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ASSOCIATION OF CANADIAN EDUCATORS
OF THE HEARING IMPAIRED

Association of Canadian Educators
of the Hearing Impaired

OCCASIONAL MONOGRAPH SERIES

TEACHER PERCEPTION OF PREPARATION NEEDS IN DEAFNESS

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Introduction

This study investigated the perceptions of practicing educators of deaf students across Canada regarding:

1. The Priority for inclusion in Basic and Advanced level study programs of content topics suggested in the teacher certification standards of the Association of Canadian Educators of the Hearing Impaired (ACEHI, 1978) and of the Council on Education of the Deaf (CED, 1985).
2. The Emphasis, in allocation of course time, to be accorded each content item.m
3. The level, Basic, Advanced, or combined Basic/Advanced at which each content item should fall.

A survey questionnaire approach was employed. Questionnaires were divided into the primary areas of Foundations, Language, Curriculum and Instruction, Communication, and Speech Science and Audiology suggested by both associations. A sixth area, General Topics, was added to cover topics not directly addressed in the two sets of standards, but of present concern in the field.

Priority and Emphasis were measured by five point scales. Priority for inclusion in a program of studies included Highly Essential (1), Essential (2), Important (3), Useful (4), and Unimportant (5). Emphasis, or course time to be allotted, included Full Course (1), Half Course (2), Quarter Course (3), Mention as Appropriate (4), and Little Need for Mention (5). Respondents were requested to circle the number they considered appropriate. Level of study was indicated by circling Basic, Advanced, or both Basic and Advanced. A sample questionnaire is presented in Appendix A.

Two hundred and seventy-seven questionnaires were mailed to teachers and administrators across Canada. One hundred and forty-six usable forms (54.9%) were returned. Demographic details were gathered to divide respondents by:

1. Region
   a. Western (British Columbia, Alberta, Saskatchewan, Manitoba, n=62)

b.Central (Ontario, n=38)

c.Eastern (New Brunswick, Nova Scotia, Newfoundland and Labrador, n=37).

2.Position Held

a.classroom teacher (n=84)

b.administrator (n=46).

3.Teaching Situation

a.residential school (n=58)

b.integration (resource room/itinerant) situation (n=38).

4.Instructional Communication System

a.oral (n=36)

b.total communication (n=73)

5.Hearing Status

a.deaf (n=15)

b.hearing (n=115)

Data from Quebec respondents were excluded due to definitional difficulties regarding language employed within the larger community and sign language employed by deaf Quebecois. Numbers noted under each descriptor vary as some respondents chose not to complete every content item.

Analysis

An overall analysis was completed including all respondents to provide a national view of content considered required in teacher preparation programs. Individual analyses of variance were completed for Priority and Emphasis accorded each content item by demographically determined respondent groupings. Chi square cross-tabulations were undertaken for study levels suggested for each content item by the demographic groupings.

Overall Analysis

Priority.

Respondents found almost every content item mentioned in the ACEHI and/or CED certification standards to have a Priority of Highly Essential to Essential. Of the 57 individual items only four rated lower than Essential. Instructional use of cued speech, a communication area item, received the lowest rating of

all at 4.01 or Useful. Respondents accorded the highest ratings for Emphasis in a program of studies (one full course) to each of language development in the hearing impaired (1.20), language instruction methods for the hearing impaired (1.27), diagnosis of language needs of the hearing impaired (1.34), reading for the hearing impaired (1.27), instructional methods in speech (1.43), and practicum experience (1.20). Items to receive Mention only were local, provincial, and national programs in education of the hearing impaired (3.41), local, provincial, and national organizations in hearing impairment (3.60), research in speechreading (3.50), and instructional use of Cued Speech (4.12). Individual item averages for Priority are given in Appendix B. Average Priority ratings across all items included in each primary area of study are noted in Figure 1.

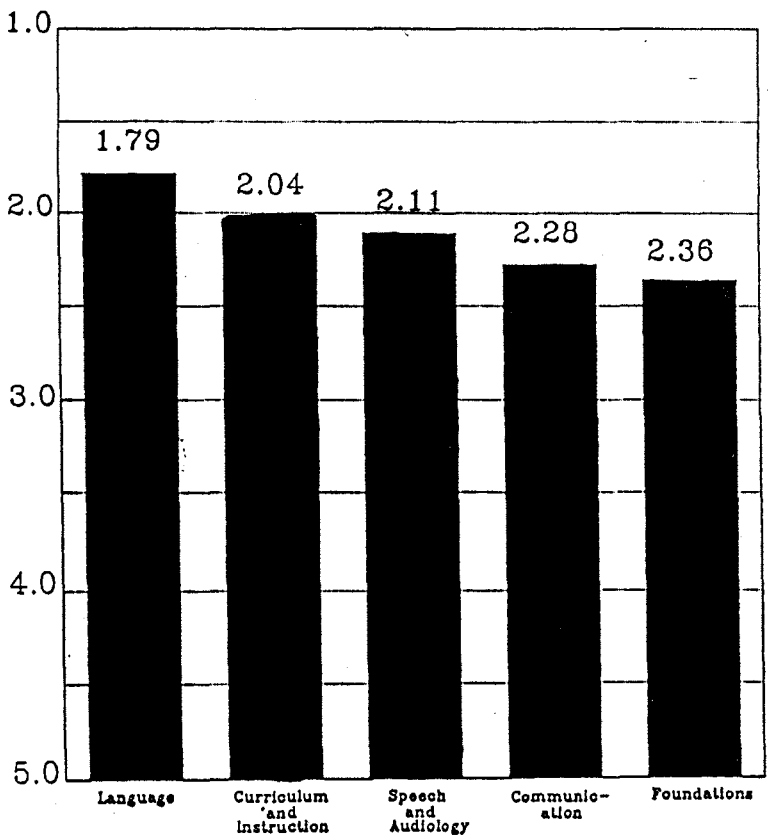

Figure 1.
Relative priority for core program content areas for all respondents.

Emphasis.

This pattern of finding almost every content item to be required in a program of studies for teachers of the deaf was echoed in total group responses for Emphasis, or course time to be allotted, for items (see Appendix B for individual item averages). Averages are not as meaningful or revealing here as are estimates of total course time suggested. Respondents indicated that a combined Basic and Advanced program of studies required 24 3/4 courses. Program time was estimated for each area as:

1.Foundations	Basic	2
	Advanced	1/4
	Basic or Basic/Advanced	1/2
2.Language	Basic	4
	Advanced	1/2
	Basic or Basic/Advanced	2
3.Curriculum	Basic	4 3/4
4.Communication	Basic	2 3/4
	Advanced	1/4
	Basic or Advanced	1/4
5.Speech Science	Basic	3 3/4
	Advanced	1/4
6.General Topics	Basic	2
	Advanced	1/2
	Basic or Advanced	1/2
	Basic, Advanced, or Basic/Advanced	1/2

Totals add to 19 1/4 for a Basic program, 1 3/4 for an Advanced program, 2 1/2 at the Basic or the Basic/Advanced program level, 3/4 at the Basic or Advanced level, and 1/2 at one of the Basic, the Advanced, or combined Basic/Advanced levels.

Proportional Allocation of Program Time.

The total Basic time considered desirable by practicing professional educators is far beyond the time presently offered in Basic level programs and far beyond that likely to be offered.

The design of the questionnaire, with its requirement to specify amount of time for individual topics, may have contributed to an inflated respondent view of program length. Despite this possible limitation the data do provide an indication of the depth and breadth to which these professionals consider a Basic level program should prepare a teacher of deaf students.

Both ACEHI and CED certification standards lay out proportional allocations of total program time to be devoted to the five primary areas examined in this study. Though both organizations combine Language and Communication in one area, they were separated in this study in order to draw out amount of time to be directed to each. Respondents in this study recommended a proportion of total time (39%) similar to that recommended by both organizations.Time was not divided evenly, however, with Communication at sixteen per cent and Language at twenty-three per cent. A major difference exists between the two organizations in Curriculum and Instruction with ACEHI suggesting 14 per cent of total program time and CED suggesting 40 per cent. Respondents in this study differed from both associations in this area and in Speech Science and Audiology (see Figure 2).

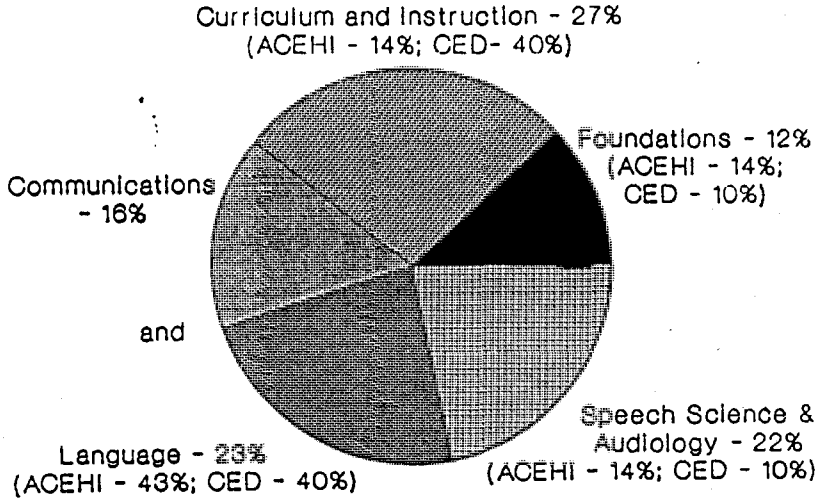

Figure 2.
Suggested proportional allocations for core components of a basic certification program. Existing ACEHI and CED allocations noted in brackets. (Note: ACEHI suggests a 14% "flexible" category not included above.)

Canadian educators recommended that proportional program time for Speech Science and Audiology be set at 22 per cent rather than at the 14 per cent laid out in ACEHI standards or the 10 per cent of the CED standards. This finding is in agreement with the 1985 finding of Stoefen-Fisher and Mathias. They surveyed teachers, administrators, and teacher trainers across the United States to obtain their views on the adequacy of the 1972 CED standards and their recommendations for revisions. The recommendations were then compared with CED standards as revised in 1985. As was the case in the present study, Stoefen-Fisher and Mathias found that respondents desired considerably increased emphasis on Speech Science and Audiology in teacher preparation programs.

Stoefen-Fisher and Mathias found also that their respondents did not support the CED increased proportional emphasis from 30 to 40 per cent for Curriculum and Instruction in the 1985 standards. Respondents in this study indicated that 27 per cent of total program time should be spend on Curriculum and Instruction. This differs as well from the 14 per cent presently laid down by ACEHI. The indication in these two studies that educators of deaf students view an appropriate proportion of total program time devoted to Curriculum and Instruction as being approximately 30 per cent suggests that designers of teacher preparation program should not adhere to present certification recommendations without careful thought and sound reasons.

Basic or Advanced Level of Study.

Respondents indicated that a Basic preparation program for teachers of deaf students required just over 19 full courses or approximately five years of study. Note was made earlier that the design of the questionnaire may have inflated the time recommended for a Basic program. Note was made as well that responses called strongly for a much lengthier program of studies than presently available or likely to be available at the university level even if considerable allowance is made for any inflation factor. One interpretation of this response pattern is

that teachers across Canada consider that their own preparation was inadequate to meet the learning challenges of the students they are assigned to educate.

In addition to preparation focussed on the Basic level respondents noted areas of study which could be offered optionally at different levels. The total number of such courses was 5 1/2 with 1 3/4 at the Advanced level, 3/4 at the Basic or Advanced level, 2 1/2 at the Basic or a combined Basic/Advanced level, and 1/2 at the Basic, the Advanced, or the Basic/Advanced level.

In every instance where an item suggested that the research supporting an area of interest be the focus of a course offering, respondents indicated that that course be considered as appropriate for the Advanced level as much as, or more so, than the Basic level. Vocational counselling/development, multiculturalism, counselling of deaf students, and education of students under other disability categories also fell at the Advanced level. Respondents were split evenly on whether language development of deaf individuals and diagnosis of language needs should fall entirely at the Basic level or continue into Advanced study.

One implication of these findings is the felt need of educators for continuance of their education in the field of deafness. Whereas as a wide variety of topics are viewed as appropriate to Basic preparation, some of these and specified other topics are recommended for study beyond the Basic preparation level (see Appendix B for numbers of respondents selecting each level of study).

Comments by primary area

Foundation area items had the lowest average ratings for Priority (2.36) and Emphasis (2 3/4 courses). Among the Foundations items, however, certain topics stood out as relatively high in Priority and Emphasis. These were psychology of hearing impairment and parent counselling (see Appendix B for details). Psychology is an interesting inclusion as a Highly

Essential to Essential aspect of Basic level preparation given the recently favored position that there is no such thing as psychology of the deafness.

Language received the highest average rating for both Priority (1.79) and Emphasis (6 1/2 courses). It is not until one begins to consider supportive areas of language study (disorders of language development, psycholinguistics, linguistics, research in language) that average ratings of between two and three were found for any language item. Study of language takes precedence over the study of any other area in the collective view of those educators polled.

Curriculum and Instruction was accorded the second highest average levels for Priority (2.04) and Emphasis (4 3/4 courses). All topics noted were viewed as appropriately placed at the Basic program level. Among the items those of reading, instructional techniques for deaf students, curriculum adaptations for deaf students, and curricula developed for deaf students were rated as the most required.

Responses under Communication indicated that the highest Priority and Emphasis should be placed aspects of speech instruction and speech assessment. Study of instructional use of English-based sign systems received higher ratings on both scales than did instructional use of American Sign Language, but lower ratings than did the speech items just mentioned.

A number of topics under Speech Science and Audiology received relatively high ratings for Priority, but medium ratings for course time to be allotted. The two most highly rated topics were study of aural habilitation and interpretation of hearing test results. This may be an indication that there is a general concensus among Canadian educators that these areas are intrinsic to the field of deafness studies.

The General Topics area consisted of topics not falling directly under any of the primary areas of study noted in the ACEHI and CED standards, or were topics of recently increased interest. Respondents indicated that extensive practicum

experience was a necessity in a teacher preparation program, Considerable support for study of preschool education and of counselling for deaf students was evident as well. Relatively modest interest was indicated in multiculturalism and paradigms of education of deaf students with these two items falling 48th and 49th among the 57 survey items.

Demographically-Based Analyses

Analyses focussed on a number of demographically defined groups of respondents were completed: Regional (Western, Central, Eastern); Residential-Integration; Teacher-Administrator; Oral-Total Communication; Deaf-Hearing. The overwhelming characteristic of these groupings was agreement for Priority, Emphasis, and Basic, Advanced, or Basic/Advanced level of study (see Appendix C).

Significant differences were found for a number of individual items. These differences are explored in detail as they may well hold implication for the fine tuning of Basic and Advanced study programs to best meet the needs of identified interest groups.

Analyses of variance were conducted for both Priority and Emphasis for all 57 individual survey items for each demographically-defined grouping. Chi-square cross-tabulations using the Pearson Product-Moment statistic were completed for the three study level options. Both types of analyses were set at the .05 level of significance.

Regional:Western-Central-Eastern.

A number of significant differences appeared among regions of the country under analysis of variance. These fell chiefly under Communication and Speech Science and Audiology. The Scheffe procedure for planned comparisons among means was employed to locate source of variation among regions.

Interpretation of the data suggests that educators in Canada's Western provinces (British Columbia, Alberta, Saskatchewan, Manitoba) place greater Priority on study of ASL and multiculturalism than do educators in Central (Ontario) or Eastern Canada (New Brunswick, Nova Scotia, Newfoundland and

Labrador). Relatively less Priority was placed on the study of speech assessment, anatomy/physiology of the speech and hearing mechanisms, production, transmission, and reception of speech sounds, and common pathologies of the hearing and visual systems. Similar findings in terms of allotment of course time were found, though the trend for Emphasis was not as strong as that for Priority. It was not possible to pinpoint source of variation among regions for instructional methods in speech for deaf students, speech assessment, interpretation of hearing test results, or functioning of hearing aids. It is worthwhile to note, however, that the means for these three items trended in the direction of less felt need in Western Canada for study in speech and hearing generally (see Table 1).

Significant differences were noted among regions for assignment of content items to Basic, Advanced, and Basic/Advanced levels of study. Selection of Basic indicated preference for study of a content item completely at an initial preparation level for teachers newly entering the field of education of deaf students. Advanced indicated preference for initial study at the post-Basic preparation level. Basic/Advanced indicated initiation of study at the Basic program level with continuation at the post-Basic level.

Content items for which significant differences on Level of Study were noted fell under Foundations (parent counselling), Language (language development for preschool students; psycholinguistics), and Speech Science and Audiology (anatomy/physiology of the visual system; aural habilitation).

As noted earlier, Canadian educators of deaf students agree closely on the levels at which specific content of teacher preparation programs should be presented. That significant differences of opinion occurred for only five content items among regions reinforces this finding. The items for which these differences occurred do not form clusters which would hold implication for the design of teacher preparation programs at the national level (see Table 2).

Table 1

Means and Sources of Variation for Significantly Different Content Items in a Teacher Preparation Program in Education of Deaf Students

Priority			Emphasis		
West	Central	East	West	Central	East
Instruction Methods in Speech for Deaf Students.					
1.60	1.21	1.22	1.82*,**	1.24*	1.27**
Speech Assessment for Deaf Students.					
1.86*	1.34*	1.54	2.25	1.78	1.84
Instructional Use of American Sign Language.					
1.89*	2.56	2.65*			
Research in Sign Language.					
2.60*	3.56*,**	2.62**	2.82*	3.73*,**	2.78**
Anatomy/Physiology of the Speech and Hearing Systems.					
2.21*	1.79	1.62*	2.59*	2.27	1.87*
Anatomy/Physiology of the Visual System.					
			3.47	3.70*	3.08*
Production, Transmission, and Reception of Speech Sounds.					
2.25*	1.65*	1.83			
Common Pathologies of the Speech, Hearing, and Visual Systems.					
2.62	2.71*	2.11*	3.10	3.27*	2.62*
Interpretation of Hearing Test Results.					
1.95	1.53	1.43			
Functioning of Hearing Aids.					
1.92	1.46	1.49			
Counselling of Hearing Impaired Students.					
			1.89	2.43	1.92
Multiculturalism and Deafness					
2.52*	3.16*	3.00	2.73*	3.32*	3.24

*, ** =Source of variation at .05 level using Scheffe procedure.

These findings on Priority, Emphasis, and level of study must be taken in the context of agreement among regions on almost all items under Foundations, Language, Curriculum and Instruction, the General Topics area, and the majority of Communication and Speech Science and Audiology items.No interpretation can be made with confidence without further investigation of underlying regional rationales. However. it is

Table 2

Significantly Different Content Items in Program of Studies for Teachers of Deaf Students by Level of Study and Region of Canada

	Basic	Advanced	Basic/Advanced
Parent Counselling.			
West	35.6%	33.3%	31.1%
Central	26.5%	20.6%	52.9%
East	54.5%	6.1%	39.4%
Language Development for Preschool Deaf Children.			
West	70.5%	13.6%	15.9%
Central	50.0%	8.8%	41.2%
East	61.8%	0.0%	38.2%
Psycholinguistics.			
West	40.0%	40.0%	20.0%
Central	31.4%	34.3%	34.3%
East	67.6%	11.8%	20.6%
Anatomy/Physiology of the Visual System.			
West	65.2%	28.3%	6.5%
Central	81.8%	18.2%	0.0%
East	93.1%	0.0%	6.9%
Aural Habilitation.			
West	68.2%	15.9%	15.9%
Central	44.1%	8.8%	47.1%
East	73.3%	10.0%	16.7%

interesting to note that among the variables causing this effect

may be the regionalized nature of teacher preparation programs and the relatively larger number of deaf respondents in the Western region compared to Central and Eastern regions.

Teaching situation:Residential-Integration

Significant differences for Priority on a number of items were found between educators in residential situations and those in integrated (resource/itinerant) situations. These differences fell primarily under Speech Science and Audiology with lesser numbers under Communication and General Topics. Significant differences in Emphasis did not fall primarily under any one area (see Table 3 for details).

In general, educators in residential situations felt a need for comparatively greater attention to certain aspects of sign language and to curricula for multihandicapped students. Those associated with integrated situations indicated need for priority on various aspects of speech, hearing, and integration. Amount of course time suggested for these topics reflected these concerns in priority to some degree.

Agreement on Priority and Emphasis between educators in the two situations far out-weighed indications of difference. The few differences found must be set against this backdrop of overwhelming consonance of professional opinion (see Appendix C).

Few significant differences were found in the levels at which educators in both situations considered appropriate for study of various content items. Those found, nevertheless, are worthy of interest. Approximately two-thirds of educators in integrated settings indicated that disorders of language development and linguistics should be studied at the Basic level. One-third of their residential situation colleagues agreed, while over 40 per cent considered the Advanced study level appropriate. Opinion of residential situation educators was evenly divided over the three options for level of study in the case of linguistics.

The majority of educators (50.0%) in residential situations viewed research in speech development for deaf students as

Table 3

Means for Significantly Different Content Items in a Teacher Preparation Program in Education of Deaf Students

Priority		Emphasis	
Residential	Integrated	Residential	Integrated
Curricula for multihandicapped deaf students.			
		2.29	2.92
Instructional Use of American Sign Language			
2.15	2.76	2.31	2.92
Research in Sign Language			
2.47	3.43	2.73	3.72
Anatomy/Physiology of the Visual System			
2.83	3.67	3.28	3.73
Production, Transmission, Reception of Speech Sounds			
2.25	1.61	2.64	2.16
Audiometric Procedures for Testing Hearing			
2.22	1.76		
Interpretation of Hearing Test Results			
1.92	1.45		
Functioning of Hearing Aids			
1.93	1.47		
Aural Habilitation			
2.15	1.65	2.57	2.08
Paradigms (Models) in Education of Deaf Students			
		2.81	3.22
Integration Methods in Deafness			
2.35	1.84	2.92	2.42
Research on Multihandicapped Deaf Students			
		2.67	3.26
Education of Mentally Retarded, Learning Disabled, etc. Students			
		2.66	3.16

falling at the Advanced level though a sizeable proportion opted for Basic level study (35.4%). Those in integrated/itinerant situations divided their responses relatively evenly across the three options.

There was an interesting divergence of opinion relative to the appropriate level for study of research in sign. Only 17.8% of residential situation educators chose Basic level for this topic, whereas 49% chose Advanced level. Conversely, 47.1% of their integration situation colleagues nominated Basic level with 33% choosing Advanced level. To those designing Basic preparation programs it might appear logical to expect those intending to teach in signing situations to welcome every opportunity to learn about sign systems and their use within their initial preparation program. The majority of those presently in such situations suggest in this study that it is sufficient to put off knowledge of the research examining the practice until actually working in the field. It is intriguing that almost half of their oral situation colleagues disagree with this point of view and opt for Basic level study of the research.

Study of aural habilitation was considered most appropriate at the Basic level by residential program educators (67.4%). A majority of integrated situation professionals shared this view, but 39.4 % considered it best initiated at the Basic level and continued through the Advanced level (see Table 4 for details).

The consistency and clustering of these differences in professional opinion suggests a need for teacher preparation programs to provide for course options for teachers in differing educational situations. Such options should be available for the content items in question at both the Basic and Advanced levels.

Educational position.

Minimal significant difference of professional opinion between classroom teachers and administrators at various levels of responsibility in Priority was found. No significant differences were found for Emphasis. What few priority differences existed suggested that teachers gave relatively more

Table 4

Significantly Different Content Items in Program of Studies for Teachers of Deaf Students by Level of Study and Residential or Integrated/Itinerant Teaching Situation

	Basic	Advanced	Basic/Advanced
Language Development for Normally Hearing Children			
Residential	38.8%	40.8%	20.4%
Integrated	69.7%	12.1%	18.2%
Linguistics			
Residential	38.8%	30.6%	30.6%
Integrated	66.7%	12.1%	21.2%
Research in Speech Development for Deaf Students			
Residential	35.4%	50.0%	14.6%
Integrated	38.2%	26.5%	35.3%
Research in Sign Language			
Residential	17.8%	48.9%	33.3%
Integrated	47.1%	32.4%	20.6%
Aural Habilitation			
Residential	67.4%	17.4%	15.2%
Integrated	54.5%	6.1%	39.4%

priority to study of sociology of deafness, of local, provincial, and national programs in deafness, and of specialized curricula for deaf students (see Table 5).

Similarly few significant differences in assignment of content items to levels of study occurred in the classroom teacher-administrator comparison. What differences did occur were found in language and speech communication items. Almost two-thirds of those in administrative positions considered language instruction methods for deaf students to fall exclusively at the Basic teacher preparation level. A large percentage of classroom teachers agreed (46.3%), but even more (50.7%) considered this topic best begun at the Basic level and continued into the

Table 5

Means for Significantly Different Content Items in a Teacher Preparation Program in Education of Deaf Students

	Priority	
	Classroom Teachers	Administrators
Sociology in Deafness	2.01	2.41
Local, Provincial, and National Programs in Deafness	2.84	3.26
Curricula for Deaf Students	1.83	2.44

Advanced. A majority of both groups placed study of research in language development in deaf students at the Advanced level (50.0% of teachers; 60.5% of administrators). However, differences among the two groups appeared both at the Basic study level (teachers 22.1%; administrators 31.6%) and at the combined Basic/Advanced level (teachers 27.9%; administrators 7:9%) (see Table 6).

Administrators opted more than did teachers for Advanced level study of research in speech development for deaf students (60.5% to 31.8%) and in research in speechreading (63.2% to 37.9%). Classroom teachers opted for Basic level study in relatively larger numbers (43.9% to 28.9% and 53.0% to 31.6%) for speech development and speechreading respectively.

These differences are interesting particularly as few differences between teachers and administrators emerged in this analysis (see Appendix C). The consonance of professional opinion may be reassuring to teachers as administrators tend to have greater input into the design of study programs than do teachers. On the other hand the close agreement may simply reflect the fact that teachers and administrators graduate from the same Canadian programs, and that administrators have no more fundamental

Table 6

Significantly Different Content Items in Program of Studies for Teachers of Deaf Students by Level of Study and Educational Position

	Basic	Advanced	Basic/Advanced
Language Instruction Methods for Deaf Students			
Teacher	46.3%	3.0%	50.7%
Administrator	63.2%	10.5%	26.3%
Language Research in Deafness			
Teacher	22.1%	50.0%	27.9%
Administrator	31.6%	60.5%	7.9%
Research in Speech Development for Deaf Students			
Teacher	43.9%	31.8%	24.2%
Administrator	28.9%	60.5%	10.5%
Research in Speechreading			
Teacher	53.0%	37.9%	9.1%
Administrator	31.6%	63.2%	5.3%

understanding of teacher preparation needs than has the average classroom teacher. Regardless of the reason for any differences found, when they do emerge, they should be examined closely due to their relative rarity.

Instructional communication system.

The majority of respondents categorized themselves as associated with a total communication system (n=75) or with an oral communication system (n=36). The remaining respondents indicated that they taught in situations calling for a mixture of communication approaches. Such responses were not included in statistical analysis. Educators in total communication settings differed from their oral setting colleagues in desiring greater Priority and/or Emphasis on the study of various aspects of Curriculum and Instruction (nature and purpose of curricula, specialized curricula for deaf students, curriculum adaptations

for deaf students, setting instructional objectives), sign language (instructional use of ASL, instructional use of English-based sign systems, research in sign language), service delivery systems, research in multihandicapping conditions, multiculturalism, philosophical approaches to deafness, and linguistics (see Table 7).

Conversely, those associated with oral communication situations desired relatively greater Priority and Emphasis on the production, transmission, and reception of speech sounds, and on the study of aural habilitation.

These findings on Priority (see Appendix C) and Emphasis imply that practicing educators perceive preparation needs for differing communication situations as diverging in a number of areas. Those responsible for the design and offering of teacher preparation programs would be well-advised to consider program designs which would permit those anticipating teaching responsibilities in differing communication settings to maximize preparation in areas most reflective of career needs.

Assignment of content items to levels of study by those using differing methods of communication in the instructional setting suggested consistent differences in professional opinion in specific areas (see Table 8). The first of these is the study of language items not directly concerned with language development or instruction. Two-thirds of educators in oral communication settings considered study of disorders of language development, psycholinguistics, and linguistics appropriate for Basic program level study. Educators in total communication settings were more divided in their views with approximately 33%, 40%, and 25% opting for Basic, Advanced and Basic/Advanced levels respectively. Such differences in language items of the type discussed suggests markedly different perceptions of study needs by the groups concerned.

Perceptions by these groups of the appropriate level of preparation in instructional methods in speech for deaf students, and in aural habilitation are similarly opposed. Seventy or more

Table 7

Means for Significantly Different Content Items in a Teacher Preparation Program in Education of Deaf Students

Priority		Emphasis	
Oral	Total Communication	Oral	Total Communication
Philosophical Approaches to Deafness			
2.58	2.01	3.00	2.53
Linguistics			
2.67	2.19		
Nature and Purpose of Curricula			
3.00	2.44		
Curricula for Deaf Students			
2.36	1.92		
Curriculum Adaptations for Deaf Students			
2.14	1.64		
Setting Instructional Objectives			
2.42	1.96		
Instructional Use of American Sign Language			
3.00	2.06	3.12	2.14
Instructional Use of English-Based Sign Systems			
2.36	1.92		
Research in Sign Language			
3.00	2.56	3.88	2.76
Production, Transmission, Reception of Speech Sounds			
		2.03	2.52
Aural Habilitation			
		2.00	2.65
Paradigms (Models) in Education of Deaf Students			
3.05	2.37	3.40	2.82
Research in Multihandicapped Deaf Students			
		3.28	2.76
Multiculturalism in Deafness			
3.14	2.65		

Table 8

Significantly Different Content Items in Program of Studies for Teachers of Deaf Students by Level of Study and Instructional Communication System

	Basic	Advanced	Basic/Advanced
Disorders of Language Development			
Oral	67.7%	12.9%	19.4%
T.C.	40.7%	39.0%	20.3%
Psycholinguistics			
Oral	67.7%	16.1%	16.1%
T.C.	33.3%	41.7%	25.0%
Linguistics			
Oral	66.7%	13.3%	20.0%
T.C.	33.3%	40.0%	26.7%
Evaluation of Academic Progress			
Oral	43.3%	10.0%	46.7%
T.C.	63.2%	19.3%	17.5%
Instructional Methods in Speech for Deaf Students			
Oral	54.8%	0.0%	45.2%
T.C.	70.7%	8.6%	20.7%
Research in Speech Development for Deaf Students			
Oral	38.7%	25.8%	35.5%
T.C.	43.1%	48.3%	8.6%
Aural Habilitation			
Oral	48.4%	9.7%	41.9%
T.C.	75.0%	12.5%	12.5%
Integration Methods in Deafness			
Oral	63.3%	6.7%	30.0%
T.C.	57.6%	30.5%	11.9%

per cent of those in total communication situations regard these as appropriately placed at the Basic study level. Approximately half of oral situation educators agree, but sizeable groups

prefer study over both Basic and Advanced levels (45.2% for speech methods and 41.9% for aural habilitation.

Additional areas of significant differences are evaluation of academic progress and integration methods for deaf students. A majority (63.2%) of total communication situation educators elected Basic level study for evaluation of academic progress, whereas oral situation educators are evenly split between Basic level study (43.3%) and combined Basic/Advanced level study (46.7%). In the case of integration study the majority of both groups agreed that Basic level study is most appropriate. However, 30.0% of oral situation educators opted for combined Basic/Advanced level study, while 30.5% of total communication educators opted for Advanced level study only.

These findings suggest, as did those for Priority and Emphasis, in their number and clustering of related content items, distinctly different perceptions of study needs in a number of central areas. Those responsible for the design and offering of teacher preparation programs should consider such differences and how they might be addressed in the preparation of teachers.

Hearing status.

The great majority of respondents identified themselves as hearing (n=130) with a lesser number identifying themselves as deaf (n=15). Speech Science and Audiology drew the greatest number of significant differences for both Priority and Emphasis. Hearing respondents placed higher Priority on content items dealing with aspects of hearing than did their deaf colleagues (see Appendix C). Specifically, they considered interpretation of hearing test results, study of aural habilitation, and familiarity with research in aural methods to be essential to a program of studies. Basically similar findings were made for course time to be allotted to the latter two of these items and for study of common pathologies of the speech, hearing, and visual systems and production, transmission, and reception of speech sounds (see Table 9).

Table 9

Means Significantly Different Content Items in a Teacher Preparation Program in Education of Deaf Students

Priority		Emphasis	
Hearing	Deaf	Hearing	Deaf
Language Development for Normally Hearing Children			
		2.19	3.07
Curricula for Multihandicapped Deaf Students			
		2.49	3.07
Instructional Methods in Speech for Deaf Students			
1.36	2.07	1.45	2.33
Speech Assessment for Deaf Students			
1.58	2.47	1.97	2.87
Production, Transmission, Reception of Speech Sounds			
		2.28	3.00
Common Pathologies of the Speech, Hearing, Visual Systems			
		2.96	3.53
Interpretation of Hearing Test Results			
1.65	2.40		
Aural Habilitation			
1.85	2.79	2.26	3.50
Research in Aural Methods			
2.56	3.27	2.99	3.73
Paradigms (models) in Education of Deaf Students			
2.67	1.93	3.10	2.47

Reflecting these concerns were significant differences between hearing and deaf respondents for instructional methods in speech for deaf students and speech assessment for deaf students. Hearing respondents placed both of these significantly higher on the rating scales than did deaf respondents. A final item which might be considered part of this cluster of similar content items was the indication by hearing professionals that

normal language development receive marked Emphasis in a program of studies.

Deaf respondents placed only one item at a significantly higher level for Priority and Emphasis than did their hearing colleagues. They called for relatively more attention to the study of paradigms, or models, in the education of deaf students.

More significant differences in assignment of content items to levels of study were found between deaf and hearing educators than for any other grouping. These differences did not occur for the grouping of Speech Science and Audiology and Communication items discussed under Priority and Emphasis. Rather, they involved each of the other primary areas of study (see Table 10).

Under Foundations hearing teachers considered Basic level study of the psychology of deafness (73.8%) and of the sociology of deafness (73.6%) a necessity. Less than half of their deaf colleagues suggested any particular level of study for this information. A majority of each respondent group favored Basic level study for history of education of deafness (hearing impaired 63.6%; hearing 92.5%). However, one in five deaf respondents felt this topic should not be studied at the Basic level at all. In the instances of vocational counselling/development and parent counselling a majority of deaf educators opted for Advanced level study, whereas hearing educators spread their opinions across Basic, Advanced, and Basic/Advanced options with between one in five and two in five choosing each. This finding of significant difference of professional opinion on five of nine Foundations content items may suggest areas where appropriate modification of content may be made for the average deaf or hearing teacher candidate.

Opinion differed significantly for four of ten Language items as well. These were language development in deaf students, language instruction methods for deaf students, diagnosis of language needs of deaf students, and language development in preschool deaf students. A general pattern of differential response was evident. Between 45% and 61.5 % of hearing

Table 10

Significantly Different Content Items in Programs of Studies for Teachers of Deaf Students by Level of Study and Hearing Status

	Basic	Advanced	Basic/Advanced
Psychology of Deafness			
Deaf	45.5%	27.3%	27.3%
Hearing	73.8%	2.8%	23.4%
Sociology of Deafness			
Deaf	27.3%	45.5%	27.3%
Hearing	73.6%	10.4%	16.0%
History of Education of Deaf Students			
Deaf	63.6%	27.3%	9.1%
Hearing	92.5%	5.6%	1.9%
Vocational Counselling/Development in Deafness			
Deaf	9.1%	81.8%	9.1%
Hearing	37.1%	42.9%	20.0%
Parent Counselling			
Deaf	9.1%	63.6%	27.3%
Hearing	41.1%	17.8%	41.1%
Language Development in Deaf Students			
Deaf	36.4%	27.3%	36.4%
Hearing	55.0%	2.8%	42.2%
Language Instruction Methods for Deaf Students			
Deaf	27.3%	27.3%	45.5%
Hearing	57.4%	3.7%	38.9%
Diagnosis of Language Needs of Deaf Students			
Deaf	20.0%	50.0%	30.0%
Hearing	45.0%	10.1%	45.0%
Language Development of Preschool Deaf Children			
Deaf	44.4%	33.3%	22.2%
Hearing	61.5%	7.3%	31.2%

Nature and Purpose of Curriculum			
Deaf	45.5%	27.3%	27.3%
Hearing	70.4%	4.6%	25.0%
Instructional Techniques Developed for Deaf Students			
Deaf	54.5%	18.2%	27.3%
Hearing	74.5%	1.9%	23.6%
Reading for Deaf Students			
Deaf	54.5%	18.2%	27.3%
Hearing	62.6%	1.9%	35.5%
Mathematics for Deaf Students			
Deaf	54.5%	18.2%	27.3%
Hearing	81.1%	2.8%	16.0%
Counselling for Deaf Students			
Deaf	10.0%	90.0%	0.0%
Hearing	33.6%	31.8%	34.6%
Practicum Experience			
Deaf	60.0%	30.0%	10.0%
Hearing	71.6%	0.9%	27.5%

professionals called for Basic level study of each topic. Between 20% and 44.4% of deaf professionals agreed. Agreement was closer for the Basic/Advanced option. The most marked difference was found at the Advanced level. No more than ten per cent of hearing respondents chose this level, whereas between 27.3% and 50.0% of deaf respondents selected the Advanced level for each item. Such consistent differences hold import for the design of programs of study preparing teachers for this field.

A quite similar pattern emerged for Curriculum and Instruction items nature and purpose of curriculum, instructional techniques developed for deaf students, reading for deaf students, and mathematics for deaf students. A greater percentage of hearing educators than deaf educators placed each of these at the Basic level. Similar percentages opted for Basic/Advanced level study. A minimum of one in five deaf educators selected the Advanced study level option, whereas this option was chosen by no

more than one in twenty hearing educators.

Two General Topics items, counselling for deaf students and practicum experience, were assigned to levels of study in a significantly different manner. Almost all deaf teachers placed counselling at the Advanced study level. Hearing teachers were divided evenly across the three options. Some 71.6 per cent of hearing teachers placed practicum experience at the Basic study level, while 27.5 per cent indicated that practicum should be initiated at the Basic level and continued at the Advanced. For deaf respondents choices were 60.0 per cent Basic level and 30.0 per cent Advanced level.

These findings for deaf and hearing groupings must be interpreted with caution due to the relatively small number of deaf respondents. However, the number, consistency of differences, and clustering of related topics argue for real differences in viewpoint of these two groups.

Summary

The survey data reported suggests:

1. That the educators of deaf students responding in this study accept, in general, the content topics listed in ACEHI and CED certification standards as relevant to teacher preparation in the field.
2. That respondents in this study desired a far more intensive and extensive program of teacher preparation than is commonly available at present.
3. That respondents see a need for professional study beyond the Basic preparation level.
4. That the views of demographically-defined groups in this study on the content of teacher preparation programs are characterized more by agreement than by difference.
5. That respondents in this study favored more concentration on Curriculum and Instruction than found in ACEHI standards, but less than that found in CED standards.
6. That respondents in this study favored more Emphasis on Speech Science and Audiology than found in ACEHI and CED

standards.

7. That educators in the residential-integration and in the oral-total communication groupings indicated that preparation for these differing educational situations calls for fundamentally similar study programs, but with fine-tuning modifications to permit individual pursuit of career interests particularly in the Communication and Speech Science and Audiology areas.

8. That concern exists among deaf respondents for increased study under Foundations and lesser emphasis for study of Speech Science and Audiology.

Extending interpretation beyond the numerical facts results in intriguing conjecture. No respondent questioned the largely medically oriented model on which the two sets of standards are based. This approach to disabling conditions, with its underlying theory of deficit, prescription, and cure, has been rejected by most in the field of exceptionality. Secondly, there is little indication in the responses that appreciation for American Sign Language has overtaken appreciation for oral methodologies and/or English-based sign systems as the primary communication approaches in any of the sub-groupings of educators in this study. Is this finding evidence of a lasting position on the subject, or has the recent increase in support for ASL simply not yet penetrated the opinions of educators in respect to teacher preparation? While such points were not assessed directly in the survey instrument, teacher educators would do well to attempt to probe what is implied in data as well as to study the surface message of the data.

REFERENCES

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Appendix A
Teacher Perception of Training Needs in Hearing Impairment

Survey

Please complete this survey as completely as possible.
Return in the enclosed, stamped envelop

INSTRUCTIONS

You are requested to respond in three areas under each item: priority, emphasis, and level of study (basic or advanced).

PRIORITY:

Priority refers to how essential or non-essential the topic is to adequate teacher preparation in hearing impairment. Circling "1" on the five point scale indicates that you consider the topic to be highly essential. Circling "5" indicates that you would assign that topic very low priority for inclusion in a teacher education program.

EMPHASIS:

Emphasis refers to how much time should be spent on a topic during teacher preparation. Circling a "1" would indicate that at least one full course should be devoted to the topic. Circling a "2" would indicated need for a half course, a "3" a need for a quarter course, a "4" a need for the topic to be mentioned as appropriate in courses primarily focussed on other topics, and a circled "5" would indicated that you believe there is little need to spend any time on the topic.

BASIC-ADVANCED LEVEL:

This refers to the point in one's training where the topic should be addressed. "Basic" indicates training for initial certification or recognition as a teacher of hearing-impaired students. "Advanced" indicates training following basic certification. This could be at the in-service level or at the level of graduate study.

You may consider the topics to be appropriate at only one level or at both levels, Circle the appropriate term or terms to indicate your analysis of preparation needs.

SURVEY PARTICIPANT INFORMATION

Please check or otherwise complete the following items. This information will be used in analyzing the data obtained in the survey.

1.Female _____ Male _____

2.Hearing impaired _____ Hearing _____

3.I am a trained teacher of the hearing impaired. Yes ___ No___

4.I received my training in 19_____.

5.I am a certified teacher of hearing children. Yes ___ No ___ .

6.I teach in British Columbia _____ New Brunswick _____

Alberta	_____	Nova Scotia	_____
Saskatchewan	_____	P.E.I.	_____
Manitoba	_____	Nfld./Lab.	_____
Ontario	_____	Yukon	_____
Quebec	_____	N.W.T.	_____

7.I teach in a residential school _____

a day school for the H.I. _____

a segregated class _____

an elementary resource rm. _____

a high school resource rm. _____

as an itinerant teacher _____

8.I teach preschool ___, elementary school ___, high school ___.

9.I am a classroom teacher _____, a dept. head. _____,

a vice-principal _____, a principal _____,

other _____.

10.I teach in an oral situation _____

a manual situation _____

a T.C. situation ____

FOUNDATIONS

1.Philosophical approaches to hearing impairment.

Priority	1	2	3	4	5	(2.22)	Basic (94)
Emphasis	1	2	3	4	5	(2.67)	Advanced(10)
							Both (13)

2.Psychology of hearing impairment.

Priority	1	2	3	4	5	(1.68)	Basic (84)
Emphasis	1	2	3	4	5	(1.92)	Advanced(6)
							Both (28)

3.Sociology of hearing impairment.

Priority	1	2	3	4	5	(2.12)	Basic (81)
Emphasis	1	2	3	4	5	(2.42)	Advanced(16)
							Both (20)

4.History of the education of the hearing impaired.

Priority	1	2	3	4	5	(2.95)	Basic (106)
Emphasis	1	2	3	4	5	(3.13)	Advanced(9)
							Both (3)

5.Contemporary trends, problems, issues.

Priority	1	2	3	4	5	(1.97)	Basic (58)
Emphasis	1	2	3	4	5	(2.32)	Advanced(26)
							Both (33)

6.Local, provincial, national programs in education.

Priority	1	2	3	4	5	(2.99)	Basic (75)
Emphasis	1	2	3	4	5	(3.41)	Advanced(34)
							Both (9)

7.Local, provincial,national organizations in hearing impairment.

Priority	1	2	3	4	5	(3.21)	Basic (81)
Emphasis	1	2	3	4	5	(3.60)	Advanced(23)
							Both (8)

8.Vocational counselling/development in hearing impairment.

Priority	1	2	3	4	5	(2.42)	Basic (40)
Emphasis	1	2	3	4	5	(2.62)	Advanced(54)
							Both (22)

9.Parent counselling.

Priority	1	2	3	4	5	(1.70)	Basic (45)
Emphasis	1	2	3	4	5	(1.97)	Advanced(26)
							Both (47)

LANGUAGE

1.Language development in the hearing impaired.

Priority		1	2	3	4	5	(1.20) Basic (64)
Emphasis	1	2	3	4	5	(1.24)	Advanced(6)
							Both (50)

2.Language instruction methods for the hearing impaired.

Priority	1	2	3	4	5	(1.27)	Basic (65)
Emphasis	1	2	3	4	5	(1.38)	Advanced(7)
							Both (47)

3.Diagnosis of language needs of the hearing impaired.

Priority	1	2	3	4	5	(1.34)	Basic (51)
Emphasis	1	2	3	4	5	(1.55)	Advanced(16)
							Both (52)

4.Language research in hearing impairment.

Priority	1	2	3	4	5	(2.16)	Basic (32)
Emphasis	1	2	3	4	5	(2.49)	Advanced(63)
							Both (24)

5.Language instruction for integrated hearing impaired.

Priority	1	2	3	4	5	(1.90)	Basic (69)
Emphasis	1	2	3	4	5	(2.19)	Advanced(15)
							Both (34)

6.Language development in preschool hearing impaired.

Priority	1	2	3	4	5	(1.55)	Basic (71)
Emphasis	1	2	3	4	5	(1.87)	Advanced(11)
							Both (36)

7.Language development for normally hearing children.

Priority	1	2	3	4	5	(1.87)	Basic (91)
Emphasis	1	2	3	4	5	(2.29)	Advanced(8)
							Both (19)

8.Disorders of language development.

Priority	1	2	3	4	5	(2.07)	Basic (59)
Emphasis	1	2	3	4	5	(2.48)	Advanced(34)
							Both (26)

9.Psycholinguistics.

Priority	1	2	3	4	5	(2.24)	Basic (55)
Emphasis	1	2	3	4	5	(2.52)	Advanced(37)
							Both (28)

10.Linguistics.

Priority	1	2	3	4	5	(2.28)	Basic (54)
Emphasis	1	2	3	4	5	(2.48)	Advanced(33)
							Both (31)

CURRICULUM AND INSTRUCTION

1.The nature and purpose of curricula.

Priority	1	2	3	4	5	(2.62)	Basic	(94)
Emphasis	1	2	3	4	5	(2.89)	Advanced	(13)
							Both	(10)

2.Curricula for hearing impaired students.

Priority	1	2	3	4	5	(2.02)	Basic	(81)
Emphasis	1	2	3	4	5	(2.20)	Advanced	(8)
							Both	(30)

3.Curriculum adaptations for the hearing impaired.

Priority	1	2	3	4	5	(1.75)	Basic	(81)
Emphasis	1	2	3	4	5	(2.15)	Advanced	(10)
							Both	(28)

4.Instructional techniques developed for the hearing impaired.

Priority	1	2	3	4	5	(1.54)	Basic	(85)
Emphasis	1	2	3	4	5	(1.90)	Advanced	(4)
							Both	(28)

5.Reading for the hearing impaired.

Priority	1	2	3	4	5	(1.27)	Basic	(73)
Emphasis	1	2	3	4	5	(1.40)	Advanced	(4)
							Both	(41)

6.Mathematics for the hearing impaired.

Priority	1	2	3	4	5	(2.12)	Basic	(92)
Emphasis	1	2	3	4	5	(2.33)	Advanced	(5)
							Both	(20)

7.Curricula for the multi-handicapped hearing impaired.

Priority	1	2	3	4	5	(2.22)	Basic	(59)
Emphasis	1	2	3	4	5	(2.54)	Advanced	(33)
							Both	(25)

8.Evaluation of academic progress.

Priority	1	2	3	4	5	(2.08)	Basic	(72)
Emphasis	1	2	3	4	5	(2.49)	Advanced	(15)
							Both	(29)

9.Setting instructional objectives.

Priority	1	2	3	4	5	(2.14)	Basic	(91)
Emphasis	1	2	3	4	5	(2.67)	Advanced	(8)
							Both	(17)

10.Media methods and resources in hearing impairment.

Priority	1	2	3	4	5	(2.61)	Basic	(77)
Emphasis	1	2	3	4	5	(2.99)	Advanced	(22)
							Both	(17)

COMMUNICATION

1. Instructional methods in speech for the hearing impaired.

Priority	1	2	3	4	5	(1.43)	Basic (76)
Emphasis	1	2	3	4	5	(1.55)	Advanced(6)
							Both (36)

2. Speech assessment for the hearing impaired.

Priority	1	2	3	4	5	(1.67)	Basic (73)
Emphasis	1	2	3	4	5	(2.06)	Advanced(13)
							Both (31)

3. Research in speech development for the hearing impaired.

Priority	1	2	3	4	5	(2.49)	Basic (45)
Emphasis	1	2	3	4	5	(2.93)	Advanced(48)
							Both (25)

4. Instructional methods for speechreading.

Priority	1	2	3	4	5	(2.39)	Basic (92)
Emphasis	1	2	3	4	5	(2.73)	Advanced(15)
							Both (11)

5. Research in speechreading.

Priority	1	2	3	4	5	(3.04)	Basic (57)
Emphasis	1	2	3	4	5	(3.50)	Advanced(52)
							Both (9)

6. Instructional use of American Sign Language.

Priority	1	2	3	4	5	(2.30)	Basic (61)
Emphasis	1	2	3	4	5	(2.39)	Advanced(19)
							Both (34)

7. Instructional use of an English-based sign system (SEE, etc.).

Priority	1	2	3	4	5	(2.04)	Basic (82)
Emphasis	1	2	3	4	5	(2.13)	Advanced(6)
							Both (30)

8. Instructional use of Cued Speech.

Priority	1	2	3	4	5	(4.01)	Basic (68)
Emphasis	1	2	3	4	5	(4.12)	Advanced(30)
							Both (10)

9. Research in sign language.

Priority	1	2	3	4	5	(2.89)	Basic (34)
Emphasis	1	2	3	4	5	(3.08)	Advanced(52)
							Both (28)

SPEECH SCIENCE AND AUDIOLOGY

1.Anatomy/physiology of the speech and hearing systems.

Priority	1	2	3	4	5	(1.95)	Basic (104)
Emphasis	1	2	3	4	5	(2.32)	Advanced(5)
							Both (8)

2.Anatomy/physiology of the visual system.

Priority	1	2	3	4	5	(3.08)	Basic (88)
Emphasis	1	2	3	4	5	(3.41)	Advanced(20)
							Both (5)

3.Production, transmission, reception of speech sounds.

Priority	1	2	3	4	5	(1.99)	Basic (90)
Emphasis	1	2	3	4	5	(2.36)	Advanced(10)
							Both (15)

4.Common pathologies of the speech, hearing, visual systems.

Priority	1	2	3	4	5	(2.51)	Basic (82)
Emphasis	1	2	3	4	5	(3.02)	Advanced(20)
							Both (13)

5.Audiometric procedures for testing hearing.

Priority	1	2	3	4	5	(2.08)	Basic (90)
Emphasis	1	2	3	4	5	(2.60)	Advanced(11)
							Both (14)

6.Interpretation of hearing test results.

Priority	1	2	3	4	5	(1.74)	Basic (90)
Emphasis	1	2	3	4	5	(2.37)	Advanced(7)
							Both (20)

7.Functioning of hearing aids.

Priority	1	2	3	4	5	(1.72)	Basic (93)
Emphasis	1	2	3	4	5	(2.45)	Advanced(5)
							Both (19)

8.Acoustics of the classroom.

Priority	1	2	3	4	5	(2.36)	Basic (96)
Emphasis	1	2	3	4	5	(3.20)	Advanced(11)
							Both (9)

9.Aural habilitation.

Priority	1	2	3	4	5	(1.95)	Basic (71)
Emphasis	1	2	3	4	5	(2.38)	Advanced(13)
							Both (30)

10.Research in aural methods.

Priority	1	2	3	4	5	(2.64)	Basic (45)
Emphasis	1	2	3	4	5	(3.06)	Advanced(53)
							Both (18)

GENERAL TOPICS

1.Paradigms (models) in education of the hearing impaired.

Priority	1	2	3	4	5	(2.58)	Basic (75)
Emphasis	1	2	3	4	5	(3.03)	Advanced(29)
							Both (13)

2.Integration methods in hearing impairment.

Priority	1	2	3	4	5	(2.14)	Basic (70)
Emphasis	1	2	3	4	5	(2.65)	Advanced(26)
							Both (22)

3.Research on integration of the hearing impaired.

Priority	1	2	3	4	5	(2.51)	Basic (38)
Emphasis	1	2	3	4	5	(2.95)	Advanced(55)
							Both (25)

4.Research on multi-handicapped hearing impaired.

Priority	1	2	3	4	5	(2.54)	Basic (36)
Emphasis	1	2	3	4	5	(2.94)	Advanced(62)
							Both (21)

5.Counselling of the hearing impaired.

Priority	1	2	3	4	5	(1.77)	Basic (37)
Emphasis	1	2	3	4	5	(2.06)	Advanced(43)
							Both (37)

6.Preschool education of the hearing impaired.

Priority	1	2	3	4	5	(1.69)	Basic (68)
Emphasis	1	2	3	4	5	(1.93)	Advanced(19)
							Both (32)

7.Multiculturalism and hearing impairment.

Priority	1	2	3	4	5	(2.79)	Basic (50)
Emphasis	1	2	3	4	5	(3.02)	Advanced(47)
							Both (18)

8.Practicum experience.

Priority	1	2	3	4	5	(1.20)	Basic (84)
Emphasis	1	2	3	4	5	(1.27)	Advanced(4)
							Both (31)

9.Education of the mentally retarded, learning disabled, etc.

Priority	1	2	3	4	5	(2.73)	Basic (56)
Emphasis	1	2	3	4	5	(2.87)	Advanced(43)
							Both (17)

APPENDIX B

Average Total Respondent Means and Percentages for Primary Areas of Study

Table 1B

Average Total Respondent Means and Percentages for Foundation Content Items

Means		Percentages		
Priority	Emphasis	Basic	Advanced	Basic/Ad
1.Philosophical approaches to hearing impairment.				
2.22	2.67	80.3	8.5	11.1
2.Psychology of hearing impairment.				
1.68	1.97	71.2	5.1	23.7
3.Sociology of hearing impairment.				
2.12	2.42	69.2	13.7	17.1
4.History of the education of the hearing impaired				
2.95	3.13	89.8	7.6	2.5
5.Contemporary trends, problems, issues.				
1.97	2.32	49.6	22.2	28.2
6.Local, provincial, national programs in education.				
2.99	3.41	63.6	28.8	7.6
7.Local, provincial, national organizations in hearing impairment				
3.21	3.60	72.3	20.5	7.1
8.Vocational counselling/development in hearing impairment.				
2.42	2.62	34.5	46.6	19.0
9.Parent counselling.				
1.70	1.97	38.1	22.0	39.8

Table 2B

Average Total Respondent Means and Percentages for Language Items

Means		Percentages		
Priority	Emphasis	Basic	Advanced	Basic/Ad.
1.Language development in the hearing impaired.				
1.20	1.24	53.3	5.0	41.7
2.Language instruction methods for the hearing impaired.				
1.27	1.38	54.6	5.9	39.5
3.Diagnosis of language needs of the hearing impaired.				
1.34	1.55	42.9	13.4	43.7
4.Language research in hearing impairment.				
2.16	2.49	26.9	52.9	20.2
5.Language instruction for integrated hearing impaired.				
1.90	2.19	58.5	12.7	28.8
6.Language development for preschool hearing impaired.				
1.55	1.87	60.2	9.3	30.5
7.Language development for normally hearing children.				
1.87	2.29	77.1	6.8	16.1
8.Disorders of language development.				
2.07	2.48	49.6	28.6	21.8
9.Psycholinguistics.				
2.24	2.51	45.8	30.8	23.3
10.Linguistics.				
2.28	2.48	45.8	28.0	26.3

Table 3B
Total Respondent Means and Percentages for Curriculum and Instruction Items

Means			Percentages	
Priority	Emphasis	Basic	Advanced	Basic/Ad.
1.The nature and purpose of curricula.				
2.62	2.89	80.3	11.1	8.5
2.Curricula for hearing impaired students.				
2.02	2.20	68.1	6.7	25.2
3.Curriculum adaptations for the hearing impaired.				
1.75	2.15	68.1	8.4	23.5
4.Instructional techniques developed for the hearing impaired.				
1.54	1.90	72.6	3.4	23.9
5.Reading for the hearing impaired.				
1.27	1.40	61.9	3.4	34.7
6.Mathematics for the hearing impaired.				
2.12	2.33	78.6	4.3	17.1
7.Curricula for the multi-handicapped hearing impaired.				
2.22	2.54	50.4	28.2	21.4
8.Evaluation of academic progress.				
2.08	2.49	62.1	12.9	25.0
9.Setting instructional objectives.				
2.14	2.67	78.4	6.9	14.7
10.Media methods and resources in hearing impairment.				
2.61	2.99	66.4	19.0	14.7

Table 4B

Total Respondent Means and Percentages for Communication Items

Means		Percentages		
Priority	Emphasis	Basic	Advanced	Basic/Ad.
1.Instructional methods in speech for the hearing impaired.				
1.43	1.55	64.4	5.1	30.5
2.Speech assessment for the hearing impaired.				
1.67	2.06	62.4	11.1	26.5
3.Research in speech development for the hearing impaired.				
2.49	2.93	38.1	40.7	21.2
4.Instructional methods in speechreading.				
2.39	2.73	78.0	12.7	9.3
5.Research in speechreading.				
3.04	3.50	48.3	44.1	7.6
6.Instructional use of American Sign Language.				
2.30	2.39	53.5	16.7	29.8
7.Instructional use of English-based sign system (SEE, etc.)				
2.04	2.13	69.5	5.1	25.4
8.Instructional use of Cued Speech.				
4.01	4.12	63.0	27.8	9.3
9.Research in sign language.				
2.89	3.08	29.8	45.6	24.6

Table 5B

Total Respondent Means and Percentages for Speech Science and Audiology Items

Means		Percentages		
Priority	Emphasis	Basic	Advanced	Basic/Ad
1.Anatomy/physiology of the speech and hearing system.				
1.95	2.32	88.9	4.3	6.8
2.Anatomy/physiology of the visual system.				
3.08	3.41	77.9	17.7	4.4
3.Production, transmission, reception of speech sounds.				
1.99	2.36	78.3	8.7	13.0
4.Common pathologies of the speech, hearing, visual systems.				
2.51	3.02	71.3	17.4	11.3
5.Audiometric procedures for testing hearing.				
2.08	2.60	78.3	9.6	12.2
6.Interpretation of hearing test results.				
1.74	2.37	76.9	6.0	17.1
7.Functioning of hearing aids.				
1.72	2.45	79.5	4.3	16.2
8.Acoustics of the classroom.				
2.36	3.20	82.8	9.5	7.8
9.Aural habilitation.				
1.95	2.38	62.3	11.4	26.3
10.Research in aural methods.				
2.64	3.06	38.8	45.7	15.5

Table 6B

Total Respondent Means and Percentages for General Topics Items

Means			Percentages	
Priority	Emphasis	Basic	Advanced	Basic/Ad
1.Paradigms (models) in education of the hearing impaired.				
2.58	3.02	64.1	24.8	11.1
2.Integration methods in hearing impairment.				
2.14	2.65	59.3	22.0	18.6
3.Research on integration for the hearing impaired.				
2.51	2.95	32.2	46.6	21.2
4.Research on multi-handicapped hearing impaired.				
2.54	2.94	30.3	52.1	17.6
5.Counselling of the hearing impaired.				
1.77	2.06	31.6	36.8	31.6
6.Preschool education of the hearing impaired.				
1.69	1.93	57.1	16.0	26.9
7.Multiculturalism and hearing impairment.				
2.79	3.02	43.5	40.9	15.7
8.Practicum experience.				
1.20	1.27	70.6	3.4	26.1
9.Education of the mentally retarded, learning disabled, etc.				
2.73	2.87	48.3	37.1	14.7

APPENDIX C

Relative Priority for Core Program Content for Demographically-Defined Groupings

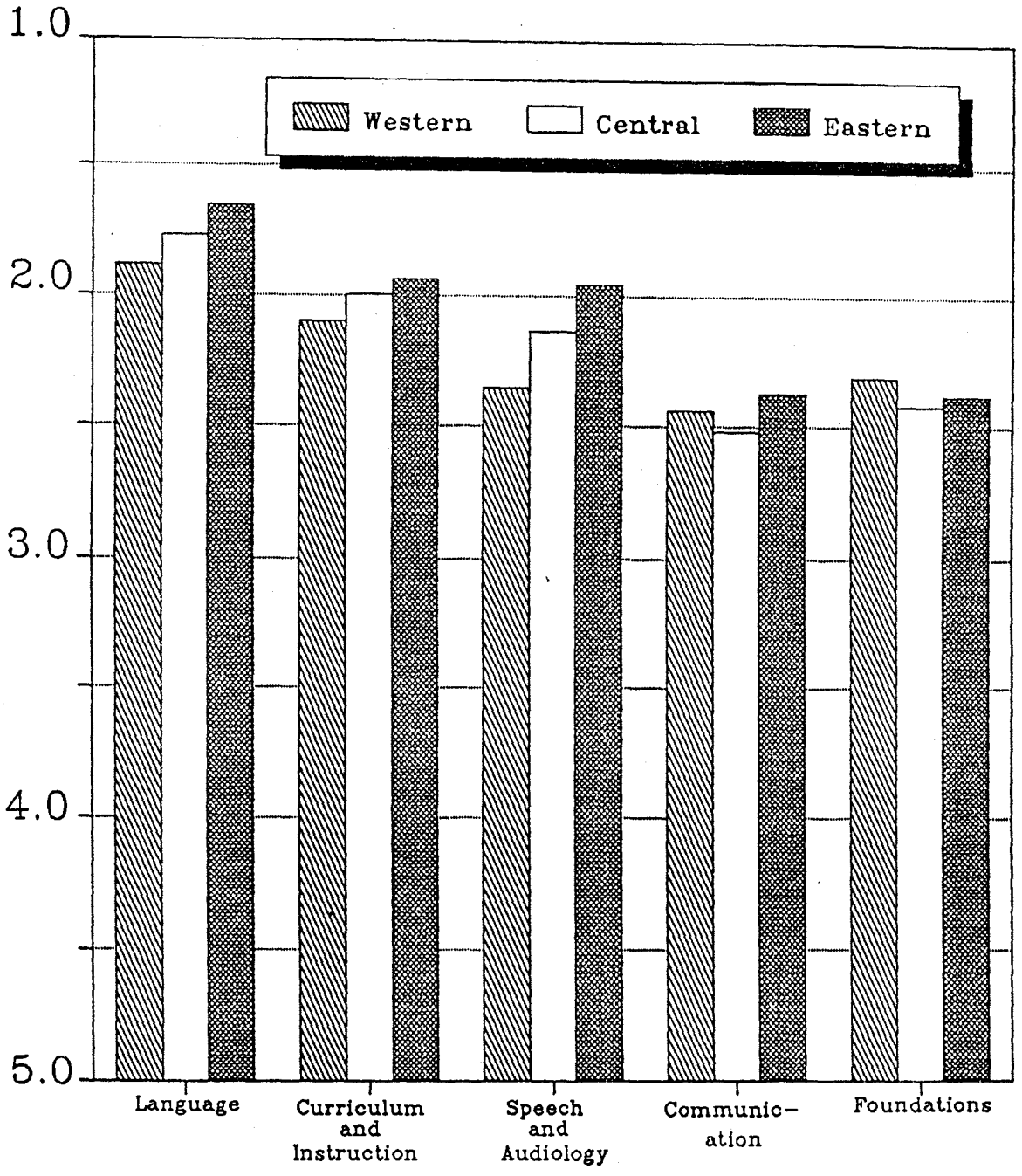

Figure C 1. Relative priority for core program content for Western, Central, and Eastern region groupings.

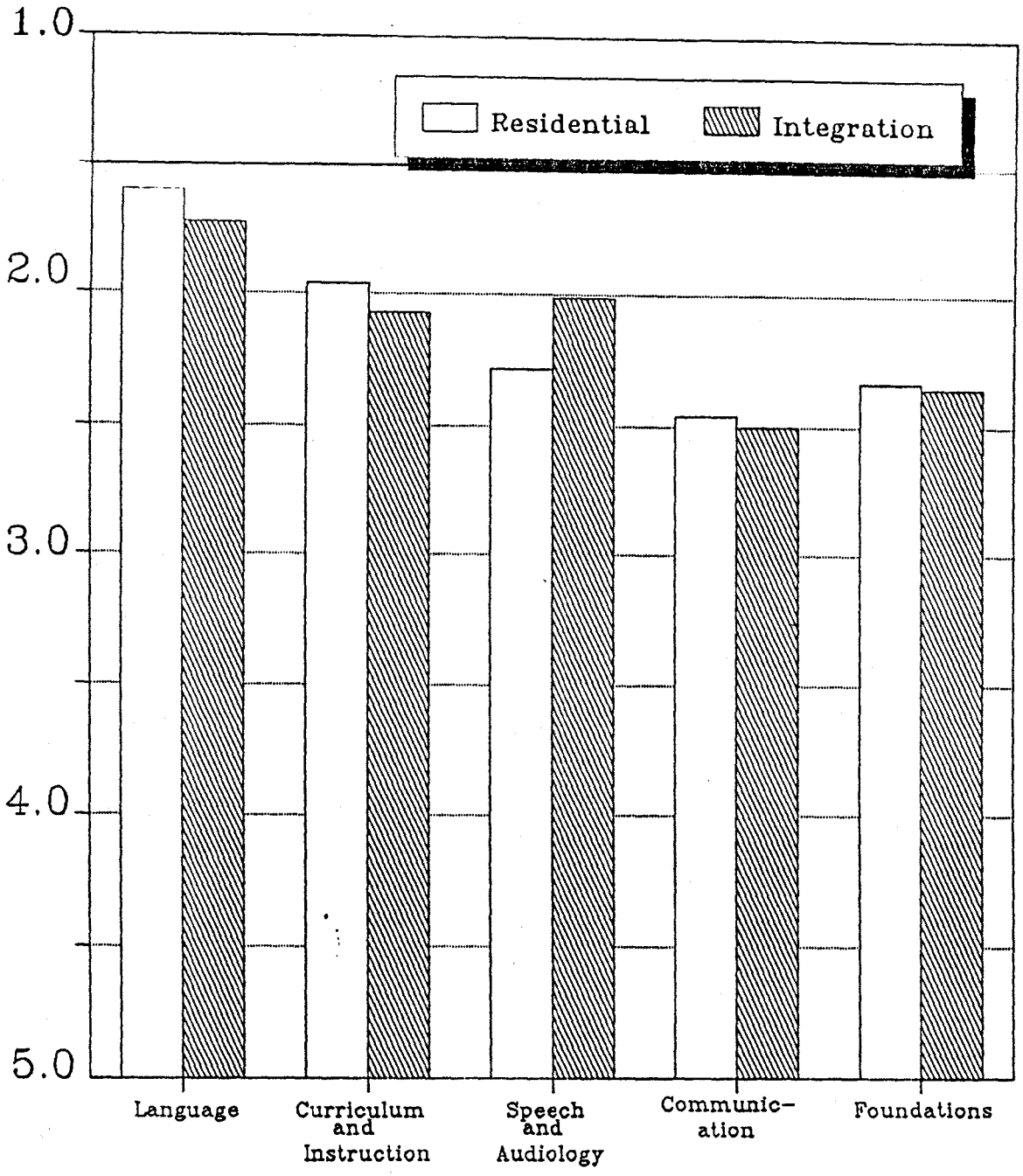

Figure C 2.Relative priority for core program content for residential and integration groupings.

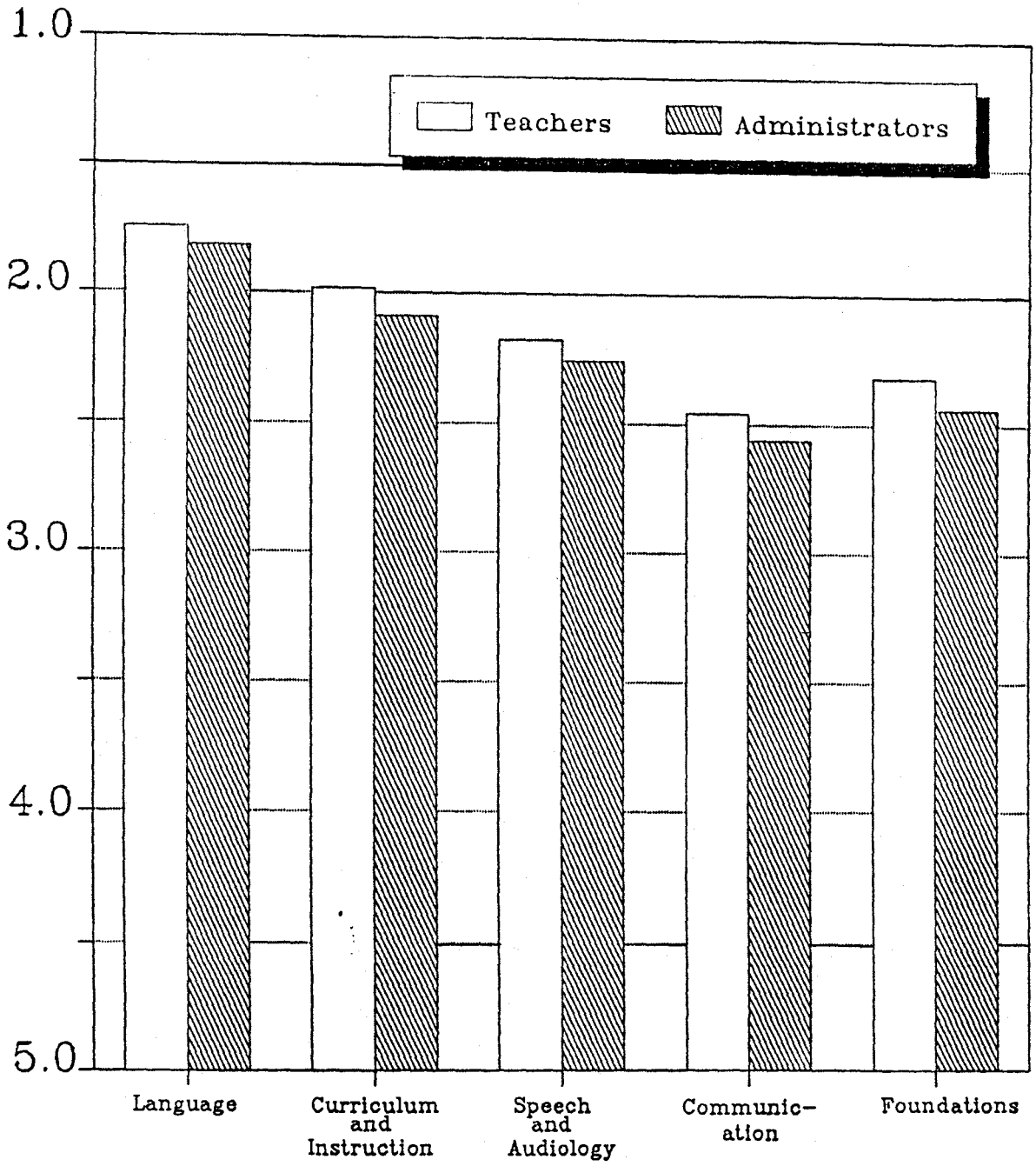

Figure C 3.Relative priority for core program for teacher and administrator groupings.

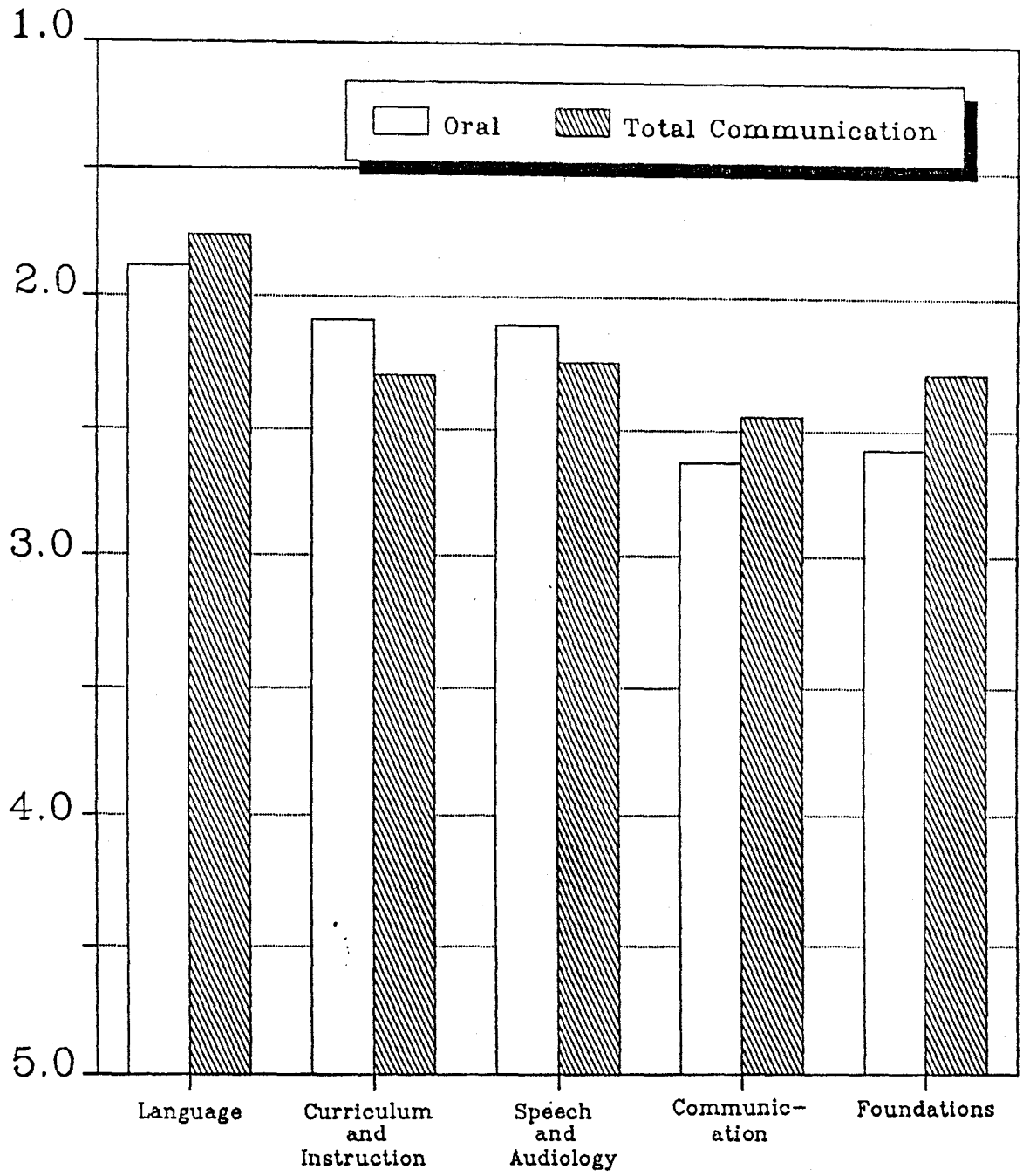

Figure C 4.Relative priority for core program for oral and total communication groupings.

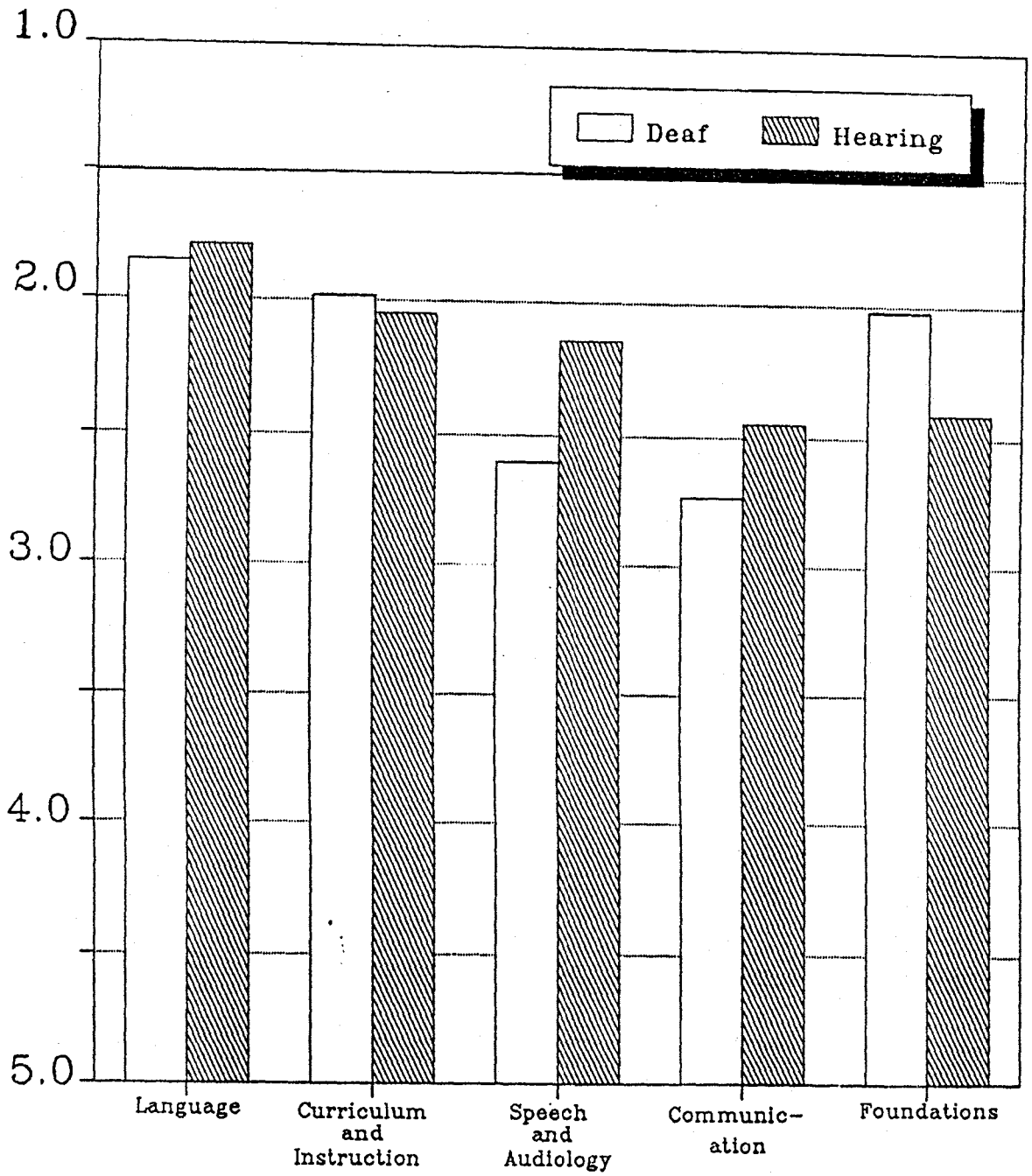

Figure C 5.Relative priority for core program for deaf and hearing groupings.