance through job satisfaction.

(4) Major Hypotheses of the Study

- There will be gender difference both in job satisfaction and in job Performance.
- Association between the type of the school and job satisfaction or job performance will be significant.
- Job Performance can be predicted through Job satisfaction.

(These major hypotheses can be split into several sub –hypotheses)

(5) Population and Sample

Population : Teachers at the Higher Secondary level in all schools in MADURAI.

Sample size : 500 (Men and Women)

Sampling technique : stratified Random –in proportion to the different strata – Gender, Teaching subjects , type of school.

(6) Instrumentation :

- A Job satisfaction Rating Scale and A Job Performance Rating Scale will be structured and validated. The first will be a 'self – appraisal' rating scale and the second will be 'others' appraisal one.
- A Personal Data Sheet to collect other relevant information for the study.

(7) Mode of Data Collection

The investigator will visit the schools earmarked for the study, meet the school Head and other teachers, establish a good rapport with them;   He will also hand over the instruments and visit the schools again after about a month for collection of Data. Both visits will be on prior appointments and mutual convenience.

(8) Statistical Analysis

- Correlation Analysis (Pearson's 'r') between Job satisfaction and Job Performance.

  - Coefficient of determination (r squared) between the two variables

  - Correlation Matrix between the components of Job satisfaction and the Components of Job Performance.

  - Coefficient of determination (r squared) matrix between the two components of job satisfaction and the components of job performance.

  - Differential study (The 't' test) to study the gender difference in Job satisfaction and Job Performance.

  - To structure a Regression equation to predict Job Performance through Job satisfaction.

(B) A topic for Doctoral Research (Ph.D) in Education.

Type of Research : Survey – A Prediction Study

(1) Title : Correlates of College Teacher Competency – A study in MADURAI

(2) Statement of the Problem: What are the promising correlates / predictors of College Teacher Competency?

(3) Objectives of the Study.

- To structure and validate a Rating Scale to assess college Teacher Competency (criterion)

- To structure and validate Rating Scales to assess vital Personality factors, hierarchical motivation levels (of Maslow) and Professional Perception of College Teachers (Correlates)

- To administer these tools to the sample of the study and study the relationship between the College Teacher Competency and its correlates.

- To draw profiles (in terms of Correlates) of College Teachers rated 'more' and 'less' competent.
- To study the gender difference in the criterion as well as in correlates
- To study the impact of Teacher education oriented inservice Programmes and educational qualifications on Teacher education on Teacher competency
- To predict Teacher Competency through each of the correlates and the combination of correlates and through path analusis.

(4) Major Hypotheses of the Study

- Personality factors, Motivation levels and Professional Perception will be significantly related to College Teacher Competency.
- There will be significant gender difference in Teacher Competency and its Correlates.
- Exposure to Inservice Programmes (Teacher education oriented) and educational qualifications on Teacher education will be significantly associated with Teacher Competency.
- Level of Teacher Competency can be predicted through Personality, Motivation and Professional Perception.
- Contrasting Profiles based on Correlates will emerge for college teachers rated 'more' and 'less' competent.

    (These major hypotheses can be split into several sub – hypotheses)

(5) Population and Sample

   Population**:** Teachers of colleges of Arts, Sciences and Commerce in MADURAI (Only Government and Aided colleges are covered)

Sample : Size : 500 (Men and Women) Sampling Technique : Stratified Random (in proportion to the different Key strata : Gender / Teaching subjects : Languages / Mathematics and Sciences / Humanities/ Social Sciences)

(B) Instrumentation

- A Teacher Competency Rating Scale, a Personality inventory, a rating scale to study the Motivation levels and a Professional Perception rating Scale are to be structured and validated.

- A Personal data sheet to collect other relevant information on the subjects of the sample to be prepared.

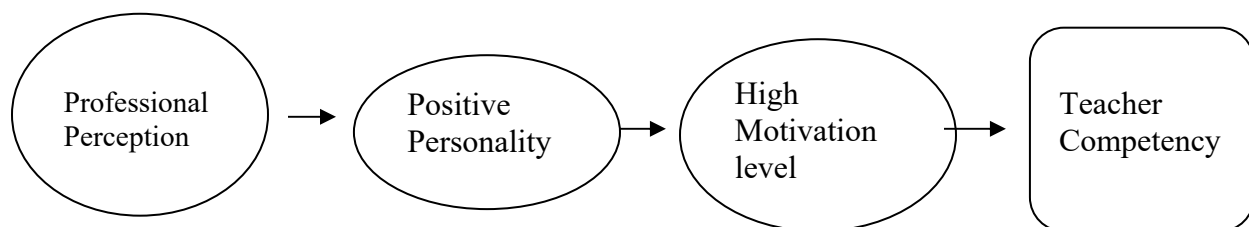**(7) Mode of Data Collection**:

The investigator will visit each college selected for the study, establish good rapport with the Principals and teachers of the sample, administer his instruments to them, and collect them back after about a month. Both visits will be on prior appointments and mutual convenience.

(8) StatisticalAnalysis

- Correlation Analysis and Matrix.
  (Correlates with criterion)
- Coefficient of determination and Matrix
  (Correlates with criterion)
- Differential study (The 't' test)
  (Gender difference in Criterion and Correlates)
- Association Study (The 'chi' square)
  (Association between Teacher Competency and Teacher education related exposure)
- Profiles (Graphic representation) of Teachers rated ' more' and 'less' Competent in Correlates.
- Simple Regression and Multiple Regression (To predict criterion through correlates)
- Path Analysis;
  Causal links
  Causal chain
  Causal Model

A path leading to Teacher Competency from Professional perception through Positive personality factors and high Motivation levels

Hypothetical:

(9) Time Schedule:
- Review of Literature (Theories and studies)　　- 6 months
- Structuring and Validating Tools of Research　- 1 year
- Data collection and Analysis　　　　　　　　- 1 year
- Report writing　　　　　　　　　　　　　　- 6 months

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　　　　　　　　　　　　　　　　　　　　　　　　3 years

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(7) RESEARCH REPORT

Abstract :

The abstract of a research study should indicate the objectives, hypotheses, methodology, mode of data analysis and major findings of study.

Overall format of the Research Report:

A. Preliminaries

- Title page
- Acknowledgement
- Table of contents
- List of Tables
- List of Figures

B. The Text

- Conceptual frame work (Chapter I)
- Related studies (Chapter II)
- Methodology　　(Chapter III)
- Data Analysis　　(Chapter IV)
- Summing up　　(Chapter V)

C. Reference section

- Bibliography
- Appendix (Relevant Research Details not included in the Text)

Chapter I – Conceptual framework

The problem is introduced with suitable theoretical background. Key terms are defined. The background of the study (the rationale of the study) is also outlined.

Chapter II – Related studies

Recent studies (of the last decade and the current one) related to the investigator's are outlined briefly – objectives, hypotheses, methodologies and major findings. A critical review of all the studies cited is also attempted.

Chapter III – Methodology

This is the key chapter. It outlines the problem, its objectives, hypotheses, population and the sample, instrumentation and mode of data collection.

Chapter IV – Data analysis

The data collected are analysed by appropriate statistical techniques and the inferences interpreted. Findings are outlined and discussed.

Chapter V – Summing up

Objectives, hypotheses, are restated; findings are summarised compared or contrasted with related studies cited. Scope for further research is also indicated.

(8) Evaluation of Research Report

The Title and the Abstract

- To be clear and concise
- To promise no more than the study can provide

The problem

- To be clearly stated
- To be properly delimited
- To indicate its significance
- Hypotheses to be clearly stated and testable
- Assumptions, limitations and delimitations to be stated
- Key terms to be defined

Review of Literature

- To be adequately covered
- Major findings to be indicated
- To be well organised
- To be relevant to the problem
- To furnish a critical review summary

Methodology

- To outline a research design
- Population and sample to be indicated
- Relevant variables to be indicated
- To employ appropriate tools of research
- To establish the reliability and validity of the instruments
- To indicate the mode of Data collection

Data Analysis

- To employ appropriate statistical analysis
- To indicate inferences and interpretation
- To outline major findings
- To outline clear and concise discussion
- To indicate scope for further research

Overall Writing of the Report

- To be clear concise and objective
- Proceeding and Succeeding Parts / sections of the report to be related to each other.

(9) STATISTICAL ANALYSIS
- An Overview

This section attempts a short overview of the frequently employed statistical analyses in Educational Research. For detailed analysis, discussion, inference and interpretation you are requested to refer to Standard Books on Educational Research and Statistics.

(A) Correlation Analysis

It attempts to study the degree of relationship between two variables / factors or their dimensions- indicated by Pearson's 'r' (Correlation Coefficient) Its value ranges from '+1' (Perfectly Positive) to '-1' (Perfectly negative).

Coefficient of Determination (r squared) indicates the extent to which both factors are related

Correlation Matrix / Coefficient of Determination Matrix – is drawn if the variables are multidimensional to indicate Inter correlations.

Correlation does not imply Causation Correlation may be causal or casual.

If theories based on research studies (experimental / Causal – comparative) establish causal relationship between variables, then interpretation is as under:

Positive   Correlation implies positive influence – facilitation

Negative   Correlation implies negative influence – debilitation

Degree of facilitation or debilitation depends upon the value of coefficient of determination.

(B) Differential Study

When the investigator attempts to study whether two groups are significantly different in a factor, he employs the 't' test. When there are more than two groups, he employs ANOVA (Analysis of Variance) which leads to a 'F' ratio similar to 't'

e.g. Whether there is any gender difference in Political awareness – the 't' test ; Whether 3 groups of academic achievers (High Mediocre. Low) differ significantly in 'Home climate : "ANOVA'.

(C) Association Study (The 'Chi'- square test)

To study the association between two variables – Teacher Competency and Motivation Levels, Teacher Competency can be classified into three levels (High, Mediocre, Low) and Motivation Levels into Five (of Maslow) . A ' 3 x5' contingency table and 'fo' (observed frequencies) and 'fe (expected frequencies) are recorded. The value of chi-square will indicate whether there is any association between the two factors.

(D) Regression Analysis

Regression Analysis is a statistical technique for investigating the strength of a relationship between variables to find cause – effect relationship – whether the Correlate causes the criterion effect.

Simple Regression is employed when there is one Correlate and one criterion. The formula is as under: (a graphical equation).

$Y = a + bx$

Y = Dependent variable (Criterion)

X = Independent variable (Correlate)

a - a constant (Intersect)

b - a coefficient (gradient)

Regression equation is, indeed, a Prediction equation. We can predict the value of criterion when the value of correlate is known,

Multiple Regression equation is employed for Prediction when there are more than one correlate

$Y = a + b_1X_1, + b_2 X_2 + b_3 X_3............b_n X_n$

Y → Criterion (Dependent Variable)

$X_1 X_2 X_3 ......X_n$ - Correlates (Independent Variables – Predictors)

a - Constant

$b_1, b_2, b_3 ....b_n$ – respective coefficients

Multiple Regression is employed to develop a self - weighting estimating equation to predict the value of criterion on the combines effect of the values of correlates.

(e,g.) Teacher Competency can be predicted by the combination of the values of its correlates – Personality Motivation and Professional Perception).
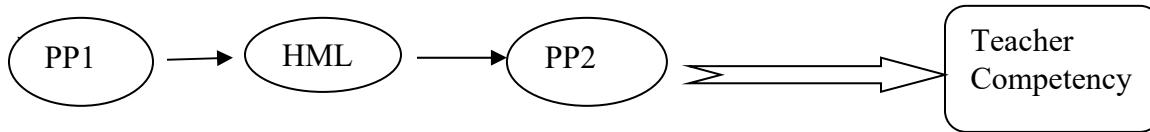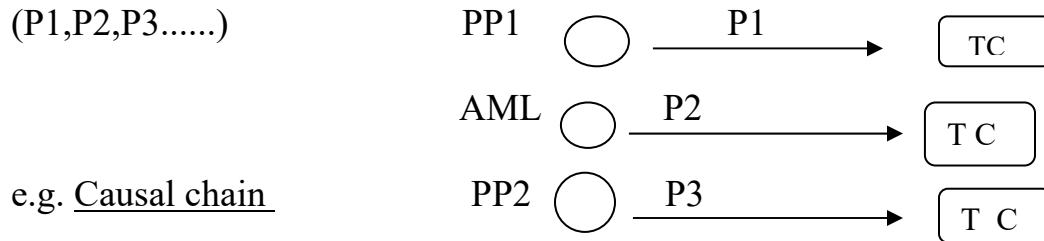
(E) Path Analysis

Path Analysis applies Multiple Regression Analysis to find possible causal relationships among variables. It begins with a theoretical model specifying causal links and causal chains.

Phase I   : Causal links
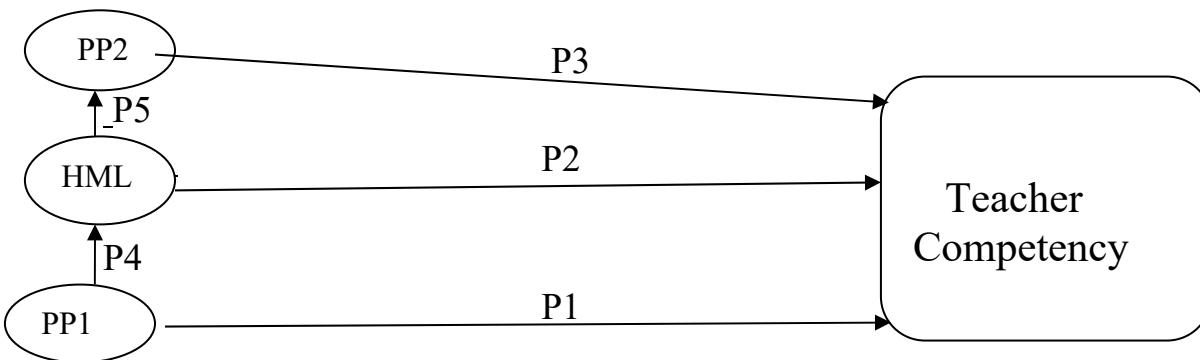
   II   : Causal chain

   III   : Causal Model

   Path coefficients are standardised regression weights (beta weights)

<u>Causal links</u>

(P1,P2,P3......)

PP1 ◯ $\xrightarrow{\text{P1}}$ TC

AML ◯ $\xrightarrow{\text{P2}}$ T C

e.g. <u>Causal chain</u>   PP2 ◯ $\xrightarrow{\text{P3}}$ T C

PP1 → HML → PP2 ⇒ Teacher Competency

PP1   → Positive Personality
HML   → High Motivation Level
PP2   → Professional Perception

<u>Causal Model</u>

PP2 — P3 → Teacher Competency
P5 ↑
HML — P2 →
P4 ↑
PP1 — P1 →

Path Analysis is the current sophisticated statistical Analysis in Educational

Research.

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+ Study Materials (Lessons) on Educational Research for M.Ed/ M.Phil (Edn) Students of Distance Education of Madurai Kamaraj University

(These are the Main Sources)