ED 023 218

EC 002 602

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Audio-Visual Speech Reading, A Manual for Training the Hard of Hearing in Voice Communication.

Illinois Univ., Urbana. Speech and Hearing Clinic.

Pub Date Mar 67

Note -42p.

EDRS Price MF -\$025 HC -\$220

Descriptors-Audiovisual Communication, *Audiovisual Instruction, Auditory Evaluation, Auditory Tests, Auditory Training, Auditory Visual Tests, *Aurally Handicapped, Deaf, *Exceptional Child Education, Hard of Hearing,

Lipreading, Speech Instruction, *Teaching Methods

Designed for persons involved in teaching the deaf and hard of hearing, the booklet provides training in the fundamentals of speech reading, a bisensory (eye plus ear) approach to communication. Basic principles in teaching speech reading are defined, including the advantages of recognition of sounds as opposed to describe, use of audible and inaudible stimuli, advantages of contextual exercises, benchis of group instruction, and teaching easier sounds first. Also provided are 20 voice communication lists designed to evaluate the amount of voice which may be sent or received by a patient and a test of visual recognition ability for determining lip reading skill. Directions for using both are stated. Lessons in speech reading are included, beginning with vowels and progressing through the visible consonants to connected speech. The lessons treat recognition training (exploring the characteristics of a sound), and drills with sounds, sound combinations, and words (UB)



AUDIO-VISUAL SPEECH READING

A Manual for Training the Hard-of-Hearing in Voice Communication

J. C. KELLY

SPEECH AND HEARING CLINIC UNIVERSITY OF ILLINOIS
(Reproduced, November 1967)

During the past few years we have received an increasing number of remests for copies of the publication, <u>Audio-Visual Speech Reading</u>. Dr. James C. Kelly, the author, died in 1960. The small supply of the publication which remained at the time of his death was soon depleted. We believed at that time that if we merely reprinted the manual, readers might regard the material as "dated". But the pamphlet is still in demand. Partly to satisfy requests for it and partly to honor Dr. Kelly for his many years of work in aural rehabilitation, we reproduce the manual, with the former Mrs. Kelly's permission, as its author left it.

Copies of this manual are available for one dollar from the Speech and Hearing Clinic, University of Illinois, 601 East John Street, Champaign, Illinois.

> John J. O'Neill, Director Speech and Hearing Clinic

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AUDIO-VISUAL SPEECH READING

Α

Manual for Training the Hard-of-Hearing in Voice Communication

J.C. Kelly



Lipreading is the skill of recognizing the movements which accompany speech so that this speech may be more intelligible to the person receiving it. The "art" of lipreading has been taught or acquired for more centuries than there is a record of the teaching. A common conception of lipreading is that it is a form of communication by itself, substituting for hearing or taking the place of hearing as a means of receiving communication by voice. A chapter in Nitchie (3) is titled, "The Eye as a Substitute for Deaf Ears". Such a conception greatly influences the methods of teaching lipreading, most of which were devised in a previous century when hearing aids as we now know them were not available. Unless one wishes to communicate behind a prison guard's back or read the dialogue in old silent movies, there is little reason to consider lipreading as a silent form of communication. With the coming of the modern hearing aid, the eye is no longer a substitute for the ear but a supplement to the ear. These two, vision and audition, complement one another at all levels of hearing efficiency; such is the interpretation of recent investigation in hearing.

The hearing aid has changed our understanding of deafness. Time was when all persons with impaired hearing had similar listening behavior.

Modern hearing evaluation must consider what the person hears when wearing a hearing aid and after auditory and visual discrimination training in communication. Knowing the potential of the hearing aid and auditory training, therapists are no longer limited to the teaching of lipreading as a substitute for hearing. In place of the silent methods stressing kinaesthetic and visual stimulation, we must now consider audible methods aiming at bisensory reception with the eye helping the ear rather than substituting for it. It is better to call this speech-reading rather than lipreading, for the former term is broader than the latter.



Recent investigation has pointed up the advantage of using the eye plus the ear rather than the eye instead of the ear. Hudgins (2) has indicated that children with profound hearing losses benefit from combined stimulation and communication scores are better even when the impaired ear brings no intelligible response. Table I, from Hudgins, shows the communication scores of 14 pupils with profound hearing loss. These are children who should benefit least from the audible component in communication by voice -- children who are frequently considered unable to benefit from a hearing aid. If such gains can be measured with such children, those with less severe hearing impairment should be able to gain even more. The reader should also note an excellent study, also by Hudgins (5), which adds substantially to the above discussion.

O'Neill (4) in a recently reported study of normal hearing persons shows that they, like the profoundly deaf, make gains in voice communication when vision is added to audition. The second table, from O'Neill, shows the recognition scores for vowels and consonants when combined audio-visual reception is compared to auditory reception alone. O'Neill reports that with normal persons "vision contributed 44.5% to the understanding of vowels, 72% for consonants, 64.1% for words, and 25.9% for phrases".



Table I The Average Score of a Group of Profoundly Deaf Pupils Obtained from Tests of Lipreading, Hearing, and Lipreading and Hearing.

Pupils	Hearing Loss Left ear	(in db) Right ear	Age	Lipreading	Heari ng	Both
B.C.	98	95	13-8	58	7	70
K.C.	7 8	92	14-0	42	0	53
B.P.	87	88	12-7	52	41	72
C.W.	77	78	14-0	40	0	40
C.C.	82	83	11-9	30	0	44
B.D.	108	105	14-8	44	7	74
B.H.	97	97	15-0	40	0	42
W.K.	103	105	14-10	30	0	45
A.R.	78	100	16-2	40	0	66
B.S.	7 5	78	15-7	36	10	76
H.S.	88	92	11-4	30	0	42
W.T.	93	95	12-3	32	0	76
R.T.	83	87	11-7	37	0	50
L.W.	98	95	10-8	40	0	40

(From Hudgins, Clarence V., "Problems of Speech Comprehension in Deaf Children." The Nervous Child, Vol. 9, #1, Jan., 1951)
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Table II Visual-Auditory and Non-Visual-Auditory Recognition Scores for Consonants and Vowels (4 S/N ratios)

Sound	Visual-Auditory	Non-Visual-Auditory
0	7 6	51
i	74	59
e	68	57
ű	64	43
ซ	63	39
ε	58	51
1	58	49
S	86	71
f	84	40
ŗ	83	53
Ď	80	41
k	77	46
θ.	75	55
t	71	55

(From O'Neill, "Visual Components of Oral Symbols", <u>Journal of Speech and Hearing Disorders</u>, Vol. 19, #4, Dec., 1954)
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Table III shows the effect of vision, audition, and combined audiovisual stimulation on voice communication. The subjects were hard-of-hearing children under instruction in the Summer Residential Center sponsored by the Division of Services for Crippled Children, University of Illinois. Six students were given three of the series of communication tests that appear in the following chapter. Students were seated in tablet arm chairs in an arc, each student being ten feet from the speaker. One communication list was given by voice alone, the speaker facing away from the listeners. A second was given with inaudible voice, but with the speaker facing the listeners. The third was given with normal voice while the speaker faced the listeners. The conditions of communication were auditory, visual, and audio-visual. The visual communication scores were lowest for both words and letters. The auditory communication scores without vision were better. Four of the six children wore hearing aids and the two who did not could hear reasonably well without aids. However, the combined visual and auditory communication scores were much better than either of the other two. visual scores could correspond to the lipreading skill as a silent communication -- a substitute for hearing. The auditory scores represent the performance with hearing aids. The third set of communication scores are much better and show the advantage of combining vision and audition in communication. It may be noted that socially adequate communication is achieved with five of the six children, but only when the combined stimulation is used.



Table III Visual, Auditory, and Audio-visual Communication with Hard of Hearing Subjects.

Visual Only I.

1. Visual only		
Subject	Words	Letters
A B C D E F Mean Per cent	30 21 33 52 10 50 32.67%	65 63 60 75 45 78 64.33%
II. Auditory Only		
A B	88	98 86
B C	81 56	73
C D E F	38 25	77 30
E F	19	57
Mean Per cent	51.17%	70.17%
III. <u>Audio-visual</u>		
A	93	100 96
A B C D	93 82	100
Ď	75 69	96 63
E F	88	94
Mean Per cent	83.33%	91.50%

That auditory and visual discrimination of speech should complement each other so well is not surprising. 80% of communication mistakes are due to the consonant sounds, which are of weak intensity compared to vowels. The consonant sounds that are very difficult to hear are quite easily seen when a listener watches the face. For example, the "f" and "v", the "th" sounds, and the "p" are all difficult to hear yet easily seen. Vowel sounds are much more easily heard than consonants and do not cause the hard-of-hearing listener so much trouble. Add the audible and visible components together and good communication may result.

Not all sounds have equally visible movement. The beginning lipreader should be given material that will allow him to make the greatest immediate progress. Since vowels are easier to recognize than consonants because of the fact that they are louder, it would seem desirable to begin the study with vowels. The most recognizable vowels are those represented by the alphabet letters O,A,E, and U. Since alphabet letters are simple, wellknown "words", they are suitable for the beginning exercise in communication study. Scarcely any child is so young that he cannot "receive" alphabet letter words. The exercise is simple enough that it may also be used with adults who are apprehensive about their ability to learn new tricks. From the easiest vowels the exercise should progress to the more difficult vowels. Consonant study should follow, and again the easiest consonants should be studied first. The alphabet letter words provide good beginning material for communication practice. Learning theory suggests to the teacher that sounds in isolation are less well taught than sounds in a simple but meaningful reference. Rather than teach by isolated sound or nonsense syllable, instruction proceeds at a faster pace when meaningful alphabet letter words are used instead of nonmeaningful sounds or syllables. Most sounds may be taught by alphabet letter words.



The following are some principles which may be considered when instructing the speech-reader.

Recognition vs. Description

Many lipreading methods devote much time to a description of lip and tongue positions or movements (Nitchie, Jena). Although gross signs should be explained (like the lip rounding in the sound 0) attention to small differences like lip position between E and A is likely to produce little in recognition. In general, extensive description of tongue and lip positions or movements is not necessary to teaching speech-reading skill to the beginner. The job is recognizing speech through combined auditory and visual descrimination, but not describing the movement. The extensive description of movement supposes that the speech-reader has very limited residual hearing; and, although this may be necessary in instructing deaf children, it is seldom necessary in instructing the hard-of-hearing. Discrimination skill is best achieved through identification practice in a real speech situation.

Audible vs. Inaudible Speech

When speech is inaudible it is difficult to avoid exaggerated lip movement. The same is true of whispered speech. One of the clinical skills formerly taught to teachers of lipreading was that of presenting speech movement without sound and without exaggeration. To achieve this silent projection of speech it was even suggested that sound-proof booths be built to allow normal voiced speech to be used — the sound treatment cutting off the voiced or audible portion of the signal.

It is not even desirable to eliminate the audible voice from speechreading instruction. The value of inaudible voice is that it forces recognition without the accessory cue; it has value as a motivation. The lipreader will be reluctant to attent to visible cues when he can get audible cues.
However, the audible cue is so much a real part of voice communication, even with hearing handicapped children and adults, that training should never be

done with inaudible voice alone. Audible voice should be used at least half the time in training -- more as the training progresses. It is true that exaggerated movements in speaking are not desirable, for they are unnatural and not likely to be found in the conversation that the hard-of-hearing person must follow.

Contextual vs. Non-contextual Exercises

It has already been stated that meaningful material is more likely to achieve results than nonsense. Hence, exercises for the most part and where practicable, should employ words rather than isolated sounds or nonsense syllables. However, more practice is possible when key word exercises are presented to the trainee rather than sentences or connected speech. The sentence contains many "filler" words that need not be understood. These contribute little to discrimination practice. The meaning of a sentence is carried, frequently, by a single word or a few words, which if misunderstood will negate the meaning. It seems expedient to provide a chain of unrelated words for recognition-identification practice, each of which must be identified. If a word is identified, not because it is heard or seen, but because of its relation to another word or words in the sentence structure, neither the auditory nor visual cue can account for the identification. This is not the primary skill we are trying to teach. Identification from context, although important, is reserved for a later period in training when the fundamentals of audio-visual discrimination are employed to read connected speech. It is well known that phrases and sentences are easier to read than words, but the relationship between the two is very high -- the better the word recognition the better the sentence recognition.

Group vs. Individual Instruction

The greatest value of group instruction is that it permits the teacher to attend to a greater number of trainees. Group instruction in speech-reading ha



some advantages over individual instruction other than economy of teacher time. Any work in voice communication must consider at least two persons, a talker and a listener. This makes it possible for students to work in teams of two, one being the talker and the other the listener. The exercises that follow are designed for group work, although they may also be used in individual instruction. Talker-listener teams may work under the supervision of an instructor. Usually the number in the group should be four or six.

The social advantages of group work are many. Working with someone else in a team operation is good training for the hearing handicapped child. The communication game used as an exercise permits scoring of listener performance and presents a good check on activity. The write-down response following the presentation of the exercise line does not permit the child to avoid work. The fact that it is a game provides motivation. These scored exercises at the same time make the work interesting and competitive while allowing each talker-listener team to be a self-sufficient practice team under teacher direction.

What Sounds in What Order?

Easy sounds should be taught first; difficult ones later. Certain sounds that have little or no visual component need not be taught at all. It is important that the initial lessons be successful so that the trainee may continue with confidence. For this reason it was suggested that vowel sounds were more favorable than consonants for beginning work and the most visible vowels better than less visible ones. Such is the organization of these exercises. The visible consonants should be studied next. The highly readable sounds, from the standpoint of vision, make up about 40% of the speech sounds. These should be capable of identification almost all of the time to form the basis for speech recognition. If these sounds may



may be identified with accuracy, hearing and synthesis will allow for the recognition of connected speech. The sounds with low visibility-readability ratings need not be studied at all except in connected speech.

This exercise booklet provides the training in the fundamentals of speech-reading. Further practice with connected speech may be used to continue the work. It is well to use dialogues, one-act plays, and situational conversations to effect this further improvement.

The following is an arbitrary classification of the visual readability of vowels and consonants that may serve as a guide in determining the difficulty of sounds.

High Readability (vowels)	High Readability (consonants)	Poor Readability (consonants)
oo as in tooth a as in cat	p as in pie b as in buy	d as in dog t as in tin
aw as in saw	f as in face	n as in now
o as in boat	v as in vine	r as in rich
ee as in see	th as in thin	k as in king
ah as in lock	th as in then	g as in go
i as in my	m as in mice	ng as in sing
oy as in boy	ch as in chew	h as in house
a as in bake	j as in jam	
	sh as in show	(vowels)
	s as in see	•
	z as in zebra	i as in big
		u as in cup
		u as in good
		e as in ten

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Chapter II Evaluation of Communication

The non-medical handicap of impaired hearing is the extent to which the person is unable to receive communication as it is spoken to him in a face-to-face situation. To measure the extent of this handicap as well as the improvement made by training the person, some method should be used to assign a value to his ability to receive this communication.

The easiest way to do this would be to talk with the person and judge from his answers to questions just how much he is able to comprehend. Such a procedure would not permit comparative scores, for the content would vary too much. A set list of sentences requiring specific answers to indicate speech reception would be better. Yet sentence tests are bulky and hard to equate for difficulty in communication. To have twenty different lists of sentences, each no more or less difficult than another, would take hundreds of sentences, considerable space in a book, great difficulty in recording and scoring, and much more administration time than would be practicable. The following communication tests, which may be used either for speaking or listening (receiving) evaluation, have identical content so far as the alphabet letter words are concerned, equal difficulty so far as the lists are concerned, and sixty-seven scorable items that may be administered and easily recorded in a couple of minutes. They are easy enough to be used with most handicapped children. They are known to have considerable reliability and validity in a voice communication situation (1).

The twenty lists that follow are designed to measure the amount of voice communication that may be either sent or received by handicapped children. As a test of receiving speech, it is suggested that three steps be undertaken:

(1) with visual cues only (2) with auditory cues only, and (3) with both visual and auditory cues. The measure that best indicates the student's ability in face-to-face conversation is the third--the amount of speech heard and seen



when the speaker uses live voice, facing the receiver at a distance of from 6-10 feet (or any fixed distance common to ordinary conversation). It is also possible to measure the effect of a hearing aid by presenting one list without an aid and another list with an aid.

Each line is preceded by a carrier phrase, "Number one is", "Number two is", and so on. The carrier phrase alerts the receiver, provides a sentence-like form for the message line, and provides a familiar introduction to each message line. The carrier phrase is neither written down on the response sheet nor scored. Its purpose is to expedite the receiving. Each alphabet letter is scored separately. The total number of items that may be communicated is sixty-seven. Efficiency is computed as the per cent of sixty-seven items correctly sent or received.



Voice Communication List 1		Voice Communication List 3				
Part I		Part	I			
1.	pool kite	sum gum		1. 2. 3.	park fruit paint	calf long mail
3.	thin	show cheese		4.	rain	store
4. 5.	read rich	sing		5.	race	black
5. 6.	blue	rain		6.	price	feed
7.	steep	scar		7.	fade	drum
8.	fine	pink		8.	rest	seat
Part	II			Part	II	
1.	TNV			1.	VTN	
	SLD			2.	DSL	
2. 3. 4. 5. 6. 7.	MTB			3.	BTM	
4.	KFP			4.	KPF	
5.	GZJ			5.	GJZ	
6.	MLS			6.	SLM	
Ž.	VTC			7.	TCV	
8.	NTF			8.	TNF	
9.	DGM			9.	DMG	
9. 10.	KCN			10.	NKC	
11.	FPZ			11.	PZF TDB	
12.	BDT			12.	NKH	
13.	NHK			13. 14.	LTV	
14.	VLT			15.	DNS	
15.	SND			16.	GZB	
16. 17.	ZBG PLG			17.	LPG	
		cation List 2		Voice	Communic	cation List 4
Par				Part	1	
1	thumb	Cool		1.	tooth	scene
1. 2.	tight	gun		2.	run	grade
3.	tin	sew		3.	twin	ride
4.	weed	tease		4.	chain	side
5.	witch	thing		5.	mine	read
6.	glue	raid		6.	pain	tree
7.	šteam	star		7.	sick	crown pick
8.	ache	sail		8.	vine	pick
P ar	t II			Part	II	
1.	LBT	10. KFP		1.	LDS 1	O. KNC 1. ZPF
2. 3.	MTN	11. ZDB		2. 3.		2. TBD
3.	VPK	12. THN		3. 4.	FPK 1	3. KNH
4.	FJG	13. KLV		5.	ZJG 1	4. TLV
5.	ZSM	14. TSN		6.	LSM 1	5. DSN
6.	LCT	15. DBG		7.	VCT 1	6. ZBG
7.	YNT FGM	16. ZLP 17. GDS		8.		7. GLP
8. 9.	DCN	17. 400		9.	DGM	
7.	DON					

Voice Communication List 5 Voice Communication List 7 Part I Part I 1. bone came 1. bark gas 2. ten soak 2. flute log 3. big soup 3. bait nail 4. taste mouse 4. wait score 5. note line 5. waste plan 6. curl brass prize 6. seed 7. sat dry 7. shade plum gate 8. wail 8. wet treat Part II Part II LTN **KFB** 1. 10. 10. 1. MDT **ZNF** 11. 2. MPK ZPD 2. **VBT** 11. TPD 3. VJG 12. TLV 3. FNK 12. **KBH** FSM 13. 4. KNS ZLG TNV 4. 13. 5. ZCT 14. TBG 5. LJM 14. DLN LTN DLP 6. 15. **VST** 6. 15. ZSG 7. ZDS VMG 16. **FCT** GBP 7. 16. 8. FCN 17. **GBT** DMN 17. PSL 8. DFP 9. KGC 9. Voice Communication List 6 Voice Communication List 8 Part I Part I 1. too1 fun 1. boat qame pipe 2. come 2. soap pen fin 3. snow 3. suit pig 4. lead cheap 4. mou th paste 5. rib wina 5. light nose clue 6. range girl 6. grass 7. speed spar 7. fat cry 8. sign pick cake rail Part II Part II MTD 1. 10. ZFN 1. VTB 10. **TFP VTB** 2. 11. TOP FTN 11. 2. CDB 3. FKN 12. CHB 3. ZKL 12. THN ZGL TVN 4. 13. 4. LGJ 13. DVL

5.

6.

7.

8.

9.

VMS

FTC

DTM

KNG

ZCN

14.

15.

16.

17.

ZNS

GLB

PGS

WDD



5.

6.

7.

8.

9.

LMJ

VTS

FTC

DNM

KCG

14.

15.

16.

17.

DNL

ZGS

GPB

PLS

Voice Communication List 9

Part I

1.	arm	cat
2.	flew	lock
3.	bake	main
4.	rain	sore
5.,	raise	lack
6.	shape	crumb
7.	pride	feet
8.	vest	cleen

Part II

1.	BVT	10.	PTF
2,	NFT	11.	BCD
3.	LZK	12.	NTH
4.	JLG	13.	LDV
5.	SVM	14.	SZN
6.	CFT	15.	BGL
7.	MDT	16.	SPG
8.	GKN	17.	DMP
9.	NZC		

Voice Communication List 10

Part I

1.	poïA	cake
2.	school	pear
3.	broom	hen
4.	knife	pill
5.	tag	lump
6.	sleeve	move
7.	SOX	comb
8.	men	rav

Part II

1.	TNV	10.	FBT
2.	TLF	11.	DNC
3.	KJZ	12.	HLT
4.	GSL	13.	VSD
5.	MCV	14.	NBZ
6.	TMF	15.	LSG
7.	TGN	16.	GPD
8.	NKD	17.	PBM
9.	CPZ		

Voice Communication List 11

Part I

1.	tune	steam
2.	one	grape
3.	trim	ripe
4.	change	sigh
5.	line	reach
6.	paid	tea
7 .	slick	brown
8.	aid	sna11

Part II

	~		
1.	TBV	10.	FP1
2.	TNF	11.	BDC
3.	KLZ	12.	HNT
4.	GJL	13.	VLD
5.	MSV	14.	NSZ
6.	TCF	15.	LBG
7.	TMD	16.	GSP
8.	NGK	17.	PDM
9.	CNZ	• • • •	, 0.

Voice Communication List 12

Part I

1.	joy	game
2.	stool	hair
3.	ruin	hem
4.	night	sill
5.	see	noon
6.	tank	hum
7.	box	poem
8.	ten	white

Part II

1.	NVT	10.	BTF
2.	LFT	11.	NCD
3.	JZK	12.	LTH
4.	SLG	13.	SDV
5.	CV!1	14.	BZN
6.	MFT	15.	SGL
7.	GNT	16.	PDG
8.	KDN	17.	BMP
9.	PZC		J. 11



Voice Communication List 13

Voice Communication List 15

Part I

1.	knee	rice
2.	skin	mean
3.	bug	sack
4.	smoke	case
5.	mice	toast
6.	hog	gum
7.	rail	file
8.	bump	spear

Part II

rar	C 11		
1.	LFT	11.	DLT
2.	TZJ	12.	HD\$
3.	KLS	13.	VZB
4.	GVC	14.	NGS
5.	MFN	15.	LPD
6.	TMG	16.	GMB
7.	TDK	17.	PVN
8.	NZP		
9.	CTB		
10.	FNC		

Voice Communication List 14

Part I

١.	rat	back
2.	name	b i r d
3.	neat	rode
4.	whip	mess
5.	room	song
6.	seed	run
7.	say	great
8.	lame	brute

Part II

1.

10.

CFT

2.	LTS	12.	DHZ
3.	VKC	13.	GVS
4.	FGN	14.	PN!
5.	NCM	15.	MLE
6.	DTK	16.	VGI
7.	ZTP	17.	FPT
8.	TMB		
Q	NCI		

11.

BDS

ZLG

Part I

1.	pane	rest
2.	sun	XSW
3.	mouse	swim
4.	rim	long
5.	ham	brake
6.	fill	coat
7.	jump	neck
8.	ride	wound
Daud	. TT	

Par	t II		
1.	LFT JZT	11. 12.	TLD SDH
3.	SLK	13.	BZV
4. 5.	CVG NFM	14. 15.	S GN DPL
6.	CMT	16.	BMG
7. 8.	KDT Pzn	17.	NVP
9. 10.	BTC CNF		

Voice Communication List 16

Part I

1.	lap	pass
2.	mane	turn
3.	mean	raw
4.	loow	test
5.	root	saw
6.	seat	red
7.	sale	greer
8.	lace	broom

Part II

1.	JZL	11.	SBD
2.	SLT	12.	ZDH
3.	CVK	13.	SGV
4.	NFG	14.	DPN
5.	MCN	15.	BIL
6.	KDT	16.	NVG
7.	PZT	17.	TFP
8.	BTM		• •
9.	LNC		
10.	TCF		



Voice Communication k ist 17

Part I

1.	rap	bat
2.	aim	bur
3.	moat	wrc

- wrote 4. wood nest root **5.** thaw
- seek 6. wren sail 7. greed late 8. prune

Part II

•	34114		0.014
1.	JNK	11.	SGV
2.	SFG	12.	ZPN
3.	CDN	13.	SML
4.	NCT	14.	DVG
5.	MZT	15.	BFP
ó.	KTM	16.	NZL
7.	PNC	17.	TIT

- 8. BCF
- 9. LBD 10. TDH

Part I

1.	name	weed
2.	sum	rat
3.	house	swing
4.	ring	log
5.	pilĺ	boat

Voice Communication List 19

hand 6. great junk 7. nest wide mice

Part II

1.	KJN	11.	VSG
2.	GSF	12.	NZP
3.	NCD	13.	LSM
4.	TNC	14.	GDV
5.	TMZ	15.	TBF
6.	MKT	16.	LNZ
7.	CPN	17.	TLP
8.	FBC		. ••

- 9. DLB 10. HTD

Voice Communication List 18

Voice Communication List 20

Part I

1.	tone	same
2.	pen	soap
3.	tooth	pig
4.	paste	loud
5.	no	mine
6.	girl	grass
7.	fat	cry
8.	vine	rail

Part II NKJ 11. 1. GVS FGS 12. PNZ 13. 3. DNC MLS

VGD

FTB

ZLN

PTL

- 14. CTN ZTM 15. **5.** TMK 16. 6. NCP 17.
- **CFB** 8.
- BDL DHT 9. 10.

Part I

1.	coat	gain
2.	pin	vote
3.	soon	pick
4.	waste	house
5.	most	lime
6.	curl	class
7.	that	fry
8.	cape	real

Part II

1.	NVT	11.	ZPF
2.	DLS	12.	DTB
3.	TI1B	13.	HKN
4.	PKF	14.	LVT
5.	JZG	15.	NDS
6.	MSL	16.	BGZ
7.	CVT	17.	GPL
8.	FTN		
9.	MDG		

NCK 10.

Lipreading Testing

Speech-reading should employ both the audio and visual channels of speech cue recognition. In this manner speech-reading should include both visual and auditory discrimination of the signs or cues that accompany speech. Of this process of speech reception, lipreading is the visual portion. It may be of some value, still, to separate the visual from the auditory function for purpose of diagnosis. The communication lists in this chapter are not well suited to a study of visual discrimination alone. To evaluate the lipreading or visual recognition skill, the following list of alphabet letters, words, and sentences is recommended. It may be used in either of two ways: (1) as a teacher-presented test with the teacher using inaudible voice, or (2) as a test on film projected to a class of speech-readers with responses written down.

The content of this test has been photographed on 16 mm. moving picture film and is available through the University of Illinois. Its use has been discussed in an article in the Journal of Speech and Hearing Disorders (1). Each test line in the moving picture film is separated from the others by blank film that allows each trainee time to write down what he sees in this projected silent film. The projector may be stopped if the time for writedown of responses is too short.

If the moving picture film is not available, the teacher may present the test to trainees by inaudible voice in a classroom and get some indication of the relative lipreading abilities of the students and the progress made in lipreading skill.



University of Illinois Lipreading Test

Section I Alphabet Letters

1.	AOE	9.	IOJ
2.	YBU	10.	AGN
3.	IGM	11.	RYV
4.	URV	12.	BOE
5.	REH	13.	ABV
6.	BIU	14.	URE
7.	JFC	15.	OLA
Я	HYM		

Section II Words out of Context

1. 2. 3. 4.	Number		whisper window picture brother baby	shoe baseball fish watch soap	
6. 7. 8. 9.	Number Number Number	six is seven is eight is nine is	boy mother shadow telephone movie	apple sidewalk pencil supper airplane	touch radio face cowboy music

Section III Sentences-Connected Speech

1.	Thank you very much	6.	We like baseball.
	We saw the show.	7.	Wash your face.
3.	What is your name?	8.	Brush your teeth.
4.	Open the window.	9.	I have a new watch.
5.	How are you this morning?	10.	What time is it?

This test, either when given by the teacher or projected, should be given in a room free from distracting noise. Even though it is a test of visual recognition of speech, distracting noise will interfere with the attention given to the test lines. Care should be taken to see that there is plenty of light and that each pupil has a good opportunity to see. In so far as physical conditions permit, each child should be about the same distance away from the speaker and viewing from extreme angles should be avoided. Care must also be taken not to rush the viewer on his written responses; this will also lower the score. The viewer should get only one chance at each test line--



none should be repeated. This will be possible if a satisfactory explanation and a trial run of each section precedes the test; the procedure must be understood.

Reference

1. Kelly, J.C. "A Summer Residential Program in Hearing Education."

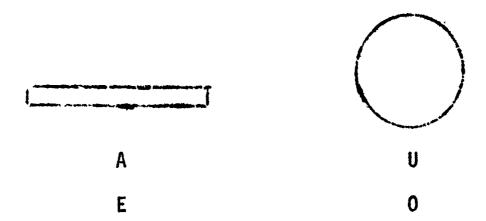
<u>Journal of Speech and Hearing Disorders</u>. Vol. 19, #1, March, 1954.



LESSONS IN SPEECH READING

The first lesson should be an easy one that the beginning speech-reader may be expected to complete with ease. In order to insure initial success, the beginning lesson considers the communication of four "words", A, E, O, and U. These "words" have certain characteristics that make them useful in the introduction of audio-visual discrimination of speech. They are vowels or diphthongs — thus they are louder than other sounds and the supplementary auditory cue may be used. Two of them involve one of the two basic lip movements of vowels and the other two involve the second. Lastly, they are the easiest of all vowel sounds to identify.

The teacher should present the two basic shapes of front and back vowels by drawing on the board a circle indicating lip-rounding and a bar representing the slit of front vowel formation. Under each of these two drawings should be listed the two letters, as follows:



Practice in the following Exercise 1 should involve the recognition of these four "words" by write-down. Before trying the write-down response test, the teacher should have a practice identification using voice and inaudible speech. The exercise should be scored twice, once with and once without voiced sound. Alphabet letter blocks may be used if props will make the lesson any more interesting. The same procedure should be used in the two and three series exercises -- audible and silent scores being used.



Lesson I Vowels

Exercise 1

After recognition practice the teacher will give the following letters in conversational voice to students seated 4-6 feet away in a face-to-face situation. Students will write down the letters they hear and see. Use carrier phrase, "Number one is---".

Tes	t 1	Audible		Answer Sheet	Test	<u>: 1</u>
1.	0	11.	0	1.	11	
2.	E	12.	Α	2.	12.	
3.	Α	13.	E	3.	13.	***************************************
4.	0	14.	U	4.	14.	*****
5.	E	15.	A	5.	15.	
6.	U	16.	E	6.	16.	
7.	A	17.	0	7.	17.	
8.	0	18.	E	8.	18.	
9.	U	19.	Ū	9.	19.	
10.	£	20.	E	10.	20.	

Now the teacher should try the same procedure but without audible speech to see what the students can do with lipreading alone.

Tes	t 2	Silent		Answer Sheet	Test	2
1.	Α	11.	Ε	1.	11.	
2.	U	12.	0	2.	12.	
3.	Ε	13.	Α	3.	13.	*************
4.	0	14.	E	4.	14.	-
5.	U	15.	U	5.	15.	***************************************
6.	Α	15.	Α	6.	16.	
7.	0	17.	Ε	7.	17.	-
8.	E	18.	0	8.	18.	
9.	0	19.	U	9.	19.	
10.	A	20.	E	10.	20.	

Exercise 2

The next step in hearing and seeing speech is the "chain of words" factor. Two alphabet letters will be seen rather than one. The letters Y and I are added for variety.

Tes	t 3	Audible		Answer Sheet	Test	3
1.	EU	11.	UY	1.	11.	
2.	0E	12.	10	2.	12.	*****************
3.	AO	13.	YA	3.	13.	
4.	r)	14.	OY	4.	14.	-
5.	OA	15.	OU	5.	15.	
6.	UE	16.	AE	6.	16.	
7.	IE	17.	EO	7	17.	***********
8.	EO	18.	ΥI	8.	18.	
9.	EE	19.	ŌΕ	9.	19.	
10.	YO	20.	ΙE	10.	20.	***************************************



The same type exercise should be given again without audible voice.

Tes	t 4	Silent		Answer Sheet	Test	4
i. 2. 3. 4. 5. 6. 7.	OU EO AE YU EI AO EY UE	11. 12. 13. 14. 15. 16. 17.	EA OU IE YO OE AI UI EO	1 2 3 4 5 6 7 8	11. 12. 13. 14. 15. 16. 17.	
9. 10.	AI OI	19. 20.	07	9.	19. 20.	

Exercise 3

A trio of letters instead of two make up the third practice on alphabet letters. This will extend the effort of the student somewhat and will be more difficult than one or two item recognition.

Tes	t 5	Audible		Answer Sheet	Test	5
1.	0EA	11.	IOE	1.	11.	
2.	EOY	12.	UIA	2.	12.	************
3.	UEU	13.	0EI	3.	13.	******
4.	AEA	14.	YOI	4.	14.	
5.	AOE	15.	EAY	5.	15.	*********
6.	EOE	16.	00E	6.	16.	***************************************
7.	IOU	17.	AEY	7.	17.	**************
8.	·OAY	18.	EIY	8.	18.	
9.	UAY	19.	AOU	9.	19.	
10.	EIO	20.	AIO	10.	20.	
				101	LU.	*************

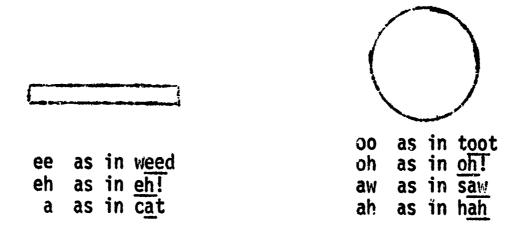
The same communication drill is now tried without audible voice.

Tes	t 6 S	ilent		Answer Sheet Test 6	
1. 2. 3. 4. 5. 6. 7.	EIO UYE OIA AEY UIO AEO EYA UIE	11. 12. 13. 14. 15. 16. 17.	YAI EIO AYA OEA IOI AIE UIA IOE	1. 11. 2. 12. 3. 13. 4. 14. 5. 15. 6. 16. 7. 17. 8. 18.	
9. 10.	OUA	19. 20.	AYO EOI	9 19 10 20	-



Lesson II Vowels

Lesson I dealt with easy alphabet letter words, AEOUY and I. Lesson II will also deal with vowel sounds but we will try to use some words that are suited just to this lesson. We will label or spell some sounds as follows:



Demonstrate that lip position and movement will follow the above diagram, rounding for the sounds in the right column and slit lips for those on the left. Then have the students identify the following sounds by repeating them when the teacher uses sound and facial gesture to mean the following:

```
ah! (that's good) oo! (it's cold)
aw! (that's a shame) eh! (what did you say?)
oh! (I'm surprised) a! (that tastes terrible)
ee! (look out)
```

Now the communication drill may be undertaken with audible voice. Have the students learn to identify the sounds with the above spellings for recording purposes.

Dri	11 1	Audible		Answer Sheet Tes	t 1
1.	ah	11.	oh	1. 11.	
2.	ee	12.	aw	2. 12.	
3.	аw	13.	ah	3. 13.	************
4.	oh	14.	eh	4 14.	
4. 5.	a	15.	ee	5. 15.	-
6.	eh	16.	00	6 16.	****
7.	00	17.	eh	6 16. 7 17.	************
8.	aw	18.	ah	3. 18.	
9.	ee	19.	oh	9. 19.	***************************************
10.	a	20.	a	10. 20.	*****

Dri	11 2	Silent		Answer Sheet Tes	t 2
1.			eh		<u>t 2</u>
1.	11 2 ee oh	Silent 11. 12.	eh ah	1. 11.	<u>t 2</u>
1. 2. 3.	ee	11.	eh ah oh	1. 11.	t 2
1. 2. 3.	ee oh	11. 12.	ah oh	1 11. 2 12. 3. 13.	t 2
1. 2. 3.	ee oh a	11. 12. 13. 14.	ah oh ee	1 11. 2 12. 3. 13.	t 2
1. 2. 3.	ee oh a aw	11. 12. 13.	ah oh ee eh	1 11. 2 12. 3 13. 4 14. 5 15.	t 2
1.	ee oh a aw ah	11. 12. 13. 14. 15.	ah oh ee	1 11. 2 12. 3 13. 4 14. 5 15. 6 16.	<u>t 2</u>
1. 2. 3. 4. 5.	ee oh a aw ah oo	11. 12. 13. 14. 15. 16. 17.	ah oh ee eh oh	1.	<u>t 2</u>
1. 2. 3. 4. 5. 6. 7.	ee oh a aw ah oo eh	11. 12. 13. 14. 15.	ah oh ee eh oh a	1.	t 2
1. 2. 3. 4. 5. 6. 7.	ee oh a aw ah oo eh oh	11. 12. 13. 14. 15. 16. 17.	ah oh ee eh oh	1.	t 2

The second portion will use two sounds rather than one; they should be recorded and scored in the same way as previous drills.

Dri	11 3	Audible				Answer Sheet Test 3
1.	ah	oh	11.	aw	00	1 11
2.	ee	aw	12.	oh	eh	2. 12.
3.	a	eh	13,	a	ah	3 13
4.	aw	00	14.	oh	ee	4 14
5.	ah	ee	15.	ah	00	5. 15.
6.	eh	aw	16.	ee	' ah	6 16
7.	ee	ah	17.	W	a	7 17
8.	eh	ah	18.	eh	e e	8 18.
9.	oh	ah	19.	oh	aw	9 19
10.	ah	eh	20.	a	oh	10 20

Drill 4 should use inaudible voice.

Dri	11 4	Silent				Answer Sheet Test 4
1.	oh	ee	11.	aw	eh	1.
2.	aw	ah	12.	oh	ee	2. 12.
3.	a	oh	13.	ah	00	3. 13.
4.	ee	aw	14.	oh	a	4
5.	eh	ah	15.	eh	ee	5. 15.
6.	00	oh	16.	eh	a	6. 16.
7.	aw	ah	17.	aw	a	7. 17.
8.	eh	ee	18.	oh	eh	8. 18.
9.	aw	00	19.	3	oh	9. 19.
10.	00	ah	20.	ah	aw	10 20

Miscellaneous Drills

The following are word drills employing words that are simple and belonging to a particular family. The student may know that all words will be, in any given drill, related to the family. Each one can be given with audible and inaudible voice. The first set communicates numbers between one and nine.

<u>Drill 5</u>	Drill 6		
1. two 6. eight 2. one 7. nine 3. three 8. four 4. six 9. seven 5. nine 10. five	 six four nine seven four two one five three five 	7. 8. 9.	two eight five one nine four three two seven four

The following involve the family of color names.

<u>Drill 7</u>		<u>Drill 8</u>		
 white brown yellow 	blue gray red black violet		7. 8. 9.	green yellow pink white brown blue black white red blue



Lesson III Consonants

The consonant sounds most suited to a beginning lesson are the "p", "b" and "m". These may be represented by the alphabet letter "words", P, B, and M. The visible cue for recognizing these sounds is the compression of the lips, completely closing the mouth. This should be demonstrated but not labored. It is more important that the sounds be easily identified by vision, although it is more difficult to discriminate the P from B or the P from M. It should be noted, however, that the P and B are not visually identical and a good speech reader can often tell one from the other. the P is usually shorter in duration than B in most syllables. This factor of discrimination is not of great importance at this stage of training however.

<u>Dr</u>	ill 1 Audible			Answer Sheet Test 1
1. 2. 3. 4. 5. 6. 7. 8. 9.	PA MI OM EB OE ME PY MI IB EM	11. 12. 13. 14. 15. 16. 17. 18. 19.	RB MY MP BY PM AP MB AM UP IB	1. 11. 2. 12. 3. 13. 4. 14. 5. 15. 6. 16. 7. 17. 8. 18. 9. 19. 10. 20.
	BU PA OM BA PB BY OP MI MB BP	20. 11. 12. 13. 14. 15. 16. 17. 18. 19.	EM PE BO MP AB PM BA UM BE PO	Answer Sheet Test 2 1. 11. 2. 12. 3. 13. 4. 14. 5. 15. 6. 16. 7. 17. 8. 18. 9. 19. 10. 20.

Recognize and call back the following phrases or sentences. It is possible to conduct these as write-down exercises but not necessary in this part of the training.

- 1. Pass the potatoes.
- 2. Pay the paperboy.
- 3. Move the picture.
- 4. Mail the package.
- 5. Bake a pie.

- 6. Pick the peaches.
- 7. Play the piano.
- 8. Meet the people.
- 9. Buy a bushel.
- 10. Run a mile.



The following game is based on three rather than two letters.

<u>Dri</u>	11 4	<u>Audible</u>		Answer Sheet	Test 4
7.	MEB	11.	PMA	1.	11.
2.	YBY	12.	BEO	2.	12.
3.	BEB	13.	AYM	3.	13.
4.	EO B	14.	EBI	4.	14.
5.	BMA	15.	BOP	5.	15.
6.	MUB	16.	APL	6.	16.
7.	BUP	17.	EBA	7.	17.
8.	OPM:	18.	IBO	8.	18.
9.	101	19.	EPH1	9.	19.
10.	UMP	20.	OIM	10.	20.
Dri	11 5	Silent		Answer Sheet	Test 5
<u>Dri</u> 1.	11 5 BEM	Silent 11.	MAP	· · · · · · · · · · · · · · · · · · ·	
1.			MAP EBO	1.	11.
1. 2. 3.	BEM	11.		1.	
1. 2. 3. 4.	BEM YBO	11.	EB0	1 2 3	11. 12.
1. 2. 3.	BEM YBO BAE	11. 12. 13. 14.	EBO MYA	1 2 3 4 5.	11. 12. 13.
1. 2. 3. 4. 5.	BEM YBO BAE BEO	11. 12. 13. 14. 15.	EBO MYA BIE	1 2 3 4 5	11. 12. 13. 14. 15.
1. 2. 3. 4. 5.	BEM YBO BAE BEO MAB	11. 12. 13. 14.	EBO MYA BIE POB	1 2 3 4 5.	11. 12. 13. 14.
1. 2. 3. 4. 5. 6. 7. 8.	BEM YBO BAE BEO MAB BUM	11. 12. 13. 14. 15.	EBO MYA BIE POB PYA	1 2 3 4 5	11. 12. 13. 14. 15.
1. 2. 3. 4. 5. 6.	BEM YBO BAE BEO MAB BUM PMB	11. 12. 13. 14. 15. 16.	EBO MYA BIE POB PYA ABE	1 2 3 4 5 6	11 12 13 14 15 16 17



Lesson IV Consonants f. v.

A second group of consonants that are easily recognizable are the "f" and "v". The student should be made aware of the difference between the sounds, voiced and voiceless, and the visible sign -- the upper teeth on the lower lip -- should be demonstrated. From this point on the principal task is recognizing the sound and the description is secondary. The amount of discussion of the position and movement of the sound is optional with the teacher. The basic "words" used to illustrate this sound are the letter names F and V.

Dri	11 1 Audible	<u> </u>		Answer Sheet	Test 1
1.	OV	11.	FE	1.	11.
2. 3.	VB	12.	BF	2	12.
	MV	13.	FM	3.	13.
4.	AF	14.	VM	4.	14.
5.	VE	15.	BV	4. 5.	15.
6.	OF	16.	VF	6.	16.
7.	FV	17.	VB	7.	17.
8.	FA	18.	BU	8.	18.
9.	VE	19.	OV	9.	19.
10.	EF	20.		10.	20.
1.	11 2 Silent	11.	OF NE	Answer Sheet 1.	Test 2
1.	FV UB	12.	VE	1.	11. 12.
1. 2. 3.	FV UB MV	12. 13.	VE VB	1 2 3	11. 12. 13.
1. 2. 3. 4.	FV UB MV AF	12. 13. 14.	VE VB MV	1 2 3 4	11. 12. 13. 14.
1. 2. 3. 4. 5.	FV UB MV AF VE	12. 13. 14. 15.	VE VB MV FM	1 2 3 4 5	11. 12. 13. 14. 15.
1. 2. 3. 4. 5.	FV UB MV AF VE UV	12. 13. 14. 15.	VE VB MV FM FO	1 2 3 4 5 6	11 12 13 14 15 16
1. 2. 3. 4. 5.	FV UB MV AF VE	12. 13. 14. 15. 16.	VE VB MV FM FO IF	1 2 3 4 5 6	11.
1. 2. 3. 4. 5.	FV UB MV AF VE UV	12. 13. 14. 15.	VE VB MV FM FO	1 2 3 4 5 6 7 8	11.
1. 2. 3. 4. 5. 6.	FV UB MV AF VE UV EV	12. 13. 14. 15. 16.	VE VB MV FM FO IF	1 2 3 4 5 6	11.

The following phrases may be used for a communication drill on a call-back or a write-down basis.

Drill 3 Audio-visual or Visual Only

- 1. I feel fine.
- 2. I caught a fish.
- 3. He's a funny boy.
- 4. I like vanilla ice cream.
- 5. We had a fine vacation.

- 6. Fire the furnace.
- 7. Visit the village:
- 8. I have five fingers.
- 9. Fill the vase.
- 10. Today is Friday.



Dri	11 5 Audible			Answer Sheet Test 5
1. 2. 3. 4. 5. 6. 7. 8.	VEF AVI FVF OBV MFM EFA FFB MFB VOI FOB	11. 12. 13. 14. 15. 16. 17. 18. 19.	IFM VIF OIV AEV VFA FBV AVE OIF VFV MVF	1. 11. 2. 12. 3. 13. 4. 14. 5. 15. 6. 16. 7. 17. 8. 18. 9. 19. 10. 20.
Dri	13 C C31 4			
	11 6 Silent			Answer Sheet Test 6

Short Story--Aesop's Fable

A young fawn once said to his mother, "You are larger than a dog, can run faster, and you have horns which you can use. Why are you so afraid of dogs?"

The mother answered, "I know that everything you say is true. But every time I hear a dog bark, I am frightened and run away as fast as I can."

No arguments will give courage to a coward.

Questions:

- 1. What is a fawn?
- 2. Are deer afraid of dogs?
- 3. Why should a deer not be afraid of dogs?4. Does a deer ever try to find out if it should be afraid of dogs?
- 5. What does the last sentence mean?



Lesson V Connected Speech

The following game is a directions test. A student can indicate that he hears the direction by doing what he is told to do. For instance, if the direction is "Wave your hand," and the student waves his hand, it is obvious that he received the direction. Give the exercise both with audible voice and as silent communication. It is a model for other exercises that may be used or additions to this one.

- 1. Point to the window.
- 2. Put your finger on the side of your nose.
- 3. Hold up two fingers.
- 4. What number comes after seven?
- 5. How do you spell the word "watch."?
- 6. How many eyes do you have?
- 7. Is the sun shining?
- 8. Which do you like best--milk or lemonade?
- 9. How old were you on your last birthday?
- 10. Point to your right shoe.
- 11. How much are two and two?
- 12. How many people are there in your family?
- 13. What is your father's first name?
- 14. How many fingers do you have on one hand?
- 15. How much are five and three?
- 16. Do you have any brothers?
- 17. Put your finger on your chin.
- 18. What color is your hair?
- 19. How many nickels are there in a quarter?
- 20. How do you spell the word "man."?



Lesson VI Consonants

Among the most easily recognized consonant sounds are the two "th" sounds. One is voiced, as in the word "then" and the other is voiceless, as in the word "thin". These two sounds are not alike even though spelled the same way. To make the sound the tip of the tongue is put on the cutting edge of the upper teeth. This can be seen and the "th" sounds are quite visible. The "th" sounds are likely to be confused with "t", "d", and "s". There is no alphabet letter for "th" so we must use words for discrimination practice.

Recognize and call back or write down the following short messages. Use both audible and inaudible voice.

Drill 1 Audible

- 1. I think so.
- 2. Thank you very much.
- 3. He blew the feather.
- 4. The weather is nice.
- 5. This is thick soup.

Drill 2 Silent

- 1. We thought so.
- 2. I thank you.
- 3. It was light as a feather.
- 4. The weather is warm.
- 5. He cut his thumb.

- 6. He hurt his thumb.
- 7. I lost the thimble.
- 8. He thought so.
- 9. He coughed three times.
- 10. A dime is thin.
- 6. I found the thimble.
- 7. What do you think?
- 8. We walked three miles.
- 9. He was a thin man.
- 10. Give me the other one.

Short Story--Aesop Fable

A boy put his hand into a jar to get some nuts. He took as many as he could hold in his hand, and then he tried to take them out he could not get his hand past the neck of the jar. He was unable to let loose of the nuts and yet could not get his filled hand out of the jar. A man, watching him do this said, "Be satisfied with half the amount and you can easily get your hand out."

Questions:

- 1. What was the boy trying to get out of the jar?
- 2. Why couldn't he get his hand out?
- 3. What was the solution to the problem?



Lesson VII Consonants

Three consonant sounds having a high visibility rating are "ch", "sh", and j. All three are alike in that the lips are puckered or protruded for these sounds. The recognition can be demonstrated by three alphabet letter names, H, J, and G. The following exercises give discrimination practice.

Dri	11 1 Audibl	<u>e</u>		Answer Sheet	Test 1
1. 2. 3. 4. 5. 6. 7. 8. 9.	JE MH JH GM JG HE GE AH JM YH	11. 12. 13. 14. 15. 16. 17. 18. 19.	AH BG MJ HG OG GA JO JB IG	1 2 3 4 5 6 7 8 9 10.	11.
Dri	11 2 Silent			*************************************	
		•		Answer Sheet	Test 2

The following sentences are to be used in communication practice with both audible and inaudible voice--both as call back and write-down exercises.

Drill 3 Audible and Inaudible

- 1. We saw the show.
- 2. I have a new pair of shoes.
- 3. It was a funny joke.
- 4. We know a boy named Joe.
- 5. Jack and Jill went up the hill.
- 6. We played checkers.
- 7. He was an Indian chief.
- 8. My brother lives in Chicago.
- 9. Don't push and shove.
- 10. Is the sun shining?

Short Story--Aesop Fable

A dog, crossing a bridge over a stream, with a bone in his mouth, saw his own shadow in the water. He thought that it was another dog with a bigger bone. He then dropped his own bone and tried to get the bone away from the other dog. He lost both of them. his own bone because it fell in the water, and the other one because it was only a shadow.



The following are three letter communication drills.

Dri	11 4	Audible		Answer Sheet	Test 4
1. 2. 3. 4. 5. 6. 7. 8. 9.	JAH GMB JHM OGY YJU OBJ JOG VAJ UHG PFJ	11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	GJH AMG EBH AHJ IJM UGH YFH JVF GYM GMP	1 2 3 5 6 7 8 9	11.
Dri	11 5	Silent		Answer Sheet	Test 5
1. 2. 3. 4. 5. 6. 7. 8. 9.	JVP GFJ AEG YJI POJ IOY EYH UYG FJB GUY	11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	HGM UIH OIJ HIH GHJ FHI YHJ HJO JMG MJH	1 2 3 4 5 6 7 8 9 10	11.

Lesson VIII Consonants

The consonants that will receive specific attention in this lesson are the "s" and "z" sounds. These sounds are represented by the convenient "words" S, Z, and C. Although the sibilant sounds were until recently thought to be difficult to hear from the standpoint of both audition and vision, there is recent evidence to show that the sound is much easier to hear and see than previously thought. Because of its frequency in English speech, it is wise to consider the sibilant sounds as separate units.

Drill 1 Audible	Answer Sheet Test 1
1. ES 11. SI 2. ZI 12. IC 3. EZ 13. CM 4. FS 14. ZF 5. CS 15. IZ 6. MZ 16. SZ 7. OZ 17. CP 8. CU 18. UC 9. VC 19. UZ 10. ZI 20. CO	1.



Drill 2 Silent SU 11. CS Jü 12. GC HV 13. HS VC 14. SM IS CY 15. 6. CF EC 16. 7. AC 17. VC 8. HY GS 18. 9. GU 19. **SO** FC 10. 20. CG Drill 3 <u>Audible</u> 1. ICY 11. COS SAZ 12. 2. COG VCS 13. OIC GIC 14. EYS MFC 15. UCS 6. HIZ 16. VIC 7. IUS 17. ZES 8. MIC 18. VOZ 19. 9. FYZ ZIC 10. HCM 20. YBC Drill 4 Silent 11. 1. UCI OIS

2.	ACY	12.	UBC
3.	YUC	13.	CES
4.	HVC	14.	CYA
5.	OUC	15.	GSE
6.	MIZ	16.	FYS
7.	CPY	17.	VSM
8.	SEG	18.	JSI
9.	YBC	19.	JUC
10.	AGC	20.	OFM

Drill 4 Audible and Silent

- 1. I saw the sign.
- 2. It's simple as ABC.
- 3. He saved five cents.
- 4. We went to the zoo.
- 5. We know his sister.
- 6. It's time for supper.
- 7. He played the saxaphone.
- 8. I rode on the sidewalk

Ans	wer Sheet	Test	2
1.		11.	
2.	***********	12.	***************************************
3.		13.	****
4.		14.	
5.	***************************************	15.	
6.		16.	
7.		17.	***************************************
8.	***	18.	
9.	e-term-of-systems-of-s	19.	-
10.		20.	

1.		11.	
2.		12.	
3.	************		
_		13.	-
4.		14.	
5.		15.	***************************************
	~~~~~		
6.		16.	
7.		17.	\
8.		- • •	*****
		18.	
9.		19.	
10.	**************************************	20.	
10.		£0.	

Answer Sheet Test 3

1.	***	11.	
2.		12.	
3.		13.	
4.	-	14.	
-			**********
5.		15.	
6.		16.	-
7.		17.	****
• •	***************************************		-
8.		18.	
9.		19.	***************************************
~ •			*********
10		20.	

Answer Sheet Test 4

- 9. May I see the sample?
- 10. Sit down for awhile.
- 11. Sugar is sweet.
- 12. Vinegar is sour.
- 13. Is the sun shining?
- 14. We saw the show.
- 15. I have a new pair of shoes.

Lesson X Miscellaneous Consonants

Many consonants have less than good visibility. The movement is more difficult to see and the identification is less certain. Some efficiency can be obtained through practice identification though, so we will include one lesson on the identification of the more difficult consonants. These are represented by the alphabet letters D, T, R, L, N. These sounds are semi-visible, but with the accompaniment of sound may be fairly well received.

Dri	11 1	<u>Audible</u>		Answer Sheet	Test	1
1. 2. 3. 4. 5. 6. 7. 8. 9.	RB NO LI HR MN TV RS PR FL OT	11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	DY TC YL MR IT ID LJ AD LG TC	1. 2. 3. 4. 5. 6. 7. 8. 9.	11. 12. 13. 14. 15. 16. 17. 18. 19.	
<u>Dri</u>	11 2	Audible		Answer Sheet	Test	2
1. 2. 3. 4. 5. 6. 7. 8. 9.	RBO SID YLD TON DON NYT TNT RLB DYN ROV	11. 12. 13. 14. 15. 16. 17. 18. 19.	YDL GUR MPN HYL ILU GIV DOS LUR NID RAL	1	11. 12. 13. 14. 15. 16. 17. 18. 19.	
<u>Dri</u>	11 3	<u>Audible</u>				

- 1. Wade the river.
- 2. Shut the door.
- 3. He has a new tie.
- 4. What road do we take?
- 5. We ate the orange.

- 6. Show me the door.
- 7. Tie the shoestring.
- 8. Drive the new car.
- 9. Give me the light.
- 10. Leave the room.



Face to Face Communication Drills

Con	municat	ion Drill	1 Au	dible		Answer Sheet Test 1
1. 2. 3. 4. 5.	nail sign pile fine boom	pop tea rave sail dizzy	6. 7. 8. 9.	meal dairy has team shoe	ease fair tie paste sun	1. 6. 2. 7. 3. 8. 4. 9. 5. 10.
Con	municat	ion Drill	2 Au	dible		Answer Sheet Test 2
1. 2. 3. 4. 5.	sea name day peel knee	nap bait shame slip same ion Drill	6. 7. 8. 9. 10.	nine show page aid zoo dible	teach wave beet ten gun	1 6
***************************************	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		 		Answer Sheet Test 3
1. 2. 3. 4. 5.	mail fine tile sign boo	top sea wave fail busy	6. 7. 8. 9. 10.	kneel berry have seem sue	eve tear pie taste fun	1 6
Con	municat	ion Drill	4 Au	<u>dible</u>		Answer Sheet Test 4
1. 2. 3. 4. 5.	tea mane bay seal me	map date same flip sane	6. 7. 8. 9.	mine so sage eight zoo	peach ways bead pen fun	1. 6. 2. 7. 3. 8. 4. 9. 5. 10.
Con	municat	ion Drill	5 Au	dible		Answer Sheet Test 5
1. 2. 3. 4. 5. 6. 7. 8. 9.	boom sun sail has fair sign pop go fill left	dizzy paste fine rave dairy meal nail leap tame miss	shoe team tie pile tea ease bid pail gaze bat			1. 2. 3. 4. 5. 6. 7. 8. 9.
Con	municat	ion Drill	6 Au	dible		Answer Sheet Test 6
1. 2. 3. 4. 5. 6. 7. 8. 9.	fun me flip age ways mane map crew note time	zoo pen seal same so peach tea fade do save	sane ate bead bay date dime vest new crow			1. 2. 3. 4. 5. 6. 7. 8. 9.



Lesson IX Discrimination

The following exercises are designed to improve communication through discrimination of words that sound alike. Each of the lists involves discrimination that is difficult for the impaired ear--for instance the difference between "mine" and "nine". However, when vision is added, this discrimination is much easier. Each of the word pairs involves a discrimination difficult by ear alone but much easier as an audio-visual identification.

The first portion of the drill should be a teacher-pupil activity with the pupil repeating the word pair after the teacher. No scoring is indicated in this procedure. The teacher will explain the differences, demonstrate them, and then check the student to see how well he can perform the identification. In the second portion of the exercise, these same words are included in a communication drill. As in previous exercises, both audible and inaudible speech is used and the differences in speech reception noted.

Word pairs

Difficult Auditory Discriminations

(m)	- (n)	(v)	- (z)	(f)	- (s)
1. 2. 3. 4. 5.	mail-nail mane-name meal-kneel same-sane map-nap		have-has wave-ways rave-raise eve-ease veal-zeal	1. 2. 3. 4. 5.	slip-flip
(t)	- (q) -	(t)	- (f)	(s)	- (sh)
1. 2. 3. 4. 5.	<pre>top=pop tile-pile teach-peach taste-paste tail-pail</pre>	_	table-fable fair-tear till-fill tame-fame tact-fact	1. 2. 3. 4. 5.	sue-shoe show-so shine-sign shave-save same-shame
(t)	- (s)	(d)	- (b)	(p)	- (s)
1. 2. 3. 4. 5.	tame-same sea-tea seem-team tie-sigh single-tingle	1. 2. 3. 4. 5.	dizzy-busy dairy-berry day-bay date-bait boom-doom	1. 2. 3. 4. 5.	pail-sail page-sage sane-pane peel-seal leap-lease

Lesson XI Connected Speech

A device that may be introduced at any stage in training is the "question about a picture" device. The center of the exercise is a picture mounted on cardboard so that it may be placed on a chalk ledge or table. It then provides a theme about which conversation may be centered, for the talking will concern the picture. The communication may be facilitated by pointing to objects in the picture, thus further limiting the subject of the questions. In this way, connected speech may be made easier and more effective. The picture should be fairly large so that it can be seen with ease. For instance, a picture advertising an automobile might be cut from a current magazine. The questioning might be something like this:

- 1. What is this?
- 2. What kind of an automobile is it?
- 3. What color is the automobile?
- 4. How many people are in the picture?
- 5. Is this a boy or a girl?
- 6. Which one is the father?
- 7. What is this over here, a river or a lake?
- 8. What is the man in the picture doing?
- 9. Is the picture taken in the city or in the country?
- 10. Would you like to have a new car?

Another device that may be used is the familiar phrase device. In this the same phrase or sentence is used each time with a single word changed. The phrase or sentence should develop some common yet fairly difficult word group such as "is it?" or "what do you?" or "can you?". Model exercises of this nature are below.

- 1. How do you feel?
- 2. How do you do?
- 3. How do you like it?
- 4. How do you know?
- 5. How do you want it?
- 1. What do you know?
- 2. What do you want?
- 3. What do you hear?
- 4. What do you say?
- 5. What do you see?
- 1. Is this a telephone?
- 2. Is this a radio?
- 3. Is this a violin?
- 4. Is this a rabbit?
- 5. Is this a ruler?

- 1. Can you see the tree?
- 2. Can you see the window?
- 3. Can you see the chair?
- 4. Can you see the sunset?
- 5. Can you see the house?
- 1. Where is the boy?
- 2. Where is the table?
- 3. Where is the picture?
- 4. Where is the sidewalk?
- 5. Where is the baseball?
- 1. I like to swim.
- 2. I like to run.
- 3. I like to play.
- 4. I like to work
- 5. I like to talk.



Lesson XII Additional Communication Drills

The following are word communication drills to be conducted as face-to-face communication with audible voice. They may be used as teacher-pupil or pupil-pupil communication.

Dr	ill 1 Audi	<u>ible</u>	Dri	i 11 4 Aud	lible
1. 2. 3. 4. 5. 6. 7. 8. 9.	feed fast crown laugh new big ring sky town hat	egg fruit curl log dark rain shape score goat grow	1. 2. 3. 4. 5. 6. 7. 8. 9.	seed fad ground land news pick rig sly count pad	keg flute pearl hog . ark rate shade snore go row
Dri	11 2 Audi	ble	Dri	11 5 Aud	<u>ible</u>
1. 2. 3. 4. 5. 6. 7. 8.	boat fly gold hide live paint bet rake sore wing	deed guess road hop mad bark push sand wide two	1. 2. 3. 4. 5. 6. 7. 8. 9.	vote try cold side light saint pet wait more wig	weed gas wrote mop mat park wish hand wind dew
Dri	11 3 Audi	<u>ble</u>	Dri	11 6 Aud	<u>ible</u>
1. 2. 3. 4. 5. 6. 7. 8.	bean fat round lap moon ink spy pig down	ache root girl lock bark shake store raid coat	1. 2. 3. 4. 5. 6. 7. 8.	keen sat pound lad noon pink big town sigh	ate room heard rock mark ache ray note score
10	had	CHOM	10	9 1 9H	30016

10. add

road

10.

had

crow