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Effectiveness of teaching consonant sounds of English through the exposition strategy

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Abstract
The principal objective of the research study is to examine the effectiveness of teaching the consonant sounds of English through the exposition strategy. The researcher followed a pre-experiment research method**,** especially one- group- pretest-posttest- design which included a pretest measure followed by a treatment and a posttest for a single group. A set of hundred multiple choice question items were administered to the mass of 38 students at Makawanpur Multiple Campus in Makawanpur District, Nepal in the Academic Year 2017-2018. The simple random sampling technique was used to select 35 students out of 38 students who comprised the population for the study. The result showed there was a statistically significant difference between the Total Pretest Mean Score (M=21.800, SD= 2.826 and N=35) and the Total Posttest Mean Score (M= 45.971, SD=7.002 and N=35) of the students. The statistics of (df) =34, p<..05, the observed t-value= 19.961 and the table t-value = 2.032 at 0.05 significance level of the test showed that teaching the consonant sounds through the exposition strategy was effective at this campus. This article is assumed to be useful to those who are interested in teaching and learning consonant sounds of English.

Keywords: consonant, exposition, manner of articulation, place of articulation, teaching

1. Introduction

Teaching speech sounds of English is one of the most complicated tasks, and it is very difficult for the teachers to motivate their students to pronounce the words correctly. There are several reasons for this situation. Although students are taught English from class 1 at government schools and from the nursery class at English medium schools in Nepal, the students are frequently exposed to incorrect pronunciation of words due to their teachers who lack sound knowledge of speech sounds. Theory of speech sounds is taught to the students whose major subject is English at the bachelor first year in the faculty of education. Not only the students, but also teachers think that if the listeners understand what the speakers say, it is not necessary to worry about having correct or native speaker like pronunciation of words. Nepalese students are highly influenced by their mother tongue pronunciation while speaking English. Connor (2000) [1] opines that "by the time we are grown up the habits of our own language are so strong that they are very difficult to break" (p.2). English is a crazy language. The same letter(s) may have multiple pronunciations. The "th" is pronounced / θ / in the word "thin", / ð / in the word "that" and /t / in the word "Thomas". The same letter "c" is pronounced /k / in the word "cat", / s / in the word "centre" and / tʃ / in the word "cello". This creates problems in the students for determining correct pronunciation of the words. Nobody, but the subject teachers of linguistics only at the time of teaching phonetics and phonology try to focus on the correct pronunciation of words.

The researcher in this article has attempted to provide the students of the bachelor level in the faculty of education with the basic consonant sounds of English, their position in the words, spelling(s) that work(s) as a sound, classification of consonant sounds, articulators and three term description of consonant sounds. The researcher used the exposition strategy to teach 35 students for 30 periods. This article is supposed to be valuable to those who like to learn English sounds.

1.1 Objectives of the Study

One of the objectives of the research study is to examine the effectiveness of teaching the consonant sounds of English through the exposition strategy.

1.2 Null Hypothesis

There is no statistically significant difference between the total pretest mean score and the total posttest mean score of the students.

2. Review of the Related Literature

Review of the related literature embraces alphabet, letters, and organs of speech, consonant sounds, and classification of consonant sound, three term descriptions of consonant sounds and the exposition strategy of teaching.

2.1 Alphabet

An alphabet is a set of letters or symbols arranged in a fixed order for learning to read and write a language. The English alphabet contains 26 letters that can be divided into two types: consonant letters and vowel letters. A letter is a symbol usually written or printed representing a speech sound and constituting a unit of an alphabet. It is is a grapheme (written character) in an alphabetic system of writing. There are 21 consonant letters: b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, y and z (small letters) and B, C, D,F, G, H, J,K, L, M, N, P, Q, R, S,T, V, W, X,Y and Z (Capital Letters). There are 5 vowel letters: a, e, i, o and u (small letters) and A, E, I, O and U (capital letters).

The researcher clarified their students that letters and speech sounds are different. A letter may have multiple sounds in words, such as the letter "c " is pronounced / s/ in the word "city", /k/ in the word " cut" and / tʃ / in the word "cello". Similarly, two or more letters that come together may form

a single sound, such as "sh" is pronounced / ʃ / in the word "sheep", "ck" is pronounced /k/ in the word "lock" and "tch" is pronounced / tʃ / in the word "butcher". Next, we can say small letters and capital letters, but we can't say small sounds and capital sounds. P is a letter, but / p / which is written within slashes in the phonemic transcription and [p] within the square bracket in the phonetic transcription are speech sounds.

2.2 Organs of Speech

All the organs of the human body involved in the production of speech sounds are called the organs o speech or articulators. Major organs of speech are: alveolar ridge, upper lip, lower lip, hard palate, soft palate, teeth, different parts of the tongue and vocal cords.

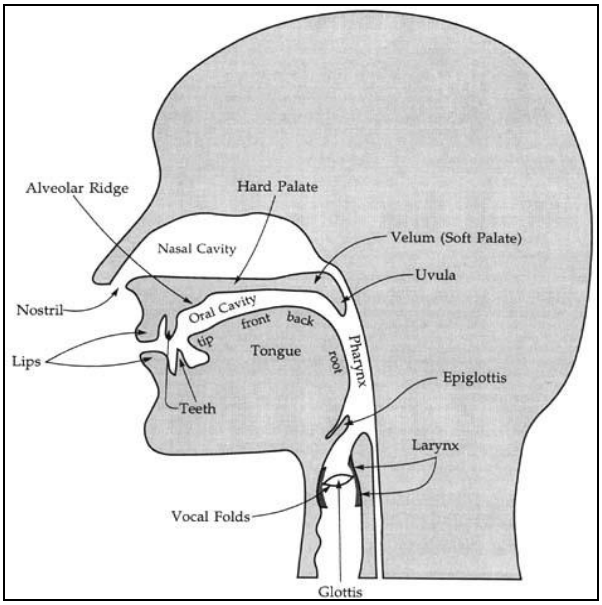

Fig 1: Organs of Speech

2.3 Consonant Sounds

Crystal (2003) [2] asserts that Consonants are "sounds made by a closure or narrowing in the vocal tract so that the airflow is either completely blocked, or so restricted that audible friction is produced" (p.103). It means consonant sounds are produced when there is an obstruction of the airflow somewhere in the vocal tract. This obstruction is the point of contact between an active articulator and a passive articulator. Articulators are the organs of speech which are involved in the production of speech sounds. The active articulator is the articulator that moves towards the passive articulator in the production of a speech sound. This articulator moves towards another articulator to form a closure of some type in the vocal tract. The lower lip and different parts of tongue are the active articulators. The passive articulator is the articulator that remains motionless in the production of a speech sound. Teeth, alveolar ridge, hard palate, soft palate etc are passive articulators. Sounds are called speech sounds because they are to be produced through organs of speech. Gimson (1990) [3] remarks that speech is "a manifestation of language and spoken language is normally a continuum of sound" (p.44). Connor (2000) [1] views that "consonants are generally made by a definite interference of the vocal organs with the air stream, and so are easier to describe and understand" (p.24). Similar view is expressed by Verma and Krishna swamy (1999) [6] who consider a consonant as "a sound characterized by constriction accompanied by some measure of friction or closure followed by release" (p.35).

There are 24 consonant sounds of English. They are: / P/, / b /, /t/, /d/, /k /, /g/, / tʃ /, / d3 /, / m /, / n /, /ŋ /, / f /, / v /, / θ /, / ð /, / s /, / z /, / ʃ /, / 3/, / h /, / r /, / j /, / w / and / l /.

The researcher presented certain consonant sounds on the white board every day, taught them to pronounce the sounds, presented some spellings which represent the sounds and noted the positions of the sounds. He presented the table of consonant sounds in this way:

Table 1: Consonant Sounds and their Positions in the Words

S.N.	Sound	Spellings	Initial Position	Medial Position	Final Position
1.	/ P/	p, pp	pat, pun	apple, apes	cap, up, help, hip
2.	/ b /	b, bb	bat, but	cabbage, rubs	rob, rub, rib
3.	/t/	t, tt, th, ed	tune, Thomas	cattle, cats,	but, hoped, heat
4.	/d/	d, dd	do, deed	lads, bladder	lad, glad, bad
5.	/k /	k, c, ck, ch, q, cc,	kid, can, chorus, quit	looks, locks, soccer	lake, luck, music, monarch
6.	/g/	g, gg, gh	go, get, ghost	leg, baggage	leg, mug, big
7.	/ tʃ /	ch, tch, tu,	child, chop, cello	benches, butcher, future	beach, match, bitch
8.	/ d3 /	j, dge, g, ge,di, de	jug, gin, gentle	ages, soldier, grandeur	edge, large, merge
9.	/ m /	m, mm	man, meet, me	summon, comes, dams	sum, some, come
10.	/ n /	n, nn, gn	now, gnat	hand, manner	can, ban, lean
11.	/ ŋ /	n, ng	……..	rank, tank, kings	sing, ring, king, spring
12.	/ f /	f, ff, ph, gh	fan, phone,	suffer, lift	leaf, staff, rough, off
13.	/ v /	v, f	van, vote	leaves, lives	love, live, of
14.	/ θ /	th	thin, thank	months, method	cloth, path, bath, faith
15.	/ ð /	th, the	that, this, there	mother, father	bathe, clothe, writhe
16.	/ s /	s, ss, sc, c	sun, scene, centre	fast, bosses,	bus, glass, place
17.	/ z /	z, zz,s,x	zebra, zero, xylophone	puzzle, nuzzle	buzz, girls, topaz
18.	/ ʃ /	sh, s, ssio,tio, tia,, ch	she, sure, chef	worship, mission, initial, motion	wash, bush, brush
19.	/ 3/	Sio, sure, g	genre, jabot	division, measure	garage, beige, rouge
20.	/ h /	h, wh	home, how, who	behind, behave	……
21.	/ r /	r, rr, wr	rat, write	spring, carry	……..
22.	/ j /	y, u, ew, ue	yes, yak	fuse, value, new	…….
23.	/ w /	w, wh, qu	was, what	swim, queen	……..
24.	/ l /	l, ll	love, like	girls, pulse, falls	tall, hall, real

Spelling is difficult, but it is not as chaotic as is often claimed. An explanatory perspective can make the learning of spelling easier." He adds that it is learnable but it takes a learner a few years to be in control of the spelling system

The table shows that the consonant sound / ŋ / does not occur in the initial position of words; and / h /, / r /, / j / and / w / do not normally occur in the final position of words in isolation. Moreover, the same spelling may have multiple sounds. Crystal (2012) asserts that "English spelling is difficult, but it is not as chaotic as is often claimed. An explanatory perspective can make the learning of spelling easier". Hockett (1958) [4] remarks that "all languages are constantly undergoing slight changes- in pronunciation, in grammar, in vocabulary" (p.9).

2.4 Classification of Consonant Sounds

Consonant sounds can be classified on the basis of the position of the soft palate, state of glottis, force of articulation, place of articulation and manner of articulation.

2.4.1 On the Basis of the Position of the Soft Palate

On the basis of the position of the soft palate, there are two types of sound: nasal /ˈneɪz(ə)l / and oral /ˈɔːɹəl/. When the soft palate or velum rises in the production of sounds, it blocks the nasal cavity and sounds come out through the oral cavity. Such sounds are called oral sounds. There are 21 oral sounds. They are: / p, b, t, d, k, g, tʃ, d3, f, v, θ, ð, s, z, ʃ, 3, j, r, l, w, h /. When the soft palate or velum lowers, it blocks the oral cavity and sounds come out through the nasal cavity. Such sounds are called nasal sounds. There are 3 nasal sounds. They are: / m, n, ŋ /.

2.4.2 On the Basis of Voicing / State of Glottis

There are two types of consonant sounds on the basis of voicing or the state of glottis: voiceless / vɔɪslɪs /and voiced /vɔɪst/. When there is no vibration in the vocal cords in the production of speech sounds, voiceless sounds are produced. There are 9 voiceless sounds. They are: / p, t, k, tʃ, f, θ, s, ʃ, h /. When there is vibration in the vocal cords in the production of speech sounds, voiced sounds are produced. There are 15 voiced sounds. They are: / b, d, g, d3, v, ð, z, 3, m, n, ŋ, j, r, l, w /.

2.4.3 On the Basis of Force of Articulation

There are two types of consonant sounds on the basis of force of articulation: fortis /fɔːtɪs/ and lenis/ lenɪs/. The consonants that are produced with a strong degree of muscular effort and breathe force are called fortis consonants. In English, the voiceless consonants are produced with the fortis articulation. There are 9 fortis sounds. They are: / p, t, k, tʃ, f, θ, s, ʃ, h /. The consonants that are produced with a weak degree of muscular effort and breath force are called lenis consonants. In English, the voiced consonants are produced with the lenis articulation. There are 15 lenis sounds. They are: / b, d, g, d3, v, ð, z, 3, m, n, ŋ, j, r, l, w /.

2.4.4 On the Basis of the Place of Articulation

On the basis of the place of articulation, there are 9 types of consonant sound. They are:

Bilabial / bʌɪˈleɪbɪəl/: The bilabial sounds are produced with the lower lip and the upper lip. There are 4 bilabial consonant sounds. They are: / P, b, m, w/.

Labio-dental /ˌleɪbɪəʊˈdent(ə)l/: The labiodental sounds are produced with the Lower lip and the upper front teeth. There are 2 labiodental sounds. They are: /f, v /.

Dental ˈ/ dentl /: The dental sounds are produced with the tip of the tongue and the upper front teeth. There are 2 dental sounds. They are: / θ, ð /.

Alveolar /alˈvɪələ/: The alveolar sounds are produced with the tip or blade of the tongue and the teeth ridge.. There are 6 alveolar sounds. They are: / t, d, n, l, s, z /.

Post- alveolar / pəʊst alˈvɪələ/: The post-alveolar sound is produced with the tip of the tongue and the back part of the teeth ridge.. There is 1 post- alveolar sounds. It is: / r/.

Palato- alveolar /ˌpalɪtəʊˌalvɪˈəʊlə/: The palato-alveolar sounds are produced with the blade of the tongue and the back of the teeth ridge. There are 4 palato-alveolar sounds. They are: /tʃ, d3, ʃ, 3/.

Palatal /ˈpalət(ə)l/: The palatal sound is produced with the Tip of the tongue and the hard palate. There is only 1 palatal sound. It is: / j /.

Velar /ˈviːlə/: The velar sounds are produced with the back of the tongue and the soft palate. There are 3 velar sounds. They are: / k, g, ŋ /.

Glottal /ˈglɒt(ə)l/: The glottal sound is produced with the vocal cords. There is only one glottal sound. It is: / h /.

2.4.5 On the Basis of the Manner of Articulation

There are primarily 7 types of consonant sound on the basis of the manner of articulation. They are:

Plosive /ˈpləʊsɪv/ or /ˈpləʊsɪz/: The plosive sounds are produced with the complete closure of articulators and sudden release of the air. There are 6 plosive sounds. They are: / p, b, t, d, k, g /.

Affricate /ˈafrɪkət/ or /ˈæfrɪkɪt /: The affricate sounds are produced with the complete closure of articulators and the slow release of the air. There are 2 affricate sounds. They are: /tʃ, d3/.

Fricative /ˈfrɪkətɪv/: The fricative sounds are produced with the close approximation or the narrowing of articulators resulting in audible friction. There are 9 fricative sounds. They are: / f, v, θ, ð, s, z, 3, ʃ, h /.

Nasal /ˈneɪz(ə)l: The nasal sounds are produced with the Complete oral closure. There are 3 nasal sounds. They are: / m, n, ŋ /.

Lateral /ˈlat(ə)r(ə)l/: The lateral sound is produced with the complete closure at the centre of vocal track. There is only one lateral sound. It is: /l /.

Frictionless continuant /ˈfrɪkʃ(ə)nləs kənˈtɪnjʊənt/: The frictionless continuant sound is produced with the Open approximation or the slight narrowing of articulators, not enough to cause friction. There is only one frictionless continuant sound. It is: / r /.

/ r/ can be pronounced in two different ways

Trilled or Roll / trild, rəʊl /: The trill /r/ is produced with the intermittent closure articulators as in the words "tree", "kriti" etc.

Tap or Flap / tæp, flæp/: The tap /r/ is produced with a single closure of the articulators asin the words "ram", "radio" etc.

Semi-vowel/ˈsemɪvaʊ(ə)l/: The semi-vowel sounds are produced with the Open approximation or the slight narrowing of articulators, not enough to cause friction. There are 2 semi-vowel sounds. They are: / w, j /.

2.5 Three Term Description of Consonant Sounds

Three term description of a consonant sound involves describing the consonant sound on the basis of voicing (state of glottis), the place of articulation and the manner of articulation.

Table 2: Three Term Description of Consonant Sounds

S.N.	Sound	State of glottis	Place of Articulation	Manner of Articulation
1	/p/	voiceless	bilabial	plosive
2	/b/	voiced	bilabial	plosive
3	/t/	voiceless	alveolar	plosive
4	/d/	voiced	alveolar	plosive
5	/k/	voiceless	velar	plosive
6	/g/	voiced	velar	plosive
7	/tʃ/	voiceless	palato- alveolar	affricate
8	/dʒ/	voiced	palato- alveolar	affricate
9	/m/	voiced	bilabial	nasal
10	/n/	voiced	alveolar	nasal
11	/ŋ/	voiced	velar	nasal
12	/f/	voiceless	labio-dental	fricative
13	/v/	voiced	labio-dental	fricative
14	/θ/	voiceless	dental	fricative
15	/ð/	voiced	dental	fricative
16	/s/	voiceless	alveolar	fricative
17	/z/	voiced	alveolar	fricative
18	/ʃ/	voiceless	palato- alveolar	fricative
19	/ʒ/	voiced	palato- alveolar	fricative
20	/h/	voiceless	glottal	fricative
21	/r/	voiced	post alveolar	frictionless continuant
22	/j/	voiced	palatal	semi-vowel
23	/w/	voiced	bilabial	semi-vowel
24	/l/	voiced	alveolar	lateral

2.6 Exposition Strategy

Teaching strategy refers to the structure, system, methods, techniques, procedures and processes that a teacher uses during instruction. This is the strategy the teacher employs to assist student learning. Mangal and Mangal (2012) [5] view the teaching strategy "to be more comprehensive in its scope as well as composition in comparison to the term the method of teaching" (p.301). The exposition strategy is such a strategy of teaching involves putting the subject matter before the students in a simple, interesting and clear style to make them understand it easily and properly. The researcher as a teacher considered the following aspects for teaching the consonant sounds of English through the exposition strategy.

1. Gained sound knowledge of the consonant sounds of English.
2. Set the objective of the lesson.
3. Motivated the students.
4. Presented certain consonant sounds on the board step by step.
5. Pronounced the sounds correctly and clearly. Used charts and diagrams too.
6. Encouraged the students to follow him.
7. Presented some words and underlined spelling(s) under the words.
8. Clarified the students about the relationship between the spellings and corresponding sounds.
9. When the students were able to identify and pronounce the consonant sounds, the researcher taught them to classify the sounds on the different bases along with the organs of speech involved in the production of sounds and ways of their production.
10. Taught them the three term description of consonant sounds.
11. The researcher evaluated the students regularly.

3. Research Methodology

Research methodology entails the research design, population / universe, sampling, sample size, formation of the Group, variable in the study, validity and reliability of instruments and collection of data.

3.1 Research Design

In order to examine the relative effectiveness of independent variable, the pre-experimental research design, especially the One Group Pretest Posttest Design was followed. The students from a campus were placed in a group. The design can be presented in the following way

One Group: O_1.....X1.....O_2

Where,

- O_1 refers to an observation /measurement (pretest scores of the Group)
- O_2 refers to an observation/ measurement (Posttest scores of the Group)
- X1 represents an exposure of a group as Intervention/Treatment
- Left to right order indicates temporal sequence.

3.2 Population / Universe of the Study

B. Ed. First year students studying English as a major subject at Makawanpur District of Nepal formed the population of the study.

Table 3: Total Number of Students as Universe

Campus	No. of Boys	No. of Girls	Total
Makawanpur Multiple Campus, Hetauda	15	23	38

3.3 Sampling Design

The researcher followed the simple random sampling design, especially the lottery method to select students from Makawanpur Multiple Campus, Hetauda according to the sample size determination formula or the table of sample size by maintaining 95% confidence level and 5% margin of error.

3.4 Sample Size

The sample size of the research study consisted of 35 students studying at the campus.

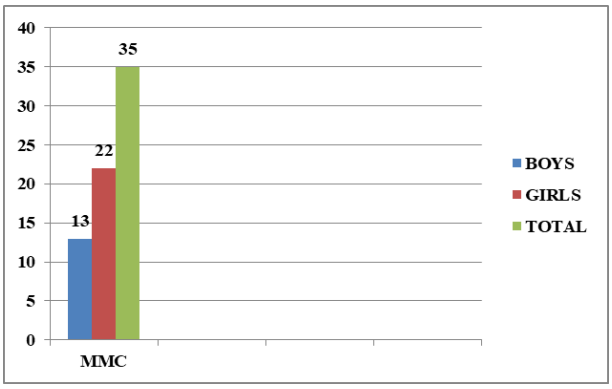

Fig 2: Number of Students from the Campus

5 students (13 boys and 22 girls) formed the sample size of the study. This figure shows that the number of girls was higher than that of boys at this campus.

3.4.1 Age Groups of the Students

There were 13 male and 22 female students aged between 18- 21 years.

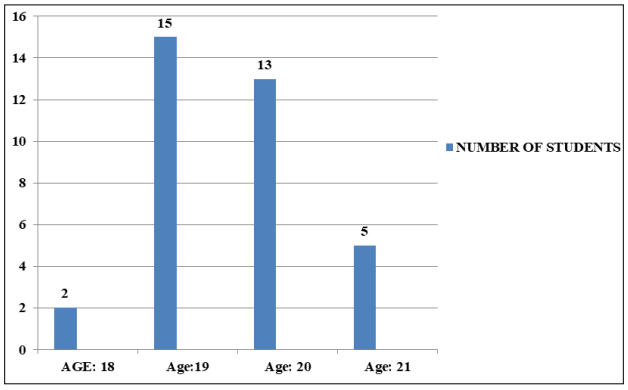

Fig 3: Number of the Students with their Age

This figure shows that highest number of students who belonged to the age 22 and23 was the same.

3.4.2 Religions of the Students

21 students belonged to Hinduism, 12 students belonged to Buddhism, 1 student belonged to Christianity and 1 student belonged to Muslimism.

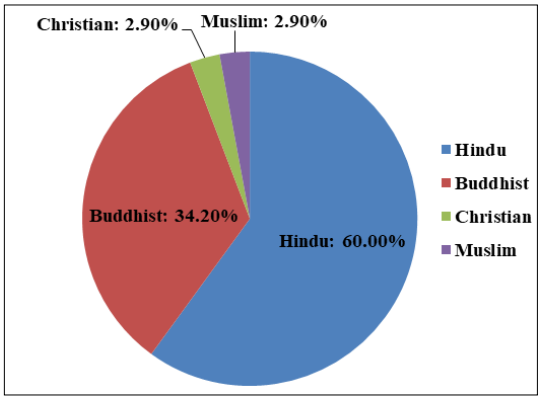

Fig 4: Percent of Students Belonging to Different Religions in the Study

This figure shows that highest number of the students in the study belonged to Hinduism.

3.5 Formation of the Group

After getting the consent of the campus authority of the concerned campus, the researcher consulted B.Ed. First Year Students and told them about the purpose of his work. He selected the students through the simple random technique, especially the lottery method to form a group.

3.6 Variables in the Study

In the pre-experimental research design, there were four types of variables, but two types of variables were very crucial. In this research study, the exposition strategy used to teach the consonant sounds of English was the independent treatment variable. The dependent variables were the pretest and the posttest scores that indicated the students' achievement or learning.

3.7 Validity of the Instruments

Validity refers to the state of being valid, authentic or genuine. To measure the validity of the instruments, the researcher received opinions and judgments from subject experts and authorities.

3.8 Reliability of the Instruments

Reliability can be defined as the accuracy that a measure has in producing stable and consistent measurements. The researcher used the Split-Half model of reliability to check the reliability of the instruments. The reliability of the instruments based on the posttest scores of the students of the pilot study was.919 and that of the research study was.937. The data showed us that the instruments were very highly reliable in measuring students' achievement in learning the consonant sounds of English.

3.9 Collection of Data

The primary data were collected through the pretest and the posttest scores of the students. The test items involved hundred multiple choice items based on the consonant sounds of English. The researcher made use of different books, journal articles, theses, magazines, websites and other related materials as the secondary sources of data.

4. Analysis and Interpretation of Data

All the data were analyzed by using Statistical Package for Social Sciences (SPSS) 20 version. The researcher used both descriptive statistics such means and standard deviation to analyze the pretest and posttest scores, and the inferential statistical tests to examine the hypothesis in the study. The researcher used the paired samples t- test at the significance level of 0.05. The researcher made use of G Power 3.1 Software to measure the power of the hypothesis test.

4.1 Paired Samples T-Test

The Paired-Samples T Test was employed to compare the means of two variables for a single group. In this research study, the Total Posttest Score and the Total Pretest Score were two dependent variables whose means were to be compared for analysis.

4.1.1 Paired Samples T- Test of the Students at Makawanpur Multiple Campus. The null hypothesis was

H0 1: There is no statistically significant difference between the Total Posttest Mean Score and the Total Pretest Mean Score of the Students at Makawanpur Multiple Campus.

Table 3: Significance of Difference between the Total Posttest and the Total Pretest Mean Scores of the Students at Makawanpur Multiple Campus Paired Samples T- Test Paired Variables: Total Posttest Score and Total Pretest Score Group: Single Group within each Campus

Campus	Score	Mean	N	Std. Deviation	Std Error Mean	Table Value	Observed Value	Df	Sig. (2-tailed)
MMC	Total Posttest	45.971	35	7.002	1.183	2.032	19.961	34	.000
	Total Pretest	21.800	35	2.826	.477				

The table of paired samples t- test, which employed the Total Posttest Score and the Total Pretest Score as Paired Variables, indicated that there was a remarkable difference between the Total Pretest Mean Score (M= 21.800, SD= 2.826 and N= 5) and the Total Posttest Mean Score (M= 45.971, SD= 7.002 and N= 35) at Makawanpur Multiple Campus.

The table further showed that the probability figure marked as Sig (2-tailed) or p - value in the table was.000 which was smaller than 0.05 at the campus. Similarly, the observed value (19.961) was greater than the table value (2.0322). Therefore, the null hypotheses were rejected. It implied that there was a statistically significant difference between the Total Pretest Mean Score and the Total Posttest Mean Score.

4.2 Power of Hypothesis Test

T tests - Means: Difference between two dependent means (matched pairs)

Analysis: Post hoc: Compute achieved power

Input: Tail(s) = Two
Effect size dz = 3.3740178
α err prob = 0.05
Total sample size = 35

Output: Noncentrality parameter δ = 19.9609585
Critical t = 2.0322445
Df = 34
Power (1-β err prob) = 1.0000000

The researcher made use of G Power 3.1 Software to measure the power of the hypothesis test. The power of the hypothesis test (1-β err prob) involving the Total Pretest Mean Score and the Total Posttest Mean Score of the students was 1.000 It indicates that the test was considered to be working perfectly well. It implies that there was 100% chance of correctly rejecting the null hypothesis (H0) and accepting the alternative hypothesis (H1) with 35 students.

5. Conclusion

The paired samples t-test confirmed that the difference between the Total Pretest Mean Score and the Total Posttest Mean Score of students was statistically significant. The difference was considered to have occurred because of the effect of teaching. Teaching the consonant sounds of English through the exposition strategy was effective. Teaching speech sounds of English is difficult, but the paired samples t test showed that teaching can certainly bring changes in the students' achievements.

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