

**CONTENT VALIDITY OF PHONETICS AND
PHONOLOGY EXAM AT M. ED. LEVEL**

**A Thesis Submitted to the Central Department of English Language
Education, University Campus, Kirtipur in Partial
Fulfillment for the Master's Degree in Education
(Specialization in English Education)**

**By
Tej Prasad Timilsina**

**Faculty of Education
Tribhuvan University
Kirtipur, Kathmandu, Nepal
2007**

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DEDICATION

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ABSTRACT

The main purpose of this study was to measure the content validity of phonetics and phonology exams at M. Ed. Level. For this purpose the researcher has analyzed 6 years question papers of Phonetics and Phonology administered in the annual examinations from 2057 to 2062 at M. Ed. First year. He has used only secondary source of data. The question papers of phonetics and phonology during six years (i.e. 2057 to 2062) were the main source. The researcher had based on mainly two aspects: Coverage and weighting to establish the content validity of the tests. He compared test content coverage with course content coverage and test content weighting with course content weighting. After analyzing the question papers as a whole he has found that the Phonetics and Phonology tests during six years have high content validity in terms of coverage and low content validity in terms of weighting.

This study mainly comprises into four chapters. The first chapter deals with the introduction which consists of general background, language testing and its types, introduction to major English at M. Ed. Level, the syllabus of phonetics and phonology at M. Ed. First year, content validity, specification of the tests, guidelines for establishing content validity, review of the related literature, objectives of the study, significance of the study and the definition of the specific terms.

Chapter two deals with the methodology which consists of sources of data, process of data collection and limitations of the study.

Chapter three deals with the analysis and interpretation of the data. The data had been analyzed and interpreted in terms of coverage and weighting to find out the content validity of the tests.

The final chapter deals with the findings and recommendation of the study. The findings and appropriate recommendations have been outlined on the basis of the analysis and interpretation of the data.

ABBREVIATIONS

P	Partial Question
P: opt	Partial and Optional
ELT	English Language Teaching
CDC	Curriculum Development Center
SLC	School Leaving Certificate
NELTA	Nepal English Language Teacher's Association
T.U.	Tribhuvan University
etc	and the rest (et cetra)
i.e.	that is
No. / no.	Number
B.S.	Bikram Sambat
et al.	and others
Vol.	Volume
SAARC	South Asian Association for regional co-operation
Vs	Versus
S/SS	Subjective Short Question
SL	Subjective Long Question
O	Objective Question
S.N.	Serial Number
M. Ed.	Master in Education

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CHAPTER ONE

INTRODUCTION

1. General Background

Language is the most powerful, convenient and permanent means and form of communication. It is one of the most valuable gifts of god to human being which distinguishes him from animals. Language is a means of human communication through which we express our feelings, thoughts, wants, desires and so on. Language can also be taken as social phenomenon which is used in our society to establish the relationship among the human being. Through the interaction among the members of the community by means of language a society is alive. Language is not just the juxtaposition of words or noises of sounds but a systematic arrangement of these components so as to systematize a message to establish relationship between and among the people not only of society or community but also of entire globe.

Non linguistic symbols such as gestures, traffic lights, red signs etc are also means of communication, yet they are not so flexible, comprehensive, extensive and perfect as language is. Language is the best means of self expression, the expression of human personality in works, whether spoken or written. It is the universal medium for conveying the common facts including complex thoughts, ideas and feelings of everyday life. No language is superior or inferior to other language in terms of community values. The major function of language is to communicate. According to sapir 1948:81, "Language is a purely human and non- instinctive method of communicating ideas, emotions and desires by means of a system of voluntarily produced symbols."

Richards et al. (1985) define language as "The system of human communication which consists of the structured arrangement of sounds or written representation into larger units, e.g. morphemes, words sentences, utterances". In the Encyclopedia Britannica (Vol. 13, page 96) Benton, W.(1960) includes "Language is defined as an arbitrary system of vocal symbols by means of which human beings, as members of social group and participants in culture, interact and communicate". According to transformational generative linguistics like Noam Chomsky, Language is the innate capacity of native speakers to understand and form generative sentences.

Thus, language is defined variously. No single definition of language is perfect in itself. But it is widely accepted that language is a complex human phenomenon whose main function is to communicate by means of speaking or writing.

There are thousands of languages in the world. All of them are equally important so far as their communicative function is concerned however English is the most prominent language and widely used all over the world. The ever- expanding dimension of knowledge seems slowly and gradually to creep into the bag of English language. This has further shrunken the word into becoming bilingual and multilingual. In other words, being a member of monolingual society in an under developed country bars one from keeping oneself updated with the momentary change taking place in the world . Thus, knowing the use of English language for the purpose of extracting knowledge to keep oneself update has emerged as an essential phenomenon pressing the world into becoming at least bilingual.

In Nepal, English has been assigned top priority. It is taught as a compulsory subject right from the grade one to Bachelor level.

1.2 Major English at M. Ed Level

1.2.1 Introduction

Education has a key role in national development. The extent to which education will be able to support the process of national development depends on the academic and professional strengths of educational planners, managers, educators, headmasters and teachers. As the demand for quality schooling and higher education rises, the need for competent professionals become even greater. To meet this need the faculty of education (FOE), Tribhuvan University with its two year master programme is committed to provide better and qualified teachers, teacher educators, educational administrators and planners, system analysts and experts in the field of education

The FOE has introduced three- year B. Ed. programme since 1996 with the curriculum focused on meeting varying social needs. The necessities restructuring the M.Ed. curriculum so to make it consonant with the newly developed B. Ed. programme. All in all, this change has been prompted by the vision and the experience of teacher educators and other professionals working in the field of education all these years.

The overall objective of the M.Ed. program is to produce higher level manpower in the field of education. More specifically, the main objectives are:

-) to develop leadership manpower in the field of education.
-) to produce better qualified and competent teacher educators;
-) to produce efficient educational planners, administrators and supervisors and other educational experts,
-) to promote innovative practices in the field of education and
-) to produce better trained teachers especially at the higher level.

To fulfill the above mentioned objectives, T.U. has launched the new curriculum from the academic year 1999 A.D. for two years M.Ed. level. In M. Ed. level there are altogether twelve (12) specialization subjects and English language education is one of them.

1.2.2 Course structure of the major English in M. Ed.

There are altogether Fifteen (15) papers, five papers carry 100 marks and ten papers carry 50 marks. Papers are divided into two major groups. Group A for specialization and it carries eleven papers; and group B for elective and it carries four papers. In elective group out of four papers only one paper will be offered by the concerned subject committee in the campuses for teaching learning processes.

Table No. 1
Specialization

S.N.	Course Title No.	Subjects	Marks
1	Eng. Ed. 511	Phonetics and phonology	100
2	Eng. Ed. 512	Grammar: Theory and practice	100
3	Eng. Ed. 513	Psycholinguistics and sociolinguistics	100
4	Eng. Ed. 504	Research Methodology in language education	50
5	Eng. Ed. 505	Language Testing	50
6	Eng. Ed. 551	Semantics and pragmatics	50
7	Eng. Ed. 552	Applied linguistics	100
8	Eng. Ed. 589	Thesis	50
9	Eng. Ed. 574	Discourse analysis	50
10	Eng. Ed. 590	Language teaching methods and practices	50
11	Eng. Ed.599	ELT practicum	50

Table No. 2
Electives

S.N.	Course title No.	Subjects	Marks
1	Eng. Ed. 571	English Literature and its Pedagogy	50
2	Eng. Ed. 572	Advanced Reading and Writing	50
3	Eng. Ed. 573	Translation Theory and Practice	50
4	Eng. Ed. 575	Second Language Acquisition	50

From the above data and description we know that at M. Ed. First year three specialization papers: Eng. Ed. 511 (Phonetics and phonology) Eng. Ed. 512 (Grammar: Theory and practice), Eng. Ed. 513 (psycholinguistics and sociolinguistics), are adopted. In second year Eight specialization papers: Eng. Ed. 504 (Research methodology in education), Eng. Ed. 505 (Language Testing), Eng. Ed. 551 (Semantics and Pragmatics) Eng. Ed. 552 (Applied linguistics) Eng. Ed. 589 (Thesis writing), Eng. Ed. 574 (Discourse Analysis) Eng. Ed. 590 (Language Teaching Methods and Practices) and Eng. Ed. 599 (ELT practicum) are adopted. In second year any one paper either Eng. Ed. 574 (Discourse analysis) or Eng. Ed. 589 (Thesis writing) is adopted as an option. Similarly, in the second year any one paper from elective group is adopted.

Student specializing in major English at M.Ed. level will study the above mentioned subjects. Each paper has prescribed different textbooks, reference materials to meet the objectives of the courses. In the context of T.U. , there is only the provision of annual examination system. According to the nature of course, written, oral and practical examinations are administered. But in M.Ed. first year in the subject phonetics and phonology' only annual written test is administered to measure the students' competence.

1.2.3 The syllabus of phonetics and phonology at M. Ed. First year

This is comprehensive course on general phonetics and phonology with emphasis on articulatory phonetics, classical phonology and generative phonology. It covers both the theoretical and practical aspects of these fields of study with special reference to the English language. This course comprises four units. The first unit deals with phonetics, the second unit deals with classical phonology, the third and fourth unit deal with generative phonology and phonological processes respectively.

Objectives of the course

The objectives of this course are:

-) To acquaint with the major theories of phonetics and phonology and with the principles, procedures, and techniques of phonemic and phonological analysis.
-) To able to identify, describe, classify, and produce the sound of the languages of the world.
-) To able to carryout phonemic and phonological analysis of a given language.
-) To familiar with recent development in phonology.
-) To familiar with various types of phonological process.

The content of this paper with distribution of marks and time is as follows:

Table No. 3

The contents with unit wise distribution of marks and time allotment of this paper

Unit	Contents	Marks	Time
I	Phonetics	40	40%
II	Classical phonology (phonemics)	30	30%
III	Generative phonology	20	20%
IV	Phonological process	10	10%

Source: CDC, T.U.

The more detail of this course contents is given in the appendix 1.

This paper, 'phonetics and phonology' carries 100 full marks. 40 is its pass marks. Through only external written examination and final examination the students competence is tested (here, in case of up to 2062 B.S. examination). Both subjective (short and long) as well as objective questions are administered in the test. 16 objective questions carrying 16 marks (i.e. 1 mark for each question) is asked in the objective test. Similarly, in case of subjective questions, 8 short questions are asked carrying 6 marks for each question. And 3 long questions carrying 12 marks for each question is the weightage of long question and any one of the long questions is asked with option and examinees have freedom of which one to be chosen out of two questions.

The 'Phonetics and phonology' test is guided by the principle that 16 objective questions, 8 subjective short questions, and 3 subjective long questions represent the whole course as well as their weighting suits according to its contents. The researcher is curious to know whether the test papers represent the whole course or not, and whether the weighting of the given test is proportional to the weighting of the course contents or not? Do

they measure what they intended to measure or not? So, to get such questions answers , the researcher needs to research in this topic.

1.3 Teaching and testing

Testing is an inherent part of teaching. Testing is an important to know the extent to which teaching has been effective in making the learners understand what has been taught. . . . (Khaniya 2005:1-2)

Language teaching and language testing are two sides of a coin one would be meaningless and incomplete in the absence of others. In this case, Heaton (1988:5) says "Both teaching and testing are so closely interrelated that it is virtually impossible to work in either field without being constantly concerned with the others". Here, he means to say that in some situations test is geared to teaching i.e. to motivate the students and to reinforce learning and in some situations. teaching is geared to the test i.e. to assess the student's performance in language. With the help of testing we can find the areas that need more attention and we can do the remedial works in teaching. Davies (1968:5) says "The good test is an obedient servant since it follows and apes the teaching" but Hughes (1989:2) doesn't agree this. He argues that the proper relationship between teaching and testing is surely that of partnership. He views that in some occasions the teaching may be good and appropriate and the testing leads to harmful washback and in some occasions teaching may be poor or inappropriate and testing is able to exert a beneficial influence. So we should not expect testing only to follow teaching but to be supportive of good teaching and, where necessary, exert a positive influence on bad teaching.

From the above definitions and arguments what we can conclude is that teaching and testing are interrelated. They are like a teacher and the students

and the meaning of one exists only if the presence of other is there. Teaching without testing is like searching a black cat in the dark room.

1.3.1 Types of Testing

Tests are administered for different purposes. Every test is full of certain purpose. The major purpose of any test is to elicit information from the learners so that we can make a decision whether they are progressing towards expected direction or not. The purpose of test is not only to test learning achievement but also to provide feedback for students, teachers and the teaching learning programme as a whole.

These days, many types of tests are administered as a means of educational measurement. "From the marking point of view all tests fall into one of two categories: objective or subjective. The objective test has only one correct answer, but the subjective test may result in a range of possible answers, some of which are more acceptable than others. "It is not really the tests which are objective or subjective, but the system by which they are marked." Harrison (1983:25). In the same way Heaton (1988:25) also views the similar opening that he says subjective and objective are terms used to refer to the scoring of the tests. All test items, no matter how they are devised, require candidates to exercise a subjective judgment. In an essay test, for example, candidates must think of what to say and then express their ideas as well as possible: in a multiple choice test they have to weigh up carefully all the alternatives and select the best one. Further more, all tests are constructed subjectively by the tester, who decides which area of language to test, how to test those particular areas, and what kind of items to use for this purpose. Thus, it is only the scoring of a test that can be described as objective. This means that a testee will score the same mark no matter which examiner marks the test. Thus, objective marking is successful with multiple

choice and true-false items. Our attempt should be to make the scoring as objective as possible or to obtain reliable subjective scoring.

a. Subjective test

It is a test which is scored according to the personal or individual judgment of the scorer. So, in subjective test, scoring varies from one examiner to another. In subjective testing we are asked to write the answers, in our own words, and at appropriate length, of all or some of a relatively small number of questions. We (examinees) should recall and express our ideas in written form (if it is written examination) organizing in coherent and cohesive manner making judgment. Short/long answer question, essays, compositions letters etc. are the types of subjective test. In such tests the examinees get wide range of freedom in the choice of vocabulary items, language structures etc. subjective questions are relatively easier to construct, useful to check the creativity and communication, wide range of freedom etc. but difficulty to score, less reliable and can't cover the whole course. The common drawback is that the writing trick of the examinee may lead the examiner (scorer) to the misjudgment. Any common error in the structure can unfavorably influence the scorer's judgement.

b. Objectives test

In objective test a scorer will score the same mark no matter which examiner scores his/ her test. Answers are not affected by the subjective exaggeration of the examinee. Objective tests have only one correct answer or at least, a limited number of correct answers. Thus, they can be scored mechanically and there is not place of subjectivity in the sense that no evaluation judgment is needed on the part of the examiner. These types of tests have more content coverage, are easier to mark and more reliable than

subjective tests. Objective tests are frequently criticized on the ground that they are simpler to answer than subjective test. Another criticism is that objective tests of multiple choice item encourages guessing. Difficult to construct, can not test creativity etc are its other demerits.

Different kinds of objective test are:

- i. multiple choice items
- ii. Fill in the blanks
- iii. True and false item
- iv. Matching

Among different kinds of objective tests, multiple choice item is the more popular one. Though it encourages guessing four/ five alternatives can be given . for e.g.

STEM: The sentence, 'My boss has bought his daughter a flat' has categorical description.

- a. NP-VP-NP-NP
- b. NP-VP-NP ADJ. P
- c. NP-VP- Adj- P- NP
- d. NP-VP- VP- MNP

1.4 Validity

Validity is one of the main qualities of a good test other being the reliability and practicality. It is natural that the language tester should establish the quality of test. The quality of test is established by means of validity . Validity is the most important notion in the test evaluation. Heaton (1988:159) defines validity as "The validity of the test is the extent to which it measures what it is supposed to measure and nothing else". In other words if a test which is designed to measure speaking actually measures the same then it is a valid test. One of the most important question attached with validity is 'Are we measuring what we think we are measuring?' If so our test achieves validity. In this sense, validity is a matter of relevance. For a test to be valid, the content and condition must be relevant. One can't test learner's spoken skill in English by asking a question about the history of American literature. Here the problem of content is far greater than the problem of language. The student without sound knowledge in English literature can't speak even a single sentence about history of American literature. Here the test is assessing the learner's intelligence rather than his knowledge of English language. Such test can't achieve validity. In this sense, validity ensures meaningfulness of the test. The test is meaningful only if it relates its content with already defined purpose.

The term validity should not be taken as absolute sense. The test valid for a particular level or purpose may not be valid for another level or purpose If a test designed to assess pronunciation skill is valid if it assesses the pronunciation skill but invalid with respect to other skills. Very often validity is a matter of degree. A test designed to assess a particular skill can not be said either absolutely valid or invalid. It is usually more or less valid.

There are different kinds of validity. They are content validity, face validity, construct validity and criterion related validity. But our main concern is only with content validity which is described below:

1.4.1 content validity

A test is said to have content validity if its test items are considered to be a representative sample of the course objectives. Heaton (1988: 160) says " content validity depends on a careful analysis of language being tested and of the particular course objectives. The test should be so constructed as to contain a representative sample of the course, the relationship between the test items and the course objectives always being the apparent .. ."

Brown (1976:122-123) says about content validity as "whether the items composing the test do, in fact constitute a representative sample of the content domain of concern".

According to Harrison, A. (1991:11), "Content validity is concerned with what goes into the test. The content of the test should be decided by considering the purposes of the assessment, and then drawn up as a list known as content specification. The content specification is important because it ensures as far as possible that the test reflects all the areas to be assessed in suitable proportions and also because it represents a balanced sample, without bias towards the kinds of items which are easiest to write or towards the test materials which happens to be available". So, here content should go in accordance with objectives and test specification chart should be made in advance to maintain content validity.

About content validity Richards et al. (1999:81) says, "Content validity is a form of validity which is based on the degree to which a test adequately and sufficiently measures the particular skills or behaviour it sets out to measure.

For example, a test of pronunciation skills in a language would have low content validity if it tested only some of the skills which are required for accurate pronunciation, such as a test which tested the ability to pronounce isolated sounds, but not stress, intonation or the pronunciation of sounds within words".

"A test is said to have content validity if its content constitute a representative sample of the language skills, structures, etc. with which it is meant to be concerned. It is obvious that a grammar test, for instance, must be made up of items testing knowledge or control of grammar. But this in itself does not ensure content validity. The test would have content validity only if it included a proper sample of the relevant structures. Just what are the relevant structures will depend, of course up on the purpose of the test. . . . In order to judge whether or not a test has content validity, we need a specification of the skills or structured etc. that it is meant to cover. Such specification should be made at a very early stage in test construction. It is not to be expected that everything in the specification will always appear in the test, there may simply be too many things for all of them to appear in a single test. But it will provide a test constructor with the basis for making a principled selection of elements for inclusion in the test. A comparison of test specification and test content is the basis for judgment as to content validity. Ideally these judgments should be made by people who are familiar with language teaching and testing but who are not directly concerned with the production of the test in question The greater the test's content validity, the more likely it is to be an accurate measure of what it is supposed to measure Too often the content of the test is determined by what is easy to test rather than what is important to test. The safeguard against this is to write full test specifications and to ensure that the test content is a fair reflection of these'. Hughes (1989:22).

Thus, observing the above different views presented by different authors on content validity we can say that in a test all the subject matter taught and learnt in a whole year can not be included. Like this, areas which are not tested are likely to become areas ignored in teaching and learning. For this, the test writer should sample certain items out of total course thinking that these selected items are the genuine representation of the total course. Before writing any language test, the test writer has to prepare the table of the test specification, describing in clear and precise terms the particular skills and areas to be included in the test. For example, if we have to prepare a test of grammar we should divide the grammatical skills into different areas and each of the areas should be given a percentage weighting (e.g. preposition 10% article 5%, tense 20%, and so on). Thus what to be included in the test can be decided by the expose of the test and table of test specification. Content validity covers mainly two things: content coverage and content weighting. So, the test items should be prepared carrying the two principles: content coverage and content weighting only then the test would have content validity. In this regard the researcher wants to research in the topic 'Content validity of phonetics and phonology exam at M.Ed. Level' to find out whether the constructed test papers contain a representative sample of the course or not; whether the weighting of the test items is proportional to the weightage of the course contents or not and so on by analyzing the test papers asked from 2057 to 2062 B.S. at M.Ed. first year.

1.4.2 Guidelines for establishing content validity;

Anastasi (1982:132) quoted in weir (1990:25) provided a set of useful guidelines for establishing content validity. They are:

- a. the behaviors domain to be tested must be systematically analyzed to make certain that all major aspects are covered by the test items, and in the correct proportions.
- b. the domain under consideration should be fully described in advanced, rather than being defined after the test has been prepared.
- c. Content validity depends on the relevance of the individual's test responses the behaviour area under consideration, rather than on the apparent relevance of item content.

From the above given guidelines what we can draw that the test designer should analyze the behaviour domain to be tested systematically so that the test items in the correct proportions, would cover all major aspects. The behaviour domain under consideration should be described in detail before designing the test, and the relevance of the responses made by the individual test to the behaviour area under consideration is the key while analyzing content validity.

According to Bachman (1998), Content relevance and content coverage are the two aspects which are helpful to examine the actual content validity of the test. Harrison (1991) views "Content validity is established by considering the purpose of the assessment and then drawing up a content list known as a content specification" But Heaton (1988) focuses on two main aspects that are helpful to examine the content validity of the test. They are content representativeness (coverage) and content weightage.

The researcher has used Heaton's (1988) views about content representativeness /coverage and content weighting to measure the content validity of phonetics and phonology exams at M.Ed. first year administered from 2057 to 2062 B.S.

a) Content Representativeness (Content Coverage)

Comparison between course contents and test content is the key to find out the content validity in terms of contents representativeness/ coverage of the test. Content coverage is the extent to which the tasks required in the test adequately represents the behavioural domain in questions. Hughes (14989) views that content validity depends on how many of the functions are tested in the component and how representative they are of the complete set of functions included in the objectives. Like this, Harrison (1983) claims that content validity is established by considering the purposes of the assessment and then drawing up a content lists. Similarly, Heaton (1988) claims that content validity is established in a test by considering the representative sample of the course. It is the fact that no test can be fully valid and fully invalid. So, to obtain 100 percent validity in the test is almost impossible. While evaluating the content validity of the test, if the test items represent above 60 percent of the course contents, it is believed that the test paper is nearer to the content validity. If it is below sixty percent then it is supposed to have poor content validity. Thus a test is judged as having content validity when the test items represent the course contents and course objectives. The more test items are constructed, the more chances of having content validity. If all teaching units are covered in test it is supposed to have content validity.

b. Content weightage

Comparison between course content weighting and test content weighting is another key to findout the content validity in terms of content weighting of the test. Weighting is the distribution of marks according to the specified contents. In any syllabus, there is specified the unit wise weighting of the

course. A test should strictly obey the specified (scheduled) weighting of the course contents in the test contents (papers) to get content validity otherwise test papers would not have content validity.

The following scheduled (specified) weighting is recommended in the course entitled phonetics and phonology of M.Ed. first year.

Table No. 4
Content weighting

Unit	Weighting (Marks)
I	40
II	30
III	20
IV	10
Total	100

If the phonetics and phonology test papers strictly obey the above presented content weighting in every year's test items, then the test papers would get content validity, otherwise they would not.

1.5 Literature Review

Though there are some research works held related in the field of phonetics and phonology, none of the researches are carried out to find out the content validity of phonetics and phonology exam at M.Ed. level. However, some of the researches nearer to the present topic are reviewed below.

Khaniya (1990) has conducted a research on " Examination as instruments for educational change: Investigating the Washback effect of Nepalese English Exam" and comes to the conclusion that SLC exam fails to assess the language skills that the SLC English course intends to develop in students . . . because of its textbook and previous exam papers oriented nature, it does not encourage students and teachers to focus on language

skills entailed in the objectives (Khaniya 1990:245). Finally he has concluded that:

- i. Washback is an inherent quality of exam,
- ii. Ingredients of exam determine whether the washback is negative or positive, and
- iii. Teaching for final exam is inevitable.

Khanal (1997) carried out a research work on " A study on the Effectiveness of Cloze Test over Conventional Objective Tests in Testing Reading Comprehension in English". The objective of the study was to compare the effectiveness of the two types of tests Viz. close test vs. objective test in testing reading Comprehension. The study concluded that the private school students' performance in both objective and close tests was better than public school students' performance and that the close test was far better than the objective test in testing reading comprehension.

Batala (2004) conducted research entitled 'A study on the Validity of the SLC examination English question paper'. The objective of this research was to examine the predictive and content validity of the SLC examination English question paper. He administered three different sets of questionnaires, one to the secondary level English teacher, the next to the students and the last to the question setters. He found out that the SLC examination English question paper had very low predictive validity. The coefficient of correlation between two sets of scores on the SLC and grade 11 English examinations was +0.1. He also found that the content representation of the test is high (72.86 percent) . In terms of weighting the marks weighting to each skill in the test paper is not proportional to the weighting of its course contents.

Aryal (2005) carried out a research work on "Quality of English Exam: A case of content validity of Grade Twelve compulsory exam, 2061". He has analyzed the question paper from different angles (by rubrics, lengths, difficulty level, and content coverage). The study concluded that the rubric of the all questions was simple, scientific except few items; the length of the question matches to the allotment of time for the examinees; the questions of English are moderate difficulty level; the questions related to heritage of words lack content validity and unscientific. They don't cover all genres equally; the content validity of Meaning into Words is nearer to the coverage of units and teaching items in comparison with heritage of Words.

Ojha (2005) conducted research entitled 'Content validity of ELT Theories and methods exam at B. Ed. Level'. The objective of his research was to examine the content validity of ELT Theories and methods tests at B. Ed. second year in terms of content coverage and content weighting. To fulfill the objective, he analyzed the test papers administered in the annual examination from 2057 to 2061. The findings of his research work are that in terms of content coverage, the test papers have good contents validity

(57.61 percent) but in terms of content weighting the test papers lack content validity.

Nepal (2006) carried out research on "Content Validity of Examination: a case of Fundamentals of Language and Linguistics at B. Ed. Level". The findings of his study is that the Fundamentals of Language and Linguistics exams during six years (2057-2062) have high contents validity in terms of contents representativeness/ coverage and have low content validity in terms of content weighting.

The above mentioned research works are related to testing and few are related to content validity but this research work entitled "Content Validity of Phonetics and Phonology Exam at M. Ed. Level" is quite different from the above mentioned research works.

1.6 Objectives of the study

The study has the following objectives:

- i. To examine the content validity of question papers of Phonetics and Phonology at M. Ed. First year administered during 2057 to 2062 B.S. in terms of:
 - a. content coverage
 - b. content weighting
- ii. To compare the test papers in terms of content validity.
- iii. To suggest some pedagogical implications.

1.7 Significance of the study

This research work is a distinct research work in the department of English language education because no research has been done yet in the present topic. So, it will be, most importantly, useful for the department. This study will provide information on whether the administered tests of phonetics and phonology have content validity or not. For the test designers, it would give some guidelines to make a test valid. Thus, this study will be beneficial to all those who are concerned with language teaching and testing, more particularly teachers and the test designers who are involved in the teaching and testing of phonetics and phonology at M.Ed. first year major English. It will also help to set valid question papers having content validity. If the teachers and test designers are familiar with construction the test papers having content validity, they will be aware of the variation and mistakes hidden in constructing test and try to minimize them. So, it will help to make any examination or test more valid. Hopefully this research work will be significant to every one to get the idea in this field.

1.8 Definition of the Specific terms

Validity: "Validity is the degree to which a test measures what it is supposed to measure, or can be used successfully for the purpose for which it is intended" (Richards et al., 1985: 304).

Content Validity: "Content validity is a form of VALIDITY which is based on the degree to which a test adequately and sufficiently measures the particular skills or behaviour it sets out to measure" (Richards et al., 1985:61)

Washback: Washback is the effect of testing on teaching and learning. It can be harmful or beneficial.

Content coverage (Representativeness)

It is the extent to which the tasks required in the test adequately represent the behaviour domain in the question.

Content weighting: It is the distribution of marks according to the specified contents.

Optional question (s): Two test items in the same question number from which the testees have to choose any one.

Reliability: It is "a measure of the degree to which a test gives consistent result" (Longman Dictionary of Applied Linguistics, 1985:243).

CHAPTER TWO

METHODOLOGY

The researcher had adopted the following methodology during the study in order to achieve the specified objectives.

2.1 Sources of data

The researcher had used only secondary sources of data for the proposed study.

2.1.1 Secondary sources of data

The secondary source of data for this study were the subjective and objective question papers administered in the annual examination of phonetics and phonology at M.Ed. first year from 2057 to 2062 B.S. The researcher also used different books on phonetics and phonology, testing articles, journals and research reports available in related topic.

2.2 process of data collection

The researcher collected the six years' (2057 to 2062 B.S.) question papers on the subject entitled phonetics and phonology at M. Ed. first year major English which were administered in T.U. containing both objective and subjective questions. Then he categorized all the items in the question papers unitwise based on the course contents given in the syllabus. For the purpose of examining content coverage he matched the test content language items with the course content language items.

For the purpose of examining content weighting he counted the total number of questions asked from a particular unit in the particular year and calculated the total marks they carry. He calculated the average weighting of each unit during six years and matched it to the unit wise allocation of marks specified in the syllabubs. He also compared the content validity of 6 years (i. e. 2057-2062) test papers on the specified subject.

2.3 Limitations of the study

The basic limitations of the study were as follows:

- a. The area of the study, as indicated by the title, was limited to a small portion of language testing viz content validity,

- b. The data were analyzed only in terms of content coverage and content weighting.
- c. Only the question papers administered in the annual written examination from 2057 to 2062 (six years) were used for data collection to meet the specified objectives.
- d. Only tabulation and percentage were used as the statistical tools for data analysis.

CHAPTER THREE

ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data. This is the central part of the study as it is concerned with the analysis and interpretation of the raw data obtained to evaluate the content validity of phonetics and phonology examination at M. Ed. First year. For this purpose this chapter has been divided into two parts. The first part deals with the analysis of content validity of the phonetics and phonology tests in terms of coverage, and the second part deals the content validity of the same subject in terms of weighting. With a view to making the study more objective and effective, the analysis and interpretation of the data was carried out using the statistical tools of tabulation and percentage.

3.1 Analysis and interpretation of content coverage (representativeness)

This sub topic deals with the analysis and interpretation of content coverage (representativeness) of phonetics and phonology exams administered from 2057 to 2062 B.S. of its subjective as well as objective questions. Content coverage is the comparison between course contents and test contents. So, the researcher examined the test papers to findout whether the test items are the representative sample of the course objectives/ contents.

It is assumed that above 50 percent of the coverage of content of the test papers is nearer to content validity. If it below 50 percent , then it is supposed to lack content validity. Like this, if more than 60 percent course contents are covered in a test then it is supposed to have high content validity.

3.1.1 Analysis of content representiveness (Coverage) in unit one.

Table No. 5

Representation of test contents in terms of course contents in unit one

S.N.	Course contents	Test contents					
		Test items represented					
Unit I	Phonetics	2057	2058	2059	2060	2061	2062
1.1	Semiotics and linguistics	S ²			O ¹	O ⁹ S ²	O ¹
1.2	Linguistics and phonetics	S ²					
1.3	Definition of phonetics			O ⁹			
1.4	Objectives of phonetics: primary and secondary		O ⁹				
1.5	Branches of phonetics: articulatory, acoustic and audiotory		S ²			O ¹	O ²
1.6	Organs of speech: recognition and drawing diagrams	O ¹					
1.7	Process of speech production						SL ^{9a} (opt)
1.7.1	Air stream mechanism	O ²	O ¹ S ³	S ^{3b} (p:opt)	O ² S ²	O ²	SL ^{9a} (opt)
	Classification: egressive and ingressive, Pulmonic, glottalic and voltaic						
	Stop: plosive, ejective implosive and click			S ^{3b} (p:opt)			
1.7.2	Phonation process; various states of the glottis		O ³	O ¹⁰	O ³	SL ^{9a} (opt)	SL ^{9a} (opt)
1.7.3	Oro-nasal process; oral, nasal, and nasalized sound	S ³					SL ^{9a} (opt)
1.7.4	Articulator process (articulation)			S ²			SL ^{9a} (opt)
	Definition of articulation and articulators						
	Classification of articulators	O ¹⁰					
	Broad classification of speech sounds						
	- Articulatory: vocoid and contoid	S ^{4a} (p:opt)				S ^{4c} :(p:opt)	
	- Functional: syllabic and non- syllabic			S ^{3c} (p:opt)			
	- combined: vowel,						

	consonant semivowel, and syllabic consonant						
1.8	Consonants/ contoids	O ⁹					
1.8.1	Three term description	O ⁸ O ¹¹	O ²				O ¹⁶ S ²
	Voicing						
	Place of articulation						
	Manner of articulation						
1.8.2	Detailed description						
1.8.3	comprehensive classification: IPA consonant chart	S ¹	S ¹ S ³	S ¹	S ¹	S ¹	S ¹
1.8.4	Recognition and production						O ⁴
1.9	Vowels/ vocoids		O ¹⁰			O ⁴	
1.9.1	Basic distinction	S ^{4b} (p:opt)					S ^{4a} (p:op)
	quantity vs. quality						
	Short vs long						
	Monophthong vs. diphthong						
	Diphthong VS. vowel sequence						
1.9.2	Three term description of monophthongs					S ³	
	Tongue position along the vertical axis						
	Tongue position along the horizontal axis						
	Lip posture						
1.9.3	Description and classification of diphthongs						
	Closing/ up gliding and centering						
	Falling, rising, and leveled						
1.9.4	Recognition and production				O ¹¹		
1.10	Cardinal vowels		SL ⁹			O ¹²	
1.10.1	Definition		SL ⁹				
1.10.2	Theory and limitations		SL ⁹		S ³		
1.10.3	Primary and secondary		SL ⁹			S ^{4b} (p:opt)	
1.10.4	Recognition and production	O ³	SL ⁹	O ²	O ¹²	O ³	O ³
1.11	Stops						
1.11.1	Three phases of a stop			O ¹			
1.11.2	Stops without onset and stops without release						O ¹⁰ S ^{4b} (p:opt)
1.11.3	Stops with nasal, lateral, and oral release				O ¹⁰	O ¹⁰	

1.11.4	Aspiration and affrication	S ^{4c} (p:opt)				S ^{4a} (p:opt) O ⁷	O ¹²
1.12	Forces of articulation						
1.12.1	Fortis vs lenis						
1.12.2	Tense vs lax						
1.13	Co-articulation, secondary articulation and double articulation			S ^{3a} (p:op)	SL ^{9a} : (opt)		S ³
1.14	Syllable: definitions, division structure and type	SL ^{9b} (opt)	O ⁵	SL ^{9b} (opt)			SL ^{9b} (opt)
1.15	Suprasegmental features: length, stress, tone, intonation, rhythm and juncture	SL ^{9b} (opt)		SL ^{9a} (opt)	O ⁴ SL ^{9b} : (opt)	SL ^{9b} (opt)	
1.16	Diacritics		S ⁴				
	Total no of asked questions in unit one	0-7 S-S-4 (1 opt) SL-2 (1 opt)	0-6 S.S.4 SL-1	0-4 S.S-3 (1 opt) SL-2 (1 opt)	0-7 S.S-3 SL-2 (1 opt)	0-8 S.S-4 (1 opt) SL-2 (1 opt)	0-7 S.S-4 (1 opt) SL-2 (1 opt_
	Total marks = 40	43+(15 with choice)	42	34+(15 with choice)	37+(12with choice)	44+ (15 with choice)	40+ (15 with choice)

Note: S²= subjective short question No. 2

O³ = objective question no. 3

S^{L9b} (Opt) = subjective long question no. 9 b which is optional.

S^{4b} (p: opt) = subjective short question no. 4b which is both partial and optional.

The table given above shows that in unit one there are altogether 58 language items spread over 1 to 1.16. Out of 58 language items, 43 language items were represented within six years (2057 to 2062). If we see diachronically, among 43 language items, the most represented ones are 1.7.1 (Airstream mechanism), 1.8.3 (Comprehensive classification: IPA consonant chart) and 1.10.4 (Recognition and production of cardinal vowels) which were represented in each and every years examination form 2057 to 2062. Similarly, 1.7.2 (Phonation process various states of the glottis) was represented in five years out of six years. 1.1 (Semiotics and linguistics), 1.14 (Syllable: definition, division, structure and type), and 1.15

(Suprasegmental features: length, stress, tone intonation, rhythm and juncture) were represented in four years out of 6 years 1.5 (Branches of phonetics: articulatory, acoustic and auditory), 1.8.1 (three term description), 1.11.4 (Aspiration and affrication) and 1.13 (Coarticulation, secondary articulation and double articulation) were represented in three years. 1.7.3 (oro-nasal process: oral, nasal and nasalized sounds), 1.7.4 (Articulatory process), (Classification of articulators) and (articulatory: vocoid and contoid), 1.9 (vowels/conoids), 1.10 (cardinal vowels), 1.10.2 (Theory and limitation of cardinal vowels), 1.10.3 (primary and secondary of cardinal vowels) and 1.11.3 (stops with nasal, lateral and oral release) were represented in two years. And others remaining were represented in only one year out of six years. The language items not represented were 1.7.4 (Definition of articulation and articulators, broad classification of speech sounds, combined: vowel, consonant, semivowel, and syllabic consonant), 1.8.1 (voicing and place of articulation), 1.8.3 (Detailed description), 1.9.1 (Quantity Vs quality, short Vs. long), 1.9.3 (Description and classification of diphthongs classing/up gliding and centering - falling, rising and leveled) 1.11 (stops), 1.12 (force of articulation), 1.12.1 (fortis vs lenis) and 1.12.2 (Tense Vs. lax)

If we see synchronically, in 2057, seven objective questions, four subjective short questions and two subjective long questions were asked from unit one. In case of objective questions, the first (O¹) was asked from 1.6 (organ of speech), the second (O²) was asked from 1.7.1 (Air stream mechanism), the third (O¹⁰) was asked from 1.7.4 (Articulatory process-classification of articulators), the fourth (O⁹) was asked from 1.8 (consonants/contoids), the fifth (O⁸) and the sixth (O¹¹) were asked from 1.8.1 (Three term description - manner of articulation) and the seventh (O³) was asked from 1.10.4 (Recognition and production of cardinal vowels). In case of subjective short

questions, the first subjective short question (S^2) was asked from 1.1 (Semiotics and linguistic) and 1.2 (Linguistics and phonetics), the second (S^3) was asked from 1.7.3 (oro - nasal process: oral, nasal and nasalized sounds), the third (S^1) was asked from 1.8.3 (Comprehensive classification: IPA consonant chart) and the fourth (S^{4a} , S^{4b} and S^{4c}) was asked from 1.7.4 (Articulatory: vocoid and contoid), 1.9.1 (Basic distinction: Monophthong Vs. diphthong) and 1.11.4 (Aspiration and affrication). The fourth question was both partial and optional in the sense that the examinees had to choose any two out of three options. In case of subjective long questions, the first long question (SL^{9a}) was asked from 1.14 (syllable: definition, division, structure and type) and the second long question (SL^{9b}) was asked from 1.15 (Suprasegmental features: length stress . . .). Both long questions were in optional position to each other.

In 2058, Six objective questions, four subjective short questions and one subjective long question were asked from this unit. In case of objective questions, the first (O^9) was asked from 1.4 (Objectives of phonetics: primary and secondary), the second (O^1) was asked from 1.7.1 (Air stream mechanism), the third (O^3) was asked from 1.7.2 (phonation process: various states of the glottis), the fourth (O^2) was asked from 1.8.1 (Three term description), the fifth (O^{10}) was asked from 1.9 (vowels/vocoids) and the sixth (O^5) was asked from 1.14 (Syllable: definition . . .). In case of subjective short questions, the first (S^2) was asked from 1.5 (Branches of phonetics: articulatory . . .), the second (S^3) was collectively asked from 1.7.1 (air stream mechanism) and 1.8.3 (Comprehensive classification: IPA consonant chart), the third (S^1) was asked from 1.8.3 (comprehensive classification: IPA consonant chart), and the fourth (S^4) was asked from 1.16 (Diacritics). In case of subjective long question, the only one long question (SL^9) was collectively asked from 1.10 (cardinal vowels).

In 2059, Four objective questions, three subjective short questions and two subjective long questions were asked from this unit. In case of objective questions, the first (O⁹) was asked from 1.3 (definition of phonetics), the second (O¹⁰) was asked from 1.7.2 (Phonation process: various states of the glottis), the third (O²) was asked from 1.10.4 (Recognition and production of cardinal vowels), and the fourth (O¹) was asked from 1.11.1 (three phases of a stop). In case of subjective short questions, the first (S¹) was asked from 1.8.3 (comprehensive classification: IPA consonant chart), the second (S²) was asked from 1.7.4 (articulatory process: classification of articulators), the third (S^{3a}), (S^{3b}) and (S^{3c}) was collectively asked from 1.13 (co articulation, secondary . . .), 1.7.1 (Airstream mechanism) and 1.7.4 (Functional: syllabic and non-syllabic)- as an optional and partial position. In case of subjective long questions, the first long question (SL^{9a}) was asked from 1.15 (Suprasegmental features: length . . .) and the second long question (SL^{9b}) was asked from 1.14 (syllable: definitions . . .). Both long questions were in optional position in choice to each other.

In 2060, Seven objective questions, three subjective short questions and two subjective long questions were asked from this unit. In case of objective questions, the first (O¹) was asked from 1.1 (semiotics and linguistics), the second (O²) was asked from 1.7.1 (Air stream mechanism), the third (O³) was asked from 1.7.2 (Phonation process: various states of the glottis), the fourth (O¹¹) was asked from 1.9.4 (Recognition and production of vowels/vocoids), the fifth (O¹²) was asked from 1.10.4 (Recognition and production of cardinal vowels), the sixth (O¹⁰) was asked from 1.11.3 (stops with nasal . . .) and the seventh (O⁴) was asked from 1.15 (Suprasegmental features: length, stress . . .). In case of subjective short questions, the first subjective question (S²) was asked from 1.7.1 (Air stream mechanism), the second (S¹) was asked from 1.8.3 (comprehensive classification: IPA

consonant chart), and the third (O^{S3}) was asked from 1.10.2 (Theory and limitation of cardinal vowels). In case of subjective long questions, the first long question (SL^{9a}) was asked from 1.13 (co articulation, secondary articulation and double articulation) and the second long question (SL^{9b}) was asked from 1.15 (Suprasegmental features: length, stress . . .). The long questions were in optional position in choice to each other.

In 2061, eight objective questions, four subjective short questions and two subjective long questions were asked from this unit. In case of objective questions, the first objective (O⁹) was asked from 1.1 (semiotics and linguistics), the second (O¹) was asked from 1.5 (Branches of Phonetics: articulatory, acoustic and audiotory), the third (O²) was asked from 1.7.1 (Airstream mechanism), the fourth (O⁴) was asked from 1.9 (vowels/vocoids), the fifth (O¹²) was asked from 1.10 *(Cardinal vowels), the sixth (O³) was from 1.10.4 (Recognition and production of cardinal vowels), the seventh (O¹⁰) was from 1.11.3 (stops with nasal . . .) and the eighth (O⁷) was from 1.11.4 (Aspiration And Affrication). In case of subjective short questions, the first (S²) was asked from 1.1 (Semiotics and linguistics), the second (S¹) was asked from 1.8.3 (comprehensive classification : IPA consonant chart), the third (S³) was asked from 1.9.2 (Three term description of monophthongs), and the fourth (S^{4a}, S^{4b} and S^{4c}) was asked from 1.11.4 (Aspiration and affrication), 1.10.3 (Primary and secondary cardinal vowels) and 1.7.4 (Articulatory: vocoids and contoids) as in optional as well as partial position. In case of subjective long questions, the first long question (SL^{9a}) was asked from 1.7.2 (Phonation process: various states of the glottis) and the second long question (SL^{9b}) was asked from 1.15 (suprasegmental features: length, stress . . .). The long questions were in choice form and optional position to each other.

In 2062, Seven objective questions, four subjective short questions and two subjective long questions were asked from this unit. In case of objective questions, the first (O¹) was asked from 1.1 (Semiotics and linguistics), the second (O²) was asked from 1.5 (Branches of phonetics: articulatory, acoustic and auditory), the third (O¹⁶) was asked from 1.8.1 (Three term description: manner of articulation), the fourth (O⁴) was asked from 1.8.4 (Recognition and production), the fifth (O³) was asked from 1.10.4 (Recognition and production of cardinal vowels), the sixth (O¹⁰) was asked from 1.11.2 (stops with onset and . . .) and the seventh (O¹²) was asked from 1.11.4 (Aspiration and affrication). In case of subjective short questions, the first (S²) was asked from 1.8.1 (free term description: manner of articulation), the second (S¹) was asked from 1.8.3 (comprehensive classification: IPA consonant chart), the third (S³) was asked from 1.13 (Coarticulation, secondary articulation and double articulation) and the fourth (S^a S^{4b}) was asked from 1.9.1 (Basic distinction: diphthong Vs. vowel sequence) and 1.11.2 (Stops without onset and stops without release). In case of subjective long questions, the first long question (S^{9a}) was collectively asked from 1.7 (Process of speech production) and the second long question (SL^{9b}) was asked from 1.14 (syllable: definitions, division, structure and type). Both long questions were asked with choice in optional position to each other.

Repeated Test Items

After analyzing the table, the researcher found that from unit one, within six years, there were some repetitions in objective and subjective questions. In case of objectives question, 2061⁰¹ and 2062⁰¹ were exactly the same and they were from 1.5 (Branches of phonetics: articulatory . . .). 2058⁰¹ was

exactly the same as 2061⁰² and they were from 1.7.1 (air stream mechanism). 2057⁰³ was exactly similar to 2062⁰³ and they were from 1.10.4 (Recognition and production of cardinal vowels). In case of subjective short questions, 2057^{S4a} and 2061^{S4c} were exactly the same and they were from 1.7.4 (Articulatory: vocoid and contoid). 2058^{S1} was partially similar to 2061^{S1} (where out of Six small numbers two were exactly the same) .2057^{S4} was exactly similar to 2061^{4a} and they were from 1.11.4 (Aspiration and affrication). Similarly, 2059^{S3a} and 2062^{S3} were the same from 1.13 (Coarticulation, secondary. . .). In case of subjective long questions, 2061^{S19a} and 2062^{S19b} were partially same they were asked from 1.7 (Process of speech production). 2057^{SL9a} was similar to 2059^{SL9b}. The only difference was the wording. They were asked from 1.14 (Syllable: definition, devising, structure and types). Similarly, 2057^{SL9b}, 2059^{SL9a}, 2060^{SL9b} and 2061^{SL9b} were exactly the same. They all were from 1.15 (Suprasegmental features: stress, tone . . .).

In conclusion, the above presented table and description can be shown in the pie chart as follows:

Figure No. 1

From the above table and description, it is clear that there are altogether 58 language items in unit one from 1 to 1.16 according to course contents but the representation of language items in the test items were 43 language items during six years (2057-2063). 15 language items were neglected while constructing test items. It means the coverage of course contents in test contents in unit one is 74.14 percent. 25.86 percent contents were not covered in the question papers. That is to say, the content validity of the test papers in unit one is highly satisfactory.

3.1.2 Analysis of content representativeness (coverage) in unit two

Table No.: 6

Representation of test contents in terms of course objectives/contents in unit two.

S.N.	Course contents	Test contents					
	Course items	Test items represented					
Unit II	Classical Phonology (Phonemics)	2057	2058	2059	2060	2061	2062
2.1	Distinction between phonetics and phonology						O ⁹
2.2	Aims and functions of phonemic analysis		O ¹²				
2.3	Minimal and sub- minimal pairs, and types of minimal pairs		S ^{6a} (p.opt)				
2.4	Phone, phoneme and allophone	O ⁴ O ¹³	O ¹¹				
2.5	Principles of phonemic analysis	S ⁵		S ⁴			S ⁵
2.5.1	The principle of contrast and complementation	O ¹⁴ S ⁵	S ^{6c} (p. opt)	O ¹¹ S ⁴			S ⁵
2.5.2	The principle of phonetics similarity	S ⁵	O ⁴	S ⁴			S ⁵
2.5.3	The principle of pattern congruity	S ⁵		S ⁴			S ⁵
2.5.4	The principle of economy	S ⁵		S ⁴			S ⁵
2.5.5	The principle of free variation	S ⁵		O ⁴ S ⁴		O ⁵	S ⁵
2.5.6	The principle of plausibility	S ⁵		S ⁴			O ⁸
2.6	procedures of phonemic analysis		S ⁵	S ⁵			
2.6.1	Data Collection						
	Elicitation Of Data						
	Transcription of Data						
2.6.2	Data analysis						
	Segmentation of utterances						
	Preparation of auspicious pairs						
	Identification of an						

	inventory of phones						
	Determination of phonemes and their allophones						
2.6.3	Presentation of the findings of analysis						
	Systematic presentation of the inventory of phonemes						
	Description of phonetic realizations (i.e. allophones) of each phoneme along with specification of their conditioning factors or context of occurrence.						
	Specification of the distributional limitation of phonemes – General Limitations - Individual Limitationw						
2.7	Different views of the phonemes		SL ^{10b} (opt)		S ⁴	S ⁶	
2.7.1	Phoneme as a phonetics reality		SL ^{10b} (opt)		S ⁴	S ⁶	
2.7.2	Phoneme as a phonological		SL ^{10b} (opt)		S ⁴ O ⁵	S ⁶	
2.7.3	Phoneme as a psychological reality		SL ^{10b} (opt)	O ¹²	S ⁴	S ⁶	
2.8	Neutralization and archiphoneme						
2.9	Phonemic overlapping: partial and complete	O ¹²	S ^{6b} (p: opt)				S ^{4c} (p.opt)
2.10	Exercises on phonemic analysis	SL ¹⁰	SL ¹¹	SL ¹¹	SL ¹¹	SL ¹¹	SL ¹¹
	Total no. of asked questions in unity two	0-4 S.S-1 SL-1	0-3 S.S.-2(1opt) S.L.2 (opt)	0-3 SS-2 SL-1	0-1 S S-1 SL-1	0-1 SS-1 SL- 1	0-2 SS-2 (1opt) SL-1
	total marks 30	22	27+(12opt)+3 (choice)	27	19	19	23+ (3 with choice and option)

The table given above shows that in unit two there are altogether 31 language items spread over 2 to 2.10. Out of 31 language items, there is only one language item which is not represented with in six year (2057 to 2062)..

It means all language items are represented except 2.8 (Neutralization and archiphoneme). If we see diachronically among 31 language items, the most represented one is 2.10 (Exercise on phonemic analysis) which was represented in each and every years' examination form 2057 to 2062. 2.5.1 (The principles of contrast and complementation), 2.5.2 (The principle of phonetic similarity) 2.5.5 (the principle of free variation) and 2.7.3 (phoneme as a psychological reality) were represented in four years out of six years. 2.5 (Principle of phonemic analysis), 2.5.3 (The principle of pattern congruity), 2.5.4 (The principle of economy), 2.5.6 (The principle of plausibility), 2.7 (different views of the phonemes), 2.7.1 (phoneme as a phonetic, reality), 2.7.2 (phoneme as a phonological reality), and 2.8 (Phonemic overlapping: partial and complete) were represented in three years out of six years. Similarly, 2.4 (Phone, phoneme and allophone), 2.6 (procedures of phonemic analysis), 2.6.1 (Data collection), 2.6.2 (Data analysis) and 2.6.3 (Presentation of the findings of analysis) were represented in two years out of six years. And remaining others were represented in only one year.

If we see synchronically, in 2057 four objective questions, one subjective short question and one subjective long question were asked from unit two. In case of objective questions, the first and second objective questions (O^4 and O^{13}) were asked from 2.4 (phone, phoneme and allophone), the third (O^{14}) was from 2.5.1 (the principle of contrast and complementation) and the fourth (O^{12}) was from 2.9 (phonemic overlapping: complete and partial). In case of subjective questions, the only one subjective short question (S^5) was collectively asked from 2.5 (Principles of phonemic analysis) and subjective long question (SL^{10}) was asked from 2.10 (exercise on phonemic analysis).

In 2058, three objective questions, two subjective short questions and two subjective long questions were asked from this unit. In case of objective questions, the first (O¹²) was asked from 2.2. (aims and functions of phonemic analysis), the second (O¹¹) was asked from 2.4 (phone phoneme and allophone) and the third (O⁴) was asked from 2.5.2 (the principle of phonetic similarity). In case of subjective short questions, the first subjective short question (S⁵) was asked from 2.6 (Procedure of phonemic analysis), and the second (S^{6a}, S^{6b} and S^{6c}) was collectively asked from 2.3 (minimal and sub minimal pairs and types of minimal pairs), 2.9 (Phonemic overlapping: partial and complete) and 2.5.1 (the principle of contrast and complementation) in partial and optional position in the sense that the examinees had to choose any two out of three options. Like this in case of subjective long questions, the first subjective long question (SL¹¹) was asked from 2.10 (exercise on phonemic analysis) and the second subjective long question in optional position (SL^{10b}) was collectively asked from 2.7 (Different views of the phonemes), 2.7.1 (Phoneme as a phonetic reality), 2.7.2 (phoneme as a phonological reality) and 2.7.3 (Phoneme as a psychological reality).

In 2059, three objective questions, two subjective short questions and one subjective long question were asked from this unit. In case of objective questions, the first objective question (O¹¹) was asked from 2.5.1 (the principle of contrast and complementation), the second (O⁴) was asked from 2.5.5 (the principle of free variation) and the third (O¹²) was asked from 2.7.3 (phoneme as a psychological reality). In case of subjective short questions, the first (S⁴) was collectively asked from 2.5 (Principles of phonemic analysis), 2.5.1 (The principle of contrast and complementation), 2.5.2 (The principle of phonetic similarity), 2.5.3 (The principle of pattern congruity), 2.5.4 (The principle of economy), 2.5.5 (The principle of free

variation) and 2.5.6 (the principle of plausibility) and the second (S⁵) was asked from 2.6 (procedure of phonemic analysis). The only one subjective long question (SL¹¹) was asked from 2.10 (Exercise on phonemic analysis).

In 2060, One objective, one subjective short question and one subjective long question were asked from this unit. The objective question (O⁵) was asked from 2.7.2 (Phoneme as a phonological reality), the subjective short question (S⁴) was collectively asked from 2.7 (Different views of the phonemes) and the subjective long question (SL¹¹) was asked from 2.10 (Exercise on phonemic analysis).

In 2061, one objective question, one subjective short question and one subjective long question were asked from this unit. The objective question (O⁵) was asked from 2.5.5 (The principle of free variation), the subjective short question (S⁶) was collectively asked from 2.7 (Different views of the phonemes) and the subjective long question (SL¹¹) was asked from 2.10 (Exercise of phonemic analysis).

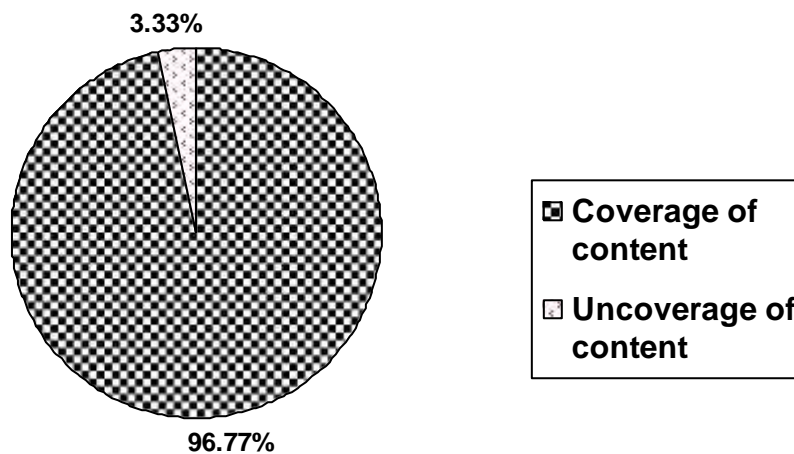
In 2062, two objective questions, two subjective short questions (where one is partial and optional) and one subjective long question were asked from this unit. In case of objective questions, the first (O⁹) was from 2.1 (Distinction between phonetics and phonology) and the second (O⁸) was from 2.5.6 (the principle of plausibility). In case of subjective short questions, the first subjective question (S⁵) was collectively asked from 2.5 (Principles of phonemic analysis) and the second (S^{4c}) was asked from 2.9 (Phonemic analysis) in partial and optional position. And the only one subjective long question SL¹¹ was asked from 2.10 (Exercise on phonemic analysis).

Repeated Test Items

After analyzing the above table the researcher had found that from unit two many more instances of repetition were there during six years. In case of objective test items, 2059 O⁴ and 2061O⁵ were the same. Only the wording was different. They were from 2.5.5 (The principle of free variation). In case of subjective short questions, 2057^{S5}, 2059^{S4} and 2062^{S5} were almost similar to each other and they all were from 2.5 (Principle of phonemic analysis). 2058 S⁵ was similar to 2059^{S5} and they were from 2.6 (Procedures of phonemic analysis) 2058^{SL10b}, 2060^{S4} and 2061S⁶ were partially similar to each other and they all were from 2.7 (Different views of the phonemes). Similarly, 2058S^{6b} was exactly the same as 2062 S^{4c} and they were from 2.9 phonemic overlapping: partial and complete). In case of subjective long questions, 2058 SL¹¹ was exactly the same as 2059 SL¹¹ and 2060 SL¹¹ was partially similar to 2061 SL¹¹. They all were from 2.10 (Exercise on phonemic analysis).

In conclusion, the above presented table and description can be shown in the pie chart as follows:

Figure. No. 2



From the above table and description, it is clear that there are altogether 31 language items in unit two from 2 to 2.10 according to course content and

the representation of the test items was 30 language times during six years. Only one language item was neglected with constructing test items. It means, the coverage of course contents in test content in unit two is 96.77 percent. 3.33 percent contents was not covered in the test papers. That is to say, the content validity of the test papers in unit two is highly satisfactory.

3.1.3 Analysis of Content Representiveness (Coverage) in Unit Three

Table No. 7

Representativeness of test Content in Terms of Course Content in Unit Three

S.N.	Course contents	Test contents					
	Course items	Test items represented					
Unit III	Generative Phonology	2057	2058	2059	2060	2061	2062
3.1	Generative grammar and generative phonology		SL ^{10a} (opt)		O ¹³ O ¹⁶		SL ¹⁰
3.2	Basic phonological feature						
3.2.1	Distinctive and redundant features	S ^{6a} (p:op)	O ¹⁴			O ¹⁴	O ⁶
3.2.2	Articulatory and acoustic features	S ^{6c} (p:op)					
3.2.3	Binary and non-binary features	S ^{6b} (p:op)		O ¹³	O ¹⁵		
3.3	Trubetzkoy's theory of distinctive oppositions	SL ¹¹				SL ¹⁰	
3.3.1	Bilateral, multilateral, proportional and isolated opposition	SL ¹¹			O ⁶	SL ¹⁰	O ⁵
3.3.2	Private, gradual and equipollent oppositions	SL ¹¹	O ¹⁵	O ⁵		SL ¹⁰	
3.3.3	Constant and neutralizable oppositions					SL ¹⁰	
3.4	The distinctive features of Jakobson and Halle			O ¹⁴			
3.4.1	The major class features			S ⁶			
3.4.2	The distinctive features of vowels	O ⁶					
3.4.3	The distinctive feature of consonants			O ⁷			

3.5	The distinctive features of Chomsky and Halle		O ¹³				
3.5.1	The major class features		S ⁷			S ⁵	O ¹⁵
3.5.2	The primary placement features for vowels and consonants				O ⁷ O ⁸	O ¹⁶	O ¹¹
3.6	Phonological rules				S ⁵	O ¹³	O ⁷
3.6.1	Formalizing of rules (rule writing)				S ⁸		
3.6.2	underlying of representations	S ⁷			SL ¹⁰		
3.6.3	Types of derivational rules	S ⁷			SL ¹⁰		S ⁸
	feature changing rules						
	Insertion and deletion rules						
	permutation rules						
3.6.4	Combining rules			S ⁷	S ⁸		
3.6.5	Rule collapsing and rule ordering	S ⁷		S ⁷	S ⁸	S ⁷	O ¹⁴
3.7	Phonological naturalness			SL ¹⁰	S ⁶		
3.7.1	Natural classes		O ⁶	SL ¹⁰	S ⁶		
3.7.2	Natural segments			SL ¹⁰	S ⁶		
3.7.3	Natural systems			SL ¹⁰	S ⁶		
3.7.4	Natural rules			O ⁶ SL ¹⁰	S ⁶	O ⁸	
3.8	Exercises on phonological analysis				S ⁵ S ⁸		S ⁸
3.9	Recent developments in phonology						
3.9.1	Auto segmental phonology				S ⁷	O ¹⁵	S ⁷
3.9.2	Metrical phonology						
3.9.3	Lexical phonology					S ⁸	
	Total no. of asked questions in unit three	O-1 SS-2 (1opt) SL-1	0-4 SS-1 SL-1 (opt)	0-5 S S-2 SL-1	0-6 SS-4 SL-1	0-5 SS-3 SL-1	0-6 SS-2 SL-1
	Total marks = 20	25+(3 with choice)	10+12 (opt)	29	42	35	30

The table given above shows that in unit three there are altogether 35 language items spread over 3 to 3.9.3. Out of 35 language items, 32 language items were represented with in six years. If we see diachronically, among 32 language items, the most represented one is 3.6.5 (Rule collapsing

and rule ordering) which was represented in five years out of six years. 3.2.1 (Distinctive and redundant features), 3.3.1 (Bilateral, multilateral, proportional and isolated oppositions), and 3.3.2 (Private, gradual and equipollent opposition) were represented in four years out of six years. Similarly, 3.1 (Generative grammar and generative phonology), 3.2.3 (Binary and non-binary features), 3.5.1 (The major class features of Chomsky and Halle), 3.5.2 (The primary placement features for vowels and consonants) 3.6 (phonological rules), 3.6.3 (types of derivational rules) 3.6.2 (underlying representations), 3.7.1 (natural classes) 3.7.4 (natural rules) 3.9.1 (Auto segmental phonology) were represented in three years out of six years' examinations. 3.3 (Trubetzkoy's theory of distinctive opposition), 3.6.4 (Combining rules), 3.7. (phonological naturalness), 3.7.2 (Natural Segments) , 3.7.3 (natural systems) and 3.8 (exercises on phonological analysis) were represented in two years and remaining others were represented in only one year.

If we see synchronically, in 2057, one objective question, two subjective short questions and one subjective long question were asked from unit three. The objective question was asked from 3.4.2 (The distinctive features of vowels)

In case of subjective short questions, the first subjective short question (S^{6a}) was asked from 3.2.1 (Distinctive and redundant features), (S^{6b}) was asked from 3.2.3 (Binary and non-binary features), (S^{6c}) was asked from 3.2.2 (Articulatory and acoustic features) in optional position in the sense that the examinees had to choose any two out of three options. The second subjective short question (S^7) was collectively asked from 3.6.2 (Underlying representation), 3.6.3 (Types of derivational rules) and 3.6.5 (Rule collapsing and rule ordering). In case of subjective long question, the only

one subjective long question was collectively asked from 3.3 - (Trubetzkay's theory of distinctive opposition), 3.3.1 (Bi-lateral, multilateral, proportional and isolated oppositions) and 3.3.2 (Private, Gradual and equipollent oppositions)

In 2058, four objective questions, one subjective short questions and one subjective long question in optional opposition were asked from this unit. In case of objective questions, the first objective question (O¹⁴) was asked from 3.2.1 (Distinctive and redundant features), the second (O¹⁵) was asked from 3.3.2 (Private, gradual and equipollent oppositions), the third (O¹³) was from 3.5 (The distinctive features of Chomsky and Halle) and the fourth (O⁶) was from 3.7.1 (Natural classes). In case of subjective questions, the only one subjective short question (s⁷) was asked from 3.5.1 (the major class features of Chomsky and Halle) and the only one subjective long question (SL^{10a}) was asked from 3.1 (Generative grammar and generative phonology) in optional position.

In 2059, five objective questions, two subjective short questions and one subjective long question were asked from this unit. In case of objective questions, the first (O¹³) was asked from 3.2.3 (Binary and non-binary features), the second (O⁵) was asked from 3.3.2 (Private, gradual and equipollent oppositions), the third (O¹⁴) was asked from 3.4 (The distinctive features of Jakobson and Halle). The fourth (O⁷) was asked from 3.4.3 (the distinctive feature of consonants) and the fifth (O⁶) was from 3.7.4 (Natural rules). In case of subjective short questions, the first subjective short question (S⁶) was asked from 3.4.1 (The major class features of Jakobson and Halle) and the second subjective question (S⁷) was collectively asked from 3.6.4 (combining rules) and 3.6.5 (Rule collapsing and rule ordering).

In case of subjective long question, the only one subjective long question (SL¹⁰) was collectively asked from 3.7 (Phonological naturalness).

In 2060, six objective questions, four subjective short questions and one subjective long question were asked from this unit. In case of objective questions, the first (O¹³) and the second (O¹⁶) were asked from 3.1 (Generative Grammar and generative phonology), the third (O¹⁵) was from 3.2.3 (Binary and non-binary features), the fourth (O⁶) was from 3.3.1 (Bitateral, multilateral, proportional and isolated oppositions) and the fifth (O⁷) and the sixth (O⁸) were from 3.5.2 (The primary placement features for vowels and consonants). In case of subjective short questions, the first subjective question (S⁵) was asked from 3.6 (Phonological rules) and 3.8 (Exercises on phonological analysis), the second subjective question (S⁶) was collectively asked from 3.7 (Phonological naturalness), the third (S⁸) was collectively asked from 3.6.1 (Formalizing of rules), 3.6.4 (combing rules) 3.6.5 (Rule collapsing and rule ordering) and 3.8 (Exercise on phonological analysis), and the fourth subjective question (S⁷) was asked from 3.9.1 (Auto segmental phonology). In case of subjective long question, the only one subjective long question (SL¹⁰) was collectively asked from 3.6.2 (Underlying representations) and 3.6.3 (types of derivational rules).

In 2061, five objective questions, three subjective short questions and one subjective long question were asked from this unit. In case of objective questions, the first objective question (O¹⁴) was asked from 3.2.1 (distinctive and redundant features), the second (O¹⁶) was asked from 3.5.2 (The primary placement features for vowels and consonants), the third (O¹³) was from 3.6 (Phonological rules), the fourth (O⁸) was from 3.7.4 (natural rules) and the fifth (O¹⁵) was from 3.9.1 (autosegmental phonology). In case of subjective short questions, the first subjective short question (S⁵) was asked from 3.5.1

(The major class features of Chomsky and Halle), the second (s⁷) was from 3.6.5 (Rule collapsing and rule ordering) and the third (s⁸) was from 3.9.3 (Lexical Phonology). In case of subjective long question, the only one subjective long question (SL¹⁰) was asked from 3.3 (Trubetzkoy's theory of distinctive opposition).

In 2062, six objective questions, two subjective short questions, and one subjective long question were asked from this unit. In case of objective questions, the first (o⁶) was asked from 3.2.1 (Distinctive and redundant features), the second (o⁵) was asked from 3.3.1 (Bilateral, multilateral. Proportional and isolated oppositions), the third (o¹⁵) was from 3.5.1 (The major class features of Chomsky and Halle), the fourth (o¹¹) was from 3.5.2 (The primary placement features for vowels and consonants), the fifth (o⁷) was from 3.6 (phonological rules) and the sixth (o⁴) was from 3.6.5 (Rule collapsing and rule ordering). In case of subjective short questions, the first (s⁸) was collectively asked from 3.6.3 (Types of derivational rules) and 3.8 (Exercises on phonological analysis) and the second (S⁷) was asked from 3.9.1 (Autosegmental phonology). In case of subjective long question, the only one subjective long question (SL¹⁰) was asked from 3.1 (Generative grammar and generative phonology).

Repeated Test Items

After analyzing the above table the researcher had found that from unit three within six years (2057-2062) no objective test item was repeated. But in case of subjective test items the researcher had found that 2058 (SL^{10a}) was similar to 2062 (SL¹⁰). They were from 3.1 (Generative grammar and generative phonology). Similarly, 2057 (SL¹¹) was partially similar to 2061 (SL¹⁰). They were from 3.3 (Trubetzkoy's theory of distinctive oppositions). Like this, 2058 (S⁷) was exactly the same as 2057 (S⁵). They both were from 3.5.1 (The

major class features of Chomsky and Halle). And 2060^(S7) was partially similar to 2062^(S7). They were from 3.9.1 (Auto segmental phonology).

In conclusion, the above presented table and the description can be shown in the following pie chart:

Figure No. 3

From the above table and description it is clear that there are altogether 35 language items in unit three spread over 3 to 3.9.3 according to course contents. The represented test items were 32 language items during six years. Three language items were neglected while constructing test items. It means the coverage of course contents in test contents in unit three is 91.43 percent. 8.57 percent contents were not covered in the test papers. That is to say, the content validity of test papers in unit three is highly satisfactory.

3.1.4 Analysis of content Representativeness (coverage) in unit four

Table No. 8

Representation of test Contents in Terms of Course Contents in Unit Four

S.N.	Course Contents	Test contents					
	Course Items	Test items represented					
Unit IV	Phonological Process	2057	2058	2059	2060	2061	2062
4.1	Assimilation	S ⁸				O ¹¹	O ¹³
4.1.1	Partial VS complete	S ⁸					
4.1.2	Progressive VS. regressive	S ⁸	O ¹⁶				
4.1.3	Contiguous vs. non-contiguous	S ⁸		O ¹⁵			
4.2	Dissimilation						
4.3	Addition						
4.3.1	Prothesis			O ¹⁶			
4.3.2	Epenthesis (insertion)	O ¹⁵		s ⁸			
4.3.3	Epithesis (excrescence)						
4.4	Deletion (elision)			s ⁸			
4.4.1	Procope (Aphesis/aphaeresis)						
4.4.2	Syncope	O ¹⁶		O ⁸			
4.4.3	Apocope						
4.4.4	Haplology	O ⁷			O ⁹		
4.4.5	Cluster reduction						
4.4.6	Degeminisation						
4.4.7	Fusion						
4.5	Neutralization	O ⁵	O ⁸	O ³			
4.6	Split and merger/coalescence					O ⁶	
4.7	Reordering						
4.7.1	Metathesis		S ⁸ O ⁷		O ¹⁴		S ⁶
4.7.2	Spoonerism		S ⁸				S ⁶
4.8	Contamination						
4.9	Lenition and Fortition (weakening and Strengthening)						
	Total no of asked questions in unit four	0-4 SS-1 SL-0	0-3 SS-1SL-1	0-4 S.S-1SL-0	0-2 S.S-0 SL-0	0-2 S.S-0 SL-0	0-1 S.S-1SL-0
	Total marks = 10	10	9	10	2	2	7

The table given above shows that in unit four there are altogether 24 language items spread over 4 to 4.9. Out of 24 language items, 13 language items were represented within six years (2057 to 2062). If we see diachronically, among 13 language items, the most represented ones are 4.1 (Assimilation) 4.5 (Neutralization) and 4.7.1 (Metathesis) which were represented in three years out of six years. 4.1.2 (Progressive vs regressive assimilation), 4.1.3 (contiguous vs non-Contiguous assimilation), 4.3.2 (Epenthesis), 4.4.2 (Syncope), 4.4.4 (Haplology) and 4.7.2 (Spoonerism) were represented in two years. The others 4.1.1 (partial Vs complete assimilation) 4.3.1 (Prothesis), 4.4 (Deletion/elision) and 4.6 (split and merger/coalescence) were represented in only one year.

If we see synchronically, no subjective long question was asked during six years (2057 to 2062) from unit four. In 2057 four objective questions and one subjective short question were asked from this unit. In case of objective questions, the first (O¹⁵) was asked from 4.3.2 (Epenthesis/insertion), the second (O¹⁶) was asked from 4.4.2 (Syncope), the third (O⁷) was asked from 4.4.4 (Haplology) and the fourth (O⁵) was asked from 4.5 (Neutralization). In case of subjective short question, the only one subjective short question (S⁸) was collectively asked from 4.1 (Assimilation), 4.1.1 (partial Vs complete), 4.1.2 (progressive vs regressive) and 4.1.3 (contiguous vs non-contiguous).

In 2058, three objective questions and one subjective short question were asked from this unit. In case of objective questions, the first (O¹⁶) was asked from 4.1.2 (progressive Vs regressive assimilation), the second (O⁸) was asked from 4.5 (Neutralization), and the third (O⁷) was asked from 4.7.1 (Metathesis). The only one subjective short question (O⁸) was collectively asked from 4.7.1 (Metathesis) and 4.7.2 (Spoonerism).

In 2059, four objective questions and one subjective short question were asked from this unit. In case of objective questions, the first (O¹⁵) was asked from 4.1.3 (Contiguous Vs non- contiguous assimilation), the second (O¹⁶) was asked from 4.3.1 (Prothesis) and the third (O³) was asked from 4.5 (Neutralization). In case of subjective question, the only one subjective short question (S⁸) was collectively asked from 4.3.2 (Epenthesis), 4.4 (Deletion) and 4.4.2 (Syncope).

In 2061, no subjective question was asked from this unit. Only two objective questions were asked. The first objective question (O¹¹) was asked from 4.1 (Assimilation) and the second (O⁶) was asked from 4.6 (Split and merger/coalescence).

In 2062, one objective question and one subjective short question were asked from this unit. The objective question (O¹³) was asked from 4.1 (Assimilation) and the subjective short question (S⁶) was collectively asked from 4.7.1 (Metathesis) and 4.7.2 (Spoonerism).

Repeated Test Items

After analyzing the above data, the researcher had found that from unit four, within six years (2057 to 2062) four objective questions and two subjective short questions were repeated or same. In case of objective questions, 2057⁰⁷ was exactly the same as 2060⁰⁹. They were from 4.4.4 (Haplology). Similarly, 2058⁰⁸ were exactly the same as 2059⁰³. They were from 4.5 (Neutralization). In case of subjective question, 2058^{S8} was almost similar to 2060^{S6}. Only the wording was different. They were from 4.7.1 (Metathesis) and 4.7.2 (Spoonerism)

In conclusion, the above presented table and description can be shown in the pie chart as follows:

Figure No. 4

From the above table and description, it is clear the there are altogether 25 language items in unit four spread over 4 to 4.9 according to course contents but the representation of the test items were 13 language items during six year. 11 language items were neglected while constructing test items. It means the coverage of course contents in test contents in unit four is 54.17 percent. 45.83 percent of contents were not covered in the question papers. That is to say, the content validity of the test papers in unit four is not satisfactory.

3.1.5 Examining Content Validity of the Test Papers on the Whole in Terms of Content Representativeness (Coverage)

Table No. 9

Examining Content Validity of the Test Papers on the Whole in Terms of Content Representativeness (Coverage)

S.N.	Units	Course contents language items	Test contents language items	Test coverage in percentage
1	1	58	43	74.14%
2	2	31	30	96.77%
3	3	35	32	91.43%
4	4	24	13	54.17%
Total		148	118	79.73%

The table above indicates that there are altogether 148 language items with in four units in the phonetics and phonology course at M.Ed. first year. Out of 148 language items, the representation of the test contents language items were 118 during six years (2057 to 2062). Only 30 language items were neglected while constructing the test items. It means the coverage of course contents in test contents on the whole was 79.73 percentage. 20.27 percentages of course contents were not covered in the test papers.

In conclusion, the above presented table and description can be shown in the pie-chart as follows.

Fig. No. 5

After analyzing the above given table, the researcher concludes that the content validity of the test papers on the whole in terms of content representation (coverage) is good and satisfactory as it covers about 80 percent of the course content language items as a whole. In other words, those test papers have really tested what they have claimed to test on the part of the testees and are the representative sample of the course contents. So, the test papers of Phonetics and Phonology have good content validity in terms of coverage during six years (2057 to 2062).

3.2 Analysis and Interpretation of Content Weighting

This is the second part of this chapter which deals with content weighting. Content weighting is the comparison between weighting of the test contents and the weighting of the course contents. Here, For the purpose of examining content validity of Phonetics and Phonology exams, the researcher has compared Phonetics and Phonology's 6 years (2057 to 2062)

test papers with the marks weighting in the course contents according to syllabus.

3.2.1 Examining content validity of the test papers in terms of weighting as a whole during six years

Table No. 10

Examining content validity of the test papers in terms of weighting as a whole during six years

Weighting of the course contents			Weighing of the test papers						Average weighting
S.N.	Units	Full weighting	2057	2058	2059	2060	2061	2062	2057-2062
1	I	40	43	42	34	37	44	40	40
2	II	30	22	27+(12)	27	19	19	23	23.83
3	III	20	25	10+(12)	29	42	35	30	29.5
4	IV	10	10	9	2	2	2	7	6.67
Total Marks		100	100	88+(24)	100	100	100	100	100
			100	100	100	100	100	100	

The table given above indicates that the full marks of the course entitled "Phonetics and Phonology" at M.Ed. first year is 100. It has four units divided. According to the unitwise allocation of marks given in the syllabus, unit one carries 40 marks. It Obviously means that from unit one, the test items carrying 40 marks (no more and less) can be asked in the tests. But it is not found to be followed in every year's test papers. While comparing between weighting of the course contents and weighting of the test contents the researcher found that in 2057 the test items carrying 43 marks were asked as all compulsory. Here, test items carrying 3 more marks were asked in that year. In 2058, the weighting of the test paper was 42. Here, 2 more

marks were asked. In 2059, the weighting of the test paper was 34. That is to say, 6 less marks were asked in that year. Like this in 2060, test items carrying 37 marks were asked. Here, the test items carrying 3 less marks were asked in that year. In 2061, the test paper carrying 44 marks were asked. Here, the test items carrying 4 marks were asked in that year. In 2062, the weighting of the test paper from this unit was exactly 40. It means the test designer had strictly obeyed the weighting percentage given in the syllabus. The researcher found out that during six years the weighting of the test papers of unit one fluctuated from 34 to 44. And the average weighting of unit one during six years was exactly 40, the actual weighting specified in the syllabus. So, the researcher concludes that though there are different weighting of test items during six years, in average, unit one has perfect content validity in terms of content weighting.

Unit two carries 30 marks according to the unit wise allocation of marks specified in the syllabus. The researcher found out that in 2057, test items carrying 22 marks were asked from this unit. In other words 8 less marks were asked in that year. In 2058, test items carrying 39 marks (27 marks as compulsory and 12 marks as optional) were asked from this unit. In 2059, the weighting of the test paper was 27. In other words, 3 less marks were asked in that year. Similarly, the test items carrying 19 marks each in 2060 and in 2061 were asked which is 11 marks less than the weighting of the course content to each year. In 2062, test items carrying 23 marks were asked. In other words, 7 less marks were asked in that year. The researcher found out that during six years the weighting of unit two fluctuated from 22 to 33. The average weighting of unit two during six years was 23.83. It means, in average, 6.17 less weighting was given to unit two during six years in designing tests. So, the researcher concludes that unit two has less content validity in terms of content weighting.

In case of unit three it carries 20 marks according to the allocation of marks specified in the syllabus. During six years, more weighting was given to this unit almost in all years. In 2057, test items carrying 25 marks were asked from this unit. In other words test items carrying 5 more marks were asked from this unit in that year. In 2058, test items carrying 22 marks (10 marks as compulsory and 12 marks as optional) were asked from this unit. In 2059, test items carrying 29 marks were asked. That is to say, 9 more marks were asked in that year. But it is surprisingly to see that in 2060 test items carrying 42 marks were asked from this unit which is more than the double of the content weighting specified in the syllabus. Similarly, in 2061 and in 2062, test items carrying 15 more marks and 10 more marks were asked respectively. During six years, the weighting of unit three fluctuated from 18 to 42. It also shows that the average weighting of unit three during six years is 29.5 and it is over by 9.5 marks than the actual weighting specified in the syllabus. So, the researcher concludes that unit three has less content validity in terms of content weighting.

In case of unit four, it carries 10 marks according to the unitwise allocation of marks specified in the syllabus. In 2057 and in 2059, test items carrying 10 marks each were asked from this unit which were equal to the actual weighting specified in the syllabus. It means, while designing the tests from unit four, the test designer had strictly obeyed the weighting percentage given in the syllabus in those years. In 2058, test items carrying 9 marks were asked. It seems satisfactory as it is less by only one mark than the actual marks specified in the syllabus. It is amazing to see that in 2060 and in 2061, the test items carrying only 2 marks each were asked which were five times less than the actual marks (weighting) specified in the syllabus. Similarly, in 2062, the test items carrying 7 marks were asked from this unit. In other words, 3 less marks was given to this unit in that year. The average

weighing of this unit within six years seems 6.67 marks which is less by 3.33 marks than specified marks given in the syllabus. So, the researcher concludes that unit four has less content validity in terms of content weighting during six years.

From the above presented data and description, the researcher found that the test papers, except unit one, used in the final examination during six years (2057-2062) lack content validity in terms of content weighting. There seems no any particular norm and tendency in the distribution of marks in the test papers because in some of the years it has under weighting and in some of the year it has over weighing in the same unit as well. Moreover, though in each unit there is fixed course contents marks (weighting) schedule but it is not found to be obeyed in setting the question papers. It shows the negligence in the parts of the question setters which may lead the lack of content validity and negative washback as well. Thus, it seems that phonetics and phonology test papers have lacked content validity in terms of weighting of the course contents during six years (2059-2063).

3.3 Comparison between content validity in terms of coverage and weighting

After analyzing the above all data it has been found that the Phonetics and Phonology tests at M. Ed. first year during six years (2057 to 2062) have high content validity in terms of content representatives (coverage). It is because out of 148 course content language items, 118 test content language items were represented (i.e. 79.73 percent) during six years. About 80 percent content representation is considered to be excellent. It means, in terms of content coverage the test items have tested what they had to test. But the same test (except unit one) have low content validity in terms of weighting during six years (2057 to 2062) because test items did not follow

the exact weighting marks specified in the syllabus. It is proved by the fact that the test content weighting of unit 2, 3 and 4 in average are 23.83, 29.5 and 6.67 respectively but the course contents weighting of those units are 30, 20 and 10 respectively. It shows that some course language items are found to be over weightaged and some course language items are found to be under weightaged.

The above table and description reveal the fact that the question paper having high content validity in terms of coverage does not necessarily have high content validity in terms of weighting. In other words , the test item may have high content validity in terms of coverage but low content validity in terms of weighting and vice versa.

CHAPTER FOUR

FINDINGS AND RECOMMENDATIONS

This is the final chapter of this research work. It is basically subdivided into two parts where the first part deals with the findings made by the researcher after analyzing the data and the second part deals with recommendations made on the basis of the collected and analyzed data and the findings.

4.1 Findings

This research work has the following findings:

4.1.1 General Findings

- a. According to the coverage/ representativeness principle, the Phonetics and Phonology exams have high content validity because out of 148 language items in totality of the course, 118 language items (i.e. 79.73%) were represented during six years (2057 to 2062).
- b. According to the weighting principle the Phonetics and Phonology exams have low contents validity because test content weighting was not proportional to the course content weighting. For example, in 2060, unit 3 alone carried 42 marks in the test paper whereas its weightage is only 20 marks according to the syllabus.

4.1.2 Unit specific findings

The unit specific findings of this research work are as follows:

1. In terms of content representativeness (coverage):

- a. In unit one there are altogether 58 language items out of which 43 language items were represented during six years. It means the coverage of course contents in unit one is 74.14 percent therefore, unit one has high content validity.
- b. In unit two, there are altogether 31 language items out of which only one language item was not represented during six years. It means, the coverage of course contents in unit two is 96.77 percent. Therefore, unit two has high content validity.
- c. In unit three, there are altogether 35 language items out of which 32 language items were represented during six years. It means the coverage of course contents in unit three is 91.43 percent. Therefore, unit three has also good content validity.
- d. In unit four, there are altogether 24 language items out of which 13 language items were represented during six years. It means, the coverage of course contents in unit four is 54.17 percent. Thus, content validity of unit four is satisfactory as the test contents have been represented over 50% course contents.

2. In terms of content weighting

- a. According to the unit wise allocation of marks specified in the syllabus, unit one carries 40 marks- and it is found to have followed in designing the tests as test items carrying exactly 40 marks in average were asked from this unit during six years. Though within six years the test papers have carried different weighting (except in 2062), in average the test content weighting is proportional to the course content weighting. Therefore, this unit adopts content validity in terms of content weighting.

- b. According to the unit wise allocation of marks specified in the syllabus, unit two carries 30 marks and it is not found to have followed in designing the tests as test items carrying 23.83 marks in average were asked from this unit during six years. Within six years, the test papers have carried different weighting and the test content weighting is not proportional to the course content weighting . Therefore, unit two lacks content validity in terms of content weighting.
 - c. According to the unit wise allocation of marks specified in the syllabus, unit three carries 20 marks but it is not found to have followed in designing the tests as test items carrying 29.5 marks in average were asked from this unit during six years. Within six years, the test papers have carried different weighting and the test content weighting is not proportional to the course content weighting . Therefore, unit three lacks content validity in terms of content weighting.
 - d. According to the unit wise allocation of marks specified in the syllabus, unit four carries 10 marks but it is not found to have followed in designing the tests as test items carrying 6.67 marks in average were asked from this unit during six years. Within six years, the test papers have carried different weighting and except in 2057 and in 2059 the test content weighting is not proportional to the course content weighting. Therefore, unit four also lacks content validity in terms of content weighting.
3. It has been found that Phonetics and Phonology exams have high content validity in terms of content coverage but have low content validity in terms of content weighting. It shows the fact that the test

having high content validity in terms of coverage does not necessarily have high content validity in terms of weighting.

4. In case of content coverage, the researcher has also found that some language items e.g. 1.7. (Air stream mechanism), 1.10.4 (Recognition and production of cardinal vowels etc) were represented in all the six years' tests.
5. In case of content weighting, the researcher has found that from some language items, test item carrying only one mark with in six years was asked e.g. : 2.2 (aims and functions of phonemics analysis) and from some other language items, test items carrying more marks e.g. 39 marks from 18.3 (comprehensive classification: IPA consonant chart) were asked.
6. Some language items were repeated during six years. For example 2061⁰¹ was exactly the same as 2062⁰¹ 2057^{S4a} was exactly the same as 2061^{S4c}, like this 2057^{SL9b} 2059^{SL9a}, 2060^{SL9b} and 2061^{SL9b} were exactly the same and 2058^{S7} was exactly the same as 2061^{S5} and so on. Such repetition of the same test items encourages guessing, reduces content coverage and ultimately to the content validity.
7. More variation is found in asking all types of questions (objective, subjective short, subjective long) in different years from the same unit as well for example, from unit four in 2060 and in 2061 there was asked only objective questions.

4.2 Recommendation

On the basis of the analyzed data, the findings of the research work and the researcher's own judgment on them, he has come to the following recommendations:

1. It has been found that the content coverage of phonetics and phonology test papers during six years is only 79.73 percent. It is good content validity in terms of representative principle but not the maximum level of representation. So, the test designers should design the tests ensuring more content representation as far as possible not during six years but within only two or three years.
2. It has been found that the test papers of phonetics and phonology have not obeyed the scheduled weighting of the course contents specified in the syllabus but it can be maintained 100 percent if the test designer is serious about it. So the test designer should strictly follow the scheduled weighting in designing the tests to get good content validity.
3. If the test follows both content coverage and content weighting then only a test would be of high content validity. So, the test designers should seriously follow both principles of coverage and weighting to get high content validity.
4. It is found that some units and language items were given more emphasis and some others were neglected in designing the tests. Thus, the test designer should give equal emphasis to all the units and language items. The test items should be chosen widely from the whole area of contents.
5. It is also found that a lot of repetitions of test items were made during six years. Such repetitions encourage guessing and reduce content validity. So, the repetition of the same test item time and again should not be made. Instead of repeating the same test item the priority

- should be given to other language items so that it can increase content coverage and hence content validity.
6. There should be fixed criteria on how many and what types of test items to be asked from each unit in each years and so on. For this test specification should be prepared before hand and should strictly follow this.
 7. As far as possible many test items should be constructed having low weighting so that it can represent maximum contents of the syllabus.
 8. To get high content validity, the test designers should study minutely about the course objectives, course contents, contents weighting and so on before developing the question papers. Trained and highly experienced teachers have to design the test papers. If feasible the question papers have to be piloted.
 9. The office of the controller of examinations T.U. has the sole authority in conducting examinations. Sos, it should play vital role in improving the examination of phonetics and phonology as a whole. For this the concerned authority should conduct some seminars workshops and conferences.

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