

(iii) How can we use aptitude test results?

In general, aptitude test results have three major uses:

(a) Instructional

Teachers can use aptitude test results to adapt their curricula to match the level of their students, or to design assignments for students who differ widely. Aptitude test scores can also help teachers form realistic expectations of students. Knowing something about the aptitude level of students in a given class can help a teacher identify which students are not learning as much as could be predicted on the basis of aptitude scores. For instance, if a whole class were performing less well than would be predicted from aptitude test results, then curriculum, objectives, teaching methods, or student characteristics might be investigated.

(b) Administrative

Aptitude test scores can identify the general aptitude level of a high school, for example. This can be helpful in determining how much emphasis should be given to college preparatory programs. Aptitude tests can be used to help identify students to be accelerated or given extra attention, for grouping, and in predicting job training performance.

(c) Guidance

Guidance counselors use aptitude tests to help parents develop realistic expectations for their child's school performance and to help students understand their own strengths and weaknesses.

Activity: Discuss with your course mate about their aptitudes towards teaching profession and analyze their opinions.
--

3.1.3 Attitude

Attitude is a posture, action or disposition of a figure or a statue. A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.

Attitude is the state of mind with which you approach a task, a challenge, a person, love, life in general. The definition of attitude is “a complex mental state involving beliefs and feelings and values and dispositions to act in certain ways”. These beliefs and feelings are different due to various interpretations of the same events by various people and these differences occur due to the earlier mentioned inherited characteristics’.

(i) Components of Attitude

1. Cognitive Component:

It refers that's part of attitude which is related in general know how of a person, for example, he says smoking is injurious to health. Such type of idea of a person is called cognitive component of attitude.

2. Effective Component:

This part of attitude is related to the statement which affects another person. For example, in an organization a personal report is given to the general manager. In report he point out that the sale staff is not performing their due responsibilities. The general manager forwards a written notice to the marketing manager to negotiate with the sale staff.

3. Behavioral Component:

The behavioral component refers to that part of attitude which reflects the intension of a person in short run or long run. For example, before the production and launching process the product. Report is prepared by the production department which consists of the intention in near future and long run and this report is handed over to top management for the decision.

(ii) List of Attitude:

In the broader sense of the word there are only three attitudes, a positive attitude, a negative attitude, and a neutral attitude. But in general sense, an attitude is what it is expressed through. Given below is a list of attitudes that are expressed by people, and are more than personality traits which you may have heard of, know of, or might be even carrying them:

- Acceptance
- Confidence
- Seriousness
- Optimism
- Interest
- Cooperative
- Happiness
- Respectful
- Authority
- Sincerity
- Honest
- Sincere

Activity: Develop an attitude scale for analyzing the factors motivating the prospective teachers to join teaching profession.

3.1.4 Intelligence Tests

Intelligence involves the ability to think, solve problems, analyze situations, and understand social values, customs, and norms. Two main forms of intelligence are involved in most intelligence assessments:

- Verbal Intelligence is the ability to comprehend and solve language-based problems; and
- Nonverbal Intelligence is the ability to understand and solve visual and spatial problems.

Intelligence is sometimes referred to as intelligence quotient (IQ), cognitive functioning, intellectual ability, aptitude, thinking skills and general ability.

While intelligence tests are psychological tests that are designed to measure a variety of mental functions, such as reasoning, comprehension, and judgment.

Intelligence test is often defined as a measure of general mental ability. Of the standardized intelligence tests, those developed by David Wechsler are among those most widely used. Wechsler defined intelligence as “the global capacity to act purposefully, to think rationally, and to deal effectively with the environment.” While psychologists generally agree with this definition, they don't agree on the operational definition of intelligence (that is, a statement of the procedures to be used to precisely define the variable to be measured) or how to accomplish its measurement.

The goal of intelligence tests is to obtain an idea of the person's intellectual potential. The tests center around a set of stimuli designed to yield a score based on the test maker's model of what makes up intelligence. Intelligence tests are often given as a part of a battery of tests.

(i) Types of Intelligence Tests

Intelligence tests (also called instruments) are published in several forms:

- (a) **Group Intelligence tests** usually consist of a paper test booklet and scanned scoring sheets. Group achievement tests, which assess academic areas, sometimes include a cognitive measure. In general, group tests are not recommended for the purpose of identifying a child with a disability. In some cases, however, they can be helpful as a screening measure to consider whether further testing is needed and can provide good background information on a child's academic history.
- (b) **Individual intelligence tests** may include several types of tasks and may involve easel test books for pointing responses, puzzle and game-like tasks, and question and answer sessions. Some tasks are timed.

- (c) **Computerized tests** are becoming more widely available, but as with all tests, examiners must consider the needs of the child before choosing this format.
- (d) **Verbal tests** evaluate your ability to spell words correctly, use correct grammar, understand analogies and analyze detailed written information. Because they depend on understanding the precise meaning of words, idioms and the structure of the language they discriminate very strongly towards native speakers of the language in which the test has been developed. If you speak English as a second language, even if this is at a high standard, you will be significantly disadvantaged in these tests. There are two distinct types of verbal ability questions, those dealing with spelling, grammar and word meanings, and those that try to measure your comprehension and reasoning abilities. Questions about spelling, grammar and word meanings are speed tests in that they don't require very much reasoning ability. You either know the answer or you don't.
- (e) **Non-verbal tests** are comprised of a variety of item types, including series completion, codes and analogies. However, unlike verbal reasoning tests, none of the question types requires learned knowledge for its solution. In an educational context, these tests are typically used as an indication of a pupil's ability to understand and assimilate novel information independently of language skills. Scores on these tests can indicate a pupil's ability to learn new material in a wide range of school subjects based on their current levels of functioning.

(ii) Advantages

In general, intelligence tests measure a wide variety of human behaviours better than any other measure that has been developed. They allow professionals to have a uniform way of comparing a person's performance with that of other people who are similar in age. These tests also provide information on cultural and biological differences among people.

Intelligence tests are excellent predictors of on academic achievement and provide an outline of a person's mental strengths and weaknesses. Many times the scores have revealed talents in many people, which have led to an improvement in their educational opportunities. Teachers, parents, and psychologists are able to devise individual curricula that matches a person's level of development and expectations.

(iii) Disadvantages

Some researchers argue that intelligence tests have serious shortcomings. For example, many intelligence tests produce a single intelligence score. This single score is often inadequate in explaining the multidimensional.

Another problem with a single score is the fact that individuals with similar intelligence test scores can vary greatly in their expression of these talents. It is important to know the

person's performance on the various subtests that make up the overall intelligence test score. Knowing the performance on these various scales can influence the understanding of a person's abilities and how these abilities are expressed. For example, two people have identical scores on intelligence tests. Although both people have the same test score, one person may have obtained the score because of strong verbal skills while the other may have obtained the score because of strong skills in perceiving and organizing various tasks.

Furthermore, intelligence tests only measure a sample of behaviors or situations in which intelligent behavior is revealed. For instance, some intelligence tests do not measure a person's everyday functioning, social knowledge, mechanical skills, and/or creativity. Along with this, the formats of many intelligence tests do not capture the complexity and immediacy of real-life situations. Therefore, intelligence tests have been criticized for their limited ability to predict non-test or nonacademic intellectual abilities. Since intelligence test scores can be influenced by a variety of different experiences and behaviors, they should not be considered a perfect indicator of a person's intellectual potential.

Activity:

Discuss with your course mate about the intelligence testing and identify the methods used to measure intelligence, and make a list of problems in measuring intelligence

3.1.5 Personality Tests

Your personality is what makes you who you are. It's that organized set of unique traits and characteristics that makes you different from every other person in the world. Not only does your personality make you special, it makes you!?

“The particular pattern of behavior and thinking that prevails across time and contexts, and differentiates one person from another.”

The goal of psychologists is to understand the causes of individual differences in behavior. In order to do this one must firstly identify personality characteristics (often called personality traits), and then determine the variables that produce and control them. A personality trait is assumed to be some enduring characteristic that is relatively constant as opposed to the present temperament of that person which is not necessarily a stable characteristic. Consequently, trait theories are specifically focused on explaining the more permanent personality characteristics that differentiate one individual from another. For example, things like being; dependable, trustworthy, friendly, cheerful, etc.

A personality test is completed to yield a description of an individual's distinct personality traits. In most instances, your personality will influence relationships with your family, friends, and classmates and contribute to your health and well being. Teachers can administer a personality test in class to help your children discover their strengths and developmental needs. The driving force behind administering a

personality test is to open up lines of communication and bring students together to have a higher appreciation for one another. A personality test can provide guidance to teachers of what teaching strategies will be the most effective for their students. Briefly *personality test can benefit your students by:*

- Increasing productivity
- Get along better with classmates
- Help students realize their full potential
- Identify teaching strategies for students
- Help students appreciate other personality types.

(i) Types of Personality Tests

Personality tests are used to determine your type of personality, your values, interests and your skills. They can be used to simply assess what type of person you are or, more specifically, to determine your aptitude for a certain type of occupation or career.

There are many different types of personality tests such as self report inventory, Likert scale and projective tests.

(a) Self-report Inventory

A self-report inventory is a type of psychological test often used in personality assessment. This type of test is often presented in a paper-and-pencil format or may even be administered on a computer. A typical self report inventory presents a number of questions or statements that may or may not describe certain qualities or characteristics of the test subject.

Chances are good that you have taken a self-report inventory at some time the past. Such questionnaires are often seen in doctors' offices, in on-line personality tests and in market research surveys. This type of survey can be used to look at your current behaviors, past behaviors and possible behaviors in hypothetical situations.

(i) Strengths and Weaknesses of Self-Report Inventories

Self-report inventories are often good solution when researchers need to administer a large number of tests in relatively short space of time. Many self report inventories can be completed very quickly, often in as little as 15 minutes. This type of questionnaire is an affordable option for researchers faced with tight budgets.

Another strength is that the results of self report inventories are generally much more reliable and valid. Scoring of the tests a standardized and based on norms that have been previously established.

However, self report inventories do have their weaknesses. Such as people are able to exercise deception while taking self report tests (Anastasi & Urbina, 1997).

Another weakness is that some tests are very long and tedious. For example, the MMPI takes approximately 3 hours to complete. In some cases, test respondents may simply lose interest and not answer questions accurately. Additionally, people are sometimes not the best judges of their own behavior. Some individuals may try to hide their own feelings, thoughts and attitudes.

(ii) Types of Self Reports

- **Myers-Briggs Inventory**
First designed to help suite people's personality to jobs
identifies 'type' of person not 'traits' in people
- **MMPI & MMPI-2**
used to assess personality and mental health
- **16 Personality Factor Questionnaire**
identifies a person's traits
- **The Big Five**
identifies on a scale of five traits where a person sits

(b) Likert Scale

A Likert Scale is a type of psychometric scale frequently used in psychology questionnaires. It was developed by and named after organizational psychologist Rensis Likert. A Likert item is simply a statement which the respondent is asked to evaluate according to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured. It is considered symmetric or "balanced" because there are equal amounts of positive and negative positions. Often five ordered response levels are used, although many psychometricians advocate using seven or nine levels.

The format of a typical five-level Likert item, for example, could be:

1. Strongly disagree
2. Disagree
3. Uncertain
4. Agree

5. Strongly Agree

Likert scaling is a bipolar scaling method, measuring either positive or negative response to a statement. Sometimes an even-point scale is used, where the middle option of "Neither agree nor disagree" is not available. This is sometimes called a "forced choice"

method, since the neutral option is removed. The neutral option can be seen as an easy option to take when a respondent is unsure, and so whether it is a true neutral option is questionable. It has been shown that when comparing between a 4-point and a 5-point Likert scale, where the former has the neutral option unavailable, the overall difference in the response is negligible.

(c) Projective tests

A **projective test** is a personality test designed to let a person respond to ambiguous stimuli, presumably revealing hidden emotions and internal conflicts. In psychology, a projective test is a type of personality test in which the individual offers responses to ambiguous scenes, words or images. This type of test emerged from the psychoanalytic school of thought, which suggested that people have unconscious thoughts or urges. These projective tests were intended to uncover such unconscious desires that are hidden from conscious awareness.

(i) How Do Projective Test Work?

In many projective tests, the participant is shown an ambiguous image and then asked to give the first response that comes to mind. The key to projective tests is the ambiguity of the stimuli. According to the theory behind such tests, clearly defined questions result in answers that are carefully crafted by the conscious mind. By providing the participant with a question or stimulus that is not clear, the underlying and unconscious motivations or attitudes are revealed.

(ii) Types of Projective Tests

There are a number of different types of projective tests. The following are just a few examples of some of the best-known projective tests.

(a) The Rorschach Inkblot Test

The Rorschach Inkblot was one of the first projective tests and continues to be one of the best-known. Developed by Swiss psychiatrist Hermann Rorschach in 1921, the test consists of 10 different cards that depict an ambiguous inkblot. The participant is shown one card at a time and asked to describe what he or she sees in the image. The responses are recorded verbatim by the tester. Gestures, tone of voice and other reactions are also noted. The results of the test can vary depending on which of the many existing scoring systems the examiner uses.

(b) The Thematic Apperception Test (TAT)

In the Thematic Apperception Test, an individual is asked to look at a series of ambiguous scenes. The participant is then asked to tell a story describing the scene, including what is happening, how the characters are feeling and how the story will end. The examiner then scores the test based on the needs, motivations and anxieties of the main character as well as how the story eventually turns out.

(iii) Strengths and Weaknesses of Projective Tests

- Projective tests are most frequently used in therapeutic settings. In many cases, therapists use these tests to learn qualitative information about a client. Some therapists may use projective tests as a sort of icebreaker to encourage the client to discuss issues or examine thoughts and emotions.
- While projective tests have some benefits, they also have a number of weaknesses and limitations. For example, the respondent's answers can be heavily influenced by the examiner's attitudes or the test setting. Scoring projective tests is also highly subjective, so interpretations of answers can vary dramatically from one examiner to the next.

<p><i>Activity:</i> Apply the projective tests to any class and analyze the traits of students which differ them with each other.</p>

3.1.6 Norm-referenced Tests and Criterion-Referenced Tests

Tests can be categorized into two major groups: norm-referenced tests and criterion-referenced tests. These two tests differ in their intended purposes, the way in which content is selected, and the scoring process which defines how the test results must be interpreted.

(a) Definition of Norm-Referenced Test

Norm-referenced tests are made with compare test takers to each other. On an NRT driving test, test-takers would be compared as to who knew most or least about driving rules or who drove better or worse. Scores would be reported as a percentage rank with half scoring above and half below the mid-point.

This type of test determines a student's placement on a normal distribution curve. Students compete against each other on this type of assessment. This is what is being referred to with the phrase, 'grading on a curve'.

(b) Definition of Criterion-Referenced Tests

Criterion-referenced tests are intended to measure how well a person has learned a specific body of knowledge and skills.

Criterion-referenced test is a term which is used daily in classes. These tests assess specific skills covered in class.

Criterion-referenced tests measure specific skills and concepts. Typically, they are designed with 100 total points possible. Students are earned points for items completed correctly. The students' scores are typically expressed as a percentage. Criterion-referenced tests are the most common type of test teacher's use in daily classroom work.

(c) Norm- Reference V.S Criterion-Referenced Testing

Norm-referenced tests compare an examinee's performance to that of other examinees. Standardized examinations such as the SAT are norm-referenced tests. The goal is to rank the set of examinees so that decisions about their opportunity for success can be made.

Criterion-referenced tests differ in that each examinee's performance is compared to a pre-defined set of criteria or a standard. The goal with these tests is to determine whether or not the candidate has the demonstrated mastery of a certain skill or set of skills. These results are usually "pass" or "fail" and are used in making decisions about job entry, certification, or licensure. A national board medical exam is an example of a Criterion Reference Test. Either the examinee has the skills to practice the profession, in which case he or she is licensed, or does not.

(i) Purposes of Criterion and Norm – Reference testing

The major reason for using a norm-referenced test is to classify students. Norm Reference Tests are designed to highlight achievement differences between and among students to produce a dependable rank order of students across a continuum of achievement from high achievers to low achievers. School systems might want to classify students in this way so that they can be properly placed in remedial or gifted programs. These types of tests are also used to help teachers select students for different ability level reading or mathematics instructional groups.

With norm-referenced tests, a representative group of students is given the test prior to its availability to the public. The scores of the students who take the test after publication are then compared to those of the norm group.

While norm-referenced tests ascertain the rank of students, criterion-referenced tests determine what test takers can do and what they know, not how they compare to others

Criterion Reference Tests report how well students are doing relative to a pre-determined performance level on a specified set of educational goals or outcomes included in the school, district, or state curriculum.

Educators or policy makers may choose to use a Criterion Reference Test when they wish to see how well students have learned the knowledge and skills which they are expected to have mastered. This information may be used as one piece of information to determine how well the student is learning the desired curriculum and how well the school is teaching that curriculum.

Both Norm Reference Tests and Criterion Reference Tests can be standardized. The U.S. Congress, Office of Technology Assessment defines a standardized test as one that uses uniform procedures for administration and scoring in order to assure that the results from different people are comparable. Any kind of test--from multiple choices to essays or oral examinations--can be standardized if uniform scoring and administration are used. This means that the comparison of student scores is possible. Thus, it can be assumed that two students who receive the identical scores on the same standardized test demonstrate

corresponding levels of performance. Most national, state and district tests are standardized so that every score can be interpreted in a uniform manner for all students and schools.

(ii) Comparison of CRT/NRT Characteristics

Criterion-Referenced Tests	Norm-Referenced Tests
<ul style="list-style-type: none"> • To determine whether each student has achieved specific skills or concepts based on standards. • Measures specific skills which make up a designated curriculum. These skills are identified by teachers and curriculum experts • Each individual is compared with a preset standard for acceptable achievement. The performance of other examinees is irrelevant. • Student's score is usually expressed as a percentage. Student achievement is reported for individual skills. 	<ul style="list-style-type: none"> • To rank each student with respect to the achievement of others in order to discriminate between high and low achievers. • Measures broad skill areas sampled from a variety of textbooks, syllabi, and the judgments of curriculum experts. • Each individual is compared with other examinees and assigned a score--usually expressed as a percentile. Student achievement is reported for broad skill areas, although some norm-referenced tests do report student achievement for individual skills

(iii) Advantage of Criterion Referenced Test

Following are the major advantages of criterion referenced tests:

First, students are only tested on their knowledge of specific goals or standards. For example, if you had taught a lesson on adding fractions, you will give the student a test on adding fractions. If he or she scores 85% that means that that particular student has learned 85% of that goal. If a student does not score particularly well, then the teacher can adjust their instruction accordingly.

Another benefit is that if students do not seem to master a particular standard, the teacher will be able to go back and teach that standard again until the student performs better.

(iv) Disadvantages of Criterion-Referenced Tests

Criterion-referenced tests have some built-in disadvantages. Creating tests that are both valid and reliable requires fairly extensive and expensive time and effort. In addition, results cannot be generalized beyond the specific course or program. Such tests may also

be compromised by students gaining access to test questions prior to exams. Criterion-referenced tests are specific to a program and cannot be used to measure the performance of large groups.

(v) Advantages of Norm reference Test

The advantage of a norm-referenced test is that it shows us how our student is doing related to other students across the country. They are good for using the placement of students at the beginning and then again four or six months later, or at the end of the year. This will show growth over the period of the time.

Norm-referenced tests along with informal observational evaluation are useful for showing student growth over time. They aren't to be used for grading though they can be one element in a total grade. One must remember we can't expect great growth, if any, over short periods of times, particularly as shown on a norm-referenced test.

(v) Disadvantage of Norm Reference test

An obvious disadvantage of norm-referenced tests is that it cannot measure progress of the population as a whole, only where individuals fall within the whole. Thus, only measuring against a fixed goal can be used to measure the success of an educational reform program which seeks to raise the achievement of all students against new standards which seek to assess skills beyond choosing among multiple choices. However, while this is attractive in theory, in practice the bar has often been moved in the face of excessive failure rates, and improvement sometimes occurs simply because of familiarity with and teaching to the same test.

Activity: Discuss with your course mate about characteristics of norm and criterion referenced tests and prepare a report about their usability.

3.2 Techniques

3.2.1 Questionnaire

A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents. Although they are often designed for statistical analysis of the responses, this is not always the case.

A questionnaire is a list of written questions that can be completed in one of two basic ways

Firstly, respondents could be asked to complete the questionnaire with the researcher not present. This is a postal questionnaire and (loosely) refers to any questionnaire that a respondent completes without the aid of the researcher.

Secondly, respondents could be asked to complete the questionnaire by verbally responding to questions in the presence of the researcher. This variation is called a structured interview.

Although the two variations are similar (a postal questionnaire and a structured interview could contain exactly the same questions), the difference between them is important. If, for example, we are concerned with protecting the respondent's anonymity then it might be more appropriate to use a postal questionnaire than a structured interview.

(i) Different Types of Questions in Questionnaire Design

The following is a list of the different types of questions in questionnaire design:

1. Open Format Questions

Open format questions are those questions that give your audience an opportunity to express their opinions. In these types of questions, there are no predetermined set of responses and the person is free to answer however he/she chooses. By including open format questions in your questionnaire, you can get true, insightful and even unexpected suggestions. Qualitative questions fall under the category of open format questions. An ideal questionnaire would include an open format question at the end of the questionnaire that would ask the respondent about suggestions for changes or improvements.

Example of an Open Format Question

<p><i>State your opinion about the quality of teaching during workshop.</i></p> <p>.....</p> <p>.....</p>

2. Closed Format Questions

Closed format questions are questions that include multiple choice answers. Multiple choice questions fall under the category of closed format questions. These multiple choices could either be in even numbers or in odd numbers. By including closed format questions in your questionnaire design, you can easily calculate statistical data and percentages. Preliminary analysis can also be performed with ease. Closed format questions can be asked to different groups at different intervals. This can enable you to efficiently track opinion over time.

Example of an Open Format Question

Which are the elements necessary for classroom teaching?

Circle those elements:

(a) *Teacher* (b) *Library* (c) *Lesson planning* (d) *Laptop*

3. Leading Questions

Leading questions are questions that force your audience for a particular type of answer. In a leading question, all the answers would be equally likely. An example of a leading question would be a question that would have choices such as, fair, good, great, poor, superb, excellent etc. By asking a question and then giving answers such as these, you will be able to get an opinion from your audience.

Example of an Open Format Question

How would you rate lecture method?

(i) Fair (ii) Good (iii) Excellent (iv) Superb

4. Importance Questions

In importance questions, the respondents are usually asked to rate the importance of a particular issue, on a rating scale of 1-5. These questions can help you grasp what are the things that hold importance to your respondents. Importance questions can also help you make business critical decisions.

Example of an Open Format Question

Students' involvement in classroom is:

(i) *Extremely Important* (ii) *Very Important* (iii) *Somewhat Important*

(ii) *Not very Important* (v) *Not at all Important*

5. Likert Questions

Likert questions can help you ascertain how strongly your respondent agrees with a particular statement. Likert questions can also help you assess how your customers feel towards a certain issue, product or service.

Example of an Open Format Question

Lecture method is suitable for all subjects

(1)Strongly Agree (2) Agree (3) Undecided (4) Disagree (5) Strongly Disagree

6. Dichotomous Questions

Dichotomous questions are simple questions that ask respondents to just answer yes or no. One major drawback of a dichotomous question is that it cannot analyze any of the answers between yes and no.

Example of an Open Format Question

Do you like smoking?	
Yes	No

7. Bipolar Questions

Bipolar questions are questions that have two extreme answers. The respondent is asked to mark his/her responses between the two opposite ends of the scale.

Example of an Open Format Question

How would you describe the services of Allama Iqbal Open University?	
Efficient.....	Inefficient
Fast	Slow

8. Rating Scale Questions

In rating scale questions, the respondent is asked to rate a particular issue on a scale that ranges from poor to good. Rating scale questions usually have an even number of choices, so that respondents are not given the choice of a middle option.

Example of an Open Format Question

How would you rate the quality of lecture method?			
Good	Fair	Poor	Very poor

9. Buying Propensity Questions

Buying propensity questions are questions that try to assess the future intentions of customers. These questions ask respondents if they want to buy a particular product, what requirements they want to be addressed and whether they would buy such a product in the future.

Example of an Open Format Question

Pakistani products have the good quality, would you prefer to buy it?				
Definitely	Probably	Not Probably	Not Sure	Definitely Not

(ii) FORMATTING THE QUESTIONNAIRE

As the questions are determined, a series of decisions must be made about the questionnaire format: its appearance, length, and order of questions. The questionnaire must be pleasing to look at and easy to complete.

The following guidelines may help in formatting the questionnaire.

- Begin with an introduction which includes the questionnaire's purpose, who is conducting it, to what use the information will go, and confidentiality. In mailed questionnaires, reinforce points that were made in the cover letter.
- Make the first questions interesting. Make them clearly related and useful to the topic of the questionnaire. The beginning questions should not be open-ended or questions with a long list of answer choices.
- Put the more important questions at the beginning.
- Arrange the order of questions to achieve continuity and a natural flow. Try to keep all questions on one subject together. Put the more general questions first, followed by a more specific question. For example, if you want to find out about a person's knowledge of insurance, start with questions about types of insurance, purpose of the different types, followed by questions about costs of these various types.
- Try to use the same type of question/responses throughout a particular train of thought. It breaks the attention span to have a multiple choice question following a YES/NO question, then an open-ended question.
- Place demographic questions (age, gender, race/ethnicity, etc.) in the beginning of the questionnaire.
- Use quality print in an easy-to-read type face. Allow sufficient open space to let the respondent feel it is not crowded and hard to read.
- Keep the whole question and its answers on the same page. Don't cause respondents to turn a page in the middle of a question or between the question and its answers.
- Be sure that the question is distinguishable from the instructions and the answers. May be put the instructions in boldface or italics.