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ABSTRACT

A survey questionnaire was distributed to 211 speech and hearing clinicians to assess the changes in the special education process resulting from Massachusetts Special Education Law--Chapter 766, which calls for mainstream reform in the form of individually planned educational programs which involve parents in the educational planning process. Information was gathered in the following areas: general demographic variables (such as clinician's work experience, level of training, and changes in current and pre-Chapter 766 caseload population); attitudes comparing the pre-766 and current importance of 35 specific competencies in such skill areas as identification, evaluation, and therapy; changes in types of professional programs and activities in which clinicians are currently involved as compared to pre-766; and changes in clinicians' caseload profile subsequent to implementation of Chapter 766. Among survey results were that speech and hearing clinicians described a wide spectrum of increased services; that caseload profile changes were notable toward the more organic and central nervous system type problems; and that clinicians needed more experience in working with the younger ages. (Tables presenting statistical data are provided.) (SB)



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TITLE. Mainstreaming and Its Effects on the Delivery of  
Services to the Handicapped: The Speech, Language  
and Hearing Special Educator

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MAINSTREAMING AND ITS EFFECTS ON THE DELIVERY  
OF SERVICES TO THE HANDICAPPED: THE SPEECH,  
LANGUAGE AND HEARING SPECIAL EDUCATOR

The sweeping tide of "mainstreaming" children with special needs into the public schools has been implemented or is being enacted in nearly half of the states. With the current federal legislation (P.L. 94-142) following this direction, the other states will soon follow. When mainstreaming is implemented in a state, it revolutionizes the system but unfortunately catches many special educators and clinicians off balance. While many equate mainstreaming with the older acronym "integration" they are functionally different. Mainstreaming integrates children with special needs into the overall delivery of services whereas integration did not mainstream these children into a total educational management framework. The former ensures that all children who need assistance will receive it, it demands upgrading of services, it involves the entire education system. Above all, mainstreaming upgrades the delivery of service by demanding accountability through requiring identifiable goals and objectives thru external input and output.

Thus, mainstreaming includes administrators and indulges the parents as an integral part of the process. It somewhat blurs the delineation of specialists who formerly worked as insular entrepreneurs by including the classroom teacher, nurse, psychologist, etc.

It is crucial then that all people involved in the delivery of services (administrators, teachers, special educators, clinicians), and training program directors understand the effects of mainstreaming and the responsibilities it precipitates for restructuring the current models. To exacerbate matters, the mandate for mainstreaming is often implemented without additional funding or preparation.

In September, 1974, Massachusetts Special Education Law, Chapter 766, "suddenly" went into effect. It inculcated sweeping reform by mandating that all children between the ages of 3 through 21 years with special needs must receive an individually planned educational program. The mechanism for planning, evaluating, and periodic reassessment was a "Core Evaluation Team (C.E.T.)" comprised of professionals and the parents. Referral of a child for a core evaluation can be requested by a teacher, parent or some other professional. It involves a set of procedures that utilizes several specialists to collectively prepare the educational management of the child. Chapter 766 has one unique feature, compared to many other states, it includes the parent in the educational planning process and gives parents the ultimate right to accept or reject the recommendations of the core evaluation team. Hence, a parent can request a second core at a different facility or perhaps insist that the child be transferred from a school for the deaf (or whatever) into the public school. Under 766, no one specialist is solely responsible for the diagnosis, assessment, and prognosis of a child.

Each educator is now accountable to a team of professionals, including the parent, in preparing the effective educational management of the child. Hence, Chapter 766 fosters the equal right of the handicapped to receive appropriate, high quality remedial instruction as part of the total educational process.

This study was designed to assess the impact of Chapter 766 on a representative group of remedial specialists in the public schools, the speech and hearing clinician. Since an impressive number of special needs children have communication problems, i.e.: speech, hearing and language impairments, it was contended that an assessment of the changed role of the speech and hearing clinician would reflect the broad changes in the special education process resulting directly from mainstreamed legislative reform. Clearly, the child's communicative efficiency is central to any educational program.

A survey questionnaire was distributed to 211 speech and hearing clinicians who attended six geographically distributed workshops in Massachusetts. The questionnaire gathered data under supervision in the following areas:

1. general demographic data on the clinicians' work experience, level of training, state and national certification status, current role in the required evaluation process, changes in current and pre Chapter 766 caseload population, etc.;



- 2. attitudes comparing the pre 766 and current importance of thirty-five specific competencies in skill areas of identification, evaluation, therapy, administration and education selected from official Massachusetts State Department of Education Recommendations for Implementing Chapter 766 in the public schools;
- 3. changes in the types of professional programs and activities in which clinicians are currently involved compared to pre 766;
- 4. changes in clinicians' caseload profile subsequent to implementation of Chapter 766.

The results of the study will be delineated and considered with discussion according to the four major sections outlined above:

1. Demographic Data

Table I summarizes eight areas of collated data for this section with mean, mode and median values. The total doctoral study depicts the data according to B.A. and M.A. level of academic training. But this breakdown revealed essentially similar clinician responses so only the combined total group (M.A. and B.A. level clinicians) data will be presented here for brevity.

Item 1 shows the sampling of clinicians and their geographic distribution throughout the state. In total, the sampling represents about 40% of the total number of Massachusetts speech and hearing clinicians and approximately 33% of Massachusetts school districts.

Items 2 and 3 show the mean years of experience was 3.84 years with the median at approximately 2.5 years in the current teaching district. Total work experience as a speech and hearing clinician had a 5.34 mean and a 3.69 years median.

Item 4a. revealed that 89% of the clinicians responding hold B.A. or M.A. degrees in Speech and Hearing. This breaks down to 35% holding Masters degrees and 54% with B.A. degrees. Furthermore, 11% employed as speech and hearing clinicians have degrees (M.A. or B.A.) from major academic areas other than Communication Disorders. Thus, more than half of the clinicians sampled have only B.A. Degrees and are not typically eligible for ASHA Certificate of Clinical Competence. As indicated above, better than one-in-ten earned degrees from other professions. Considering that the new mainstreamed orientation requires clinician leadership roles in providing inservice activities, accountability to other professionals including parents, and the wider dispersion of activities stresses the pertinence of that data.

Item 4b. revealed that 13.7% of the total group of clinicians reported holding ASHA Certificate of Clinical Competence (CCC) in Speech, *i.e.*, 33% of the M.A. level clinicians and 6% of the B.A. clinicians; the latter were

probably "grandfathered" several years ago. Only 1.4% hold CCC in Hearing, i.e., 2 M.A. people, 1 B.A. person.

However 76.8% of the total group reported having Massachusetts Teacher of the Speech and Hearing Handicapped Certification with an additional 6.2% certified as Teachers of the Deaf. What is impressive is that more than 15% of the clinicians working within the Massachusetts public schools either aren't certified by the State or neglected to indicate their Massachusetts Certification in responding to the questionnaire.

Item 4c. revealed that 1974 was the year which had the highest number of clinicians earning their highest degree. More than 50% of the clinicians received their degrees in 1972 or more recently. The mean statistic in this instance is less revealing than mode and median values.

Item 5 surveyed the number of full-time clinicians, pre 766, currently employed and projections for the future and item 6 listed the weekly caseloads. Prior to 766, there were 4.6 clinicians per district each serving 86.1 children per week. This changed to 5.9 clinicians each serving 53 children per week currently. The projection for the future was for 7.0 clinicians to serve 52 children per week. Hence, there are significant changes in sheer client caseloads.

The increase of full-time staff in speech and hearing from 4.6 to 5.9 designated a 22% increase while the reduction in weekly therapy clients from 86.1 to 53.0



reflected a 38% reduction in the number of clients-per-clinician. Apparently, the relative increase in caseload anticipated from this mandated legislation was compensated for by the 38% overall reduction of caseload assignments, via the 22% increase in staff. Clearly this does not suggest a lighter work schedule, but rather a change in total responsibilities.

Item 7 showed that most speech and hearing staff were employed full-time (re: 199) with only 11 as part-time or as consultants. The fact that 95% of the clinicians are employed full-time suggested that little is changed by the part-time assistance. Item 8 gave one clue as to where clinician activities may have shifted, i.e., participation on Core Evaluation Teams (CET) sessions and report writing. Of the 209 clinicians who responded to this item only 2 (1%) had no CET involvement, 32 (15.3%) were permanent members of the CET, 121 (58%) participated as needed and 46 (22%) only served when the child had a speech and hearing or language problem. In a later section, Tables 3 and 4 will specify in detail where changes in activities occurred.

2. Competency Skills

A list of 35 clinician competency skills are presented in Table 2 and rated in importance by clinicians on a 5-point scale re: pre 766, currently and projected for the future. For convenience and clarity, the skills are divided into 5 categories: (1) identification skills, (2) evaluation skills, (3) administrative skills, (4) therapy skills, and (5) education skills. While many of these skills are complementary



to each other and closely related, they reflect the categories outlined by the Massachusetts State Department of Education.

When T-test analyses were applied to the means in Table II changes in the magnitude of 0.3 to 0.4 reached statistical significance at the .01 level of confidence due to the large sampling of clinicians and the scale employed. Thus, Table II suggested that most of the changes from pre 766 to current and from current to future were statistically significant. The scaled values will be discussed below in detail to show the magnitude of the changes relative to the clinicians' contention of the importance of the skills and competency areas on a five-point scale.

#### A. Identification Skills

Screening assessment was the major criterion for this category of skills (Items 1-4) relative to pre-school, kindergarten, continuous (on-going) and team screening. The combined pre 766 mean for these was 3.02, midpoint on a 5 point scale. But screening was rated highly important (4.2) for current activities, particularly for the younger children where the mean was 4.4. This occurred because Chapter 766 has a low beginning age of 3.0 years and clinicians consistently reported needing training and experience for identifying younger children. Training programs will have to attend to this change. Indeed for the future category, it was rated even higher.

B. Evaluation Skills

The evaluation skills area (Items 5-13) paralleled the above identification area, *i.e.*, a significant change in importance for these skills from pre 766 to present with each of the nine skills rated even higher in importance as future competencies to be mastered.

Evaluation skills included writing behavioral objectives, preparing educational plans, interpretation of professional data from other specialists, speech testing, observation, case management, using program prototypes, case conferencing with parents and team decision making. The combined pre 766 mean for these skills was 3.1 and the current mean was 4.2 with consistently higher future ratings. This evaluation area represents the nucleus of the accountability paradigm where goals, objectives, implementation and assessments are formalized. It requires considerable time, represents a major expansion of professional responsibility for the speech and hearing clinician. It is the area that demonstrably "integrates" the formerly insular clinician with other educational specialists and forces the clinician to enjoin his skills and terminology with those of other educators. It requires imposing synthesis for a viable overall educational plan and periodic assessment scales to document any progress.

Thus, in this category of skills, team communications become real and no longer sprinkled with token credibility. It facilitates the implementation of the therapy through a variety of pertinent inputs that are conducive to a broader



perspective of the child in the total educational system.

Training for skills in this category will best be realized through carefully structured intradepartmental core programs—a direction being aggressively expoused by BEH.

### 3. Administration Skills

In part, this area (Items 14-16) is an extension of the evaluation skills but as a time-locked accountability area. It is not surprising that progress reports (Item 14) and final reports (Item 16) remained relatively stable in importance of pre 766 to the present. The change in means from 3.6 (pre 766) to 4.5 (current) was significant but not as dramatic as the change which occurred in Item 17, long-range planning, (mean of 3.0 in pre 766 to 4.5 currently). Once again this highlights the need for augmented training in integrated total educational management.

### 4. Therapy Skills

Here is the direct delivery of services to the consumer for which the clinician has traditionally received the concentration of didactic and clinical training (Items 17 to 30). One could predict that the pre 766 and the current time frames would reflect less overall change relative to Chapter 766; this was usually the case. Differences which did occur were concentrated in therapy for the age groups which are new to most clinicians, the pre-school age group (Item 17) and the group that includes ages to 21 years (Item 21). The pre-school age group had a

marked increase in importance from 2.7 to 4.2 from pre 766 to current and even higher ratings for the future. The higher age group (Item 31) had a similar pattern with an increment from 2.1 to 3.1. Other notable increases in skill importance were concentrated in the language area (Item 25) and aural rehabilitative skill areas (Items 26, 27, 28, 29).

Thus, while there were smaller overall changes in skill importance for the therapy delivery of service as would be predicted, the changes that did occur resulted mainly from the age groups that were formerly not included in pre 766 target populations, re: 3 to 5 year olds and clients to age 21 years. Accordingly, the recent stress on "language" and language related skills warrants expanded academic attention by the training programs, particularly in relation to applicability in the total educational process and the coordination of language programs.

#### E. Education Skills

With the exception of Item 31, conducting inservice programs, which increased in importance from 2.6 to 3.7 from pre 766 to current, the rest of the educational skill items (conducting informational programs, parent group guidance, media materials usage and individual consultation with specialists, teachers and parents—Items 32-35) increased significantly in importance but again not as dramatically as previously discussed skill areas. Including the inservice skill, the combined mean) for the education skills

increased from 3.2 (pre 766) to 3.9 (current). More attention is needed in preparing speech and hearing students in training programs for the role they now have of educating the parents, teachers and other specialists with whom they work concerning speech and hearing concerns, topics, research and techniques.

Table 3 lists 18 educational management activities. With the exception of two activities (Item 12, actual therapy time with pupils and Item 15, regular class therapy) all changes from pre 766 to current were statistically significant at the .01 level of confidence using T-tests. As discussed earlier discussion will be limited to the magnitude of change indicated on a scale of 1 to 5 with 3.0 representing no change.

The most conspicuous changes represented in Table 3 occurred in clinicians' activities involving interaction with other specialists, formal parent education, general parental involvement, formal teacher inservice education, supervision, pre-school screening, caseload threshold testing, preparation of resource room materials and paperwork and report writing. It is noteworthy that clinicians put extreme emphasis on increases in interactions with other specialists (4.3) and increased paperwork (4.7) as a result of Chapter 766.

Table IV lists nine types of communication disorders treated by speech and hearing clinicians. The scaling and t-tests for significant changes between pre 766 vs. the current year were similar to those described above in Table III. Clinicians reported that their caseload numbers increased in four communication disorders types: (1) language disorders (4.3), multiple handicaps (3.5), organic pathologies (3.4), and developmental delay (3.3) in that rank order of change. These changes were statistically significant at the .01 level of confidence. Thus, there is a significant increase in organic and central nervous system types of disorders in therapy caseloads. This has implications for the types of didactic courses and clinical experience that needs to be provided by the training programs.

### Conclusions

1. Mainstreaming imposes a number of significant changes in the delivery of services to children with special needs.
2. Speech and hearing clinicians described a wide spectrum of increased services. Most notable were inservice responsibilities, paperwork activities, parental involvements, interaction with other specialists, classroom teacher contacts.
3. Accountability requires skills in writing behavioral objectives, short and long range planning, prescriptive teaching, diagnostic assessment, screening procedures.

4. Caseload changes were notable toward the more organic and CNS type problems, particularly language problems and the multiply handicapped.
5. Caseload numbers were smaller overall due to an increase in number of clinicians, time spent with each child remained the same.
6. Clinicians need more experience and training in working with the younger ages, re: 3-5 years, and older people, i.e., up to 21 years.
7. Training programs need to review their goals and objectives with regard to student skills and competencies, clinical and classroom experiences, levels of training, intra-departmental core requirements, faculty support to professional workers, collaborative alliances with school districts, accountability research to assess the efficiency of the academic programs in training personnel for the schools and mainstreaming activities.



**TABLE I**  
**DEMOGRAPHIC DATA (211 Clinicians)**

	TOTAL COMBINED GROUP
<b>1. Regions Represented</b>	
a. Greater Worcester	50
b. Greater Boston	24
c. Northeast	27
d. Southeast	56
e. Pittsfield	18
f. Springfield	34
<b>2. Years of Work Experience in Present School Dist. as Speech/Hearing/Language Clinician</b>	Mean = 3.84 SD Mode = 1.00 Median = 2.38
<b>3. Years of Work Experience in Total as a Speech/Hearing/Language Clinician</b>	Mean = 5.39 SD Mode = 2 Median = 3.69
<b>4. Professional Training</b>	
a. Degree	89% Speech MA or BA 11% Other Major area degree-- MA or BA
b. Certification	ASHA (Speech) 13.7% ASHA (Aud.) 1.4% Mass. Teacher of Speech/Hearing Handicapped 76.8% Mass. Teacher of Deaf 6.2% Mean 1969, Mode 1974, Median 1977
c. Year Highest Degree Awarded	
<b>5. Full-time Speech/Hearing/Language Clinicians Employed by Present School District</b>	
Pre 766	$\bar{x}$ = 4.6, Mode = 1, Median = 2.4
Current	$\bar{x}$ = 5.9, Mode = 2, Median = 3.6
Future	$\bar{x}$ = 7.0, Mode = 2, Median = 3.7
<b>6. Average Caseload Number per Week—seen on regular basis</b>	
Pre 766	$\bar{x}$ = 86.1, Mode = 100, Median = 80.5
Current	$\bar{x}$ = 53, Mode = 50, Median = 50.4
Future	$\bar{x}$ = 51.6, Mode = 50, Median = 50.1
<b>7. Job Status</b>	
Full-time	199
Part-time	8
Other	4
<b>8. Present Core Evaluation Team Role In School System</b>	
No role at all	2
Only contact thru children in caseload	4
Participate only when child has special need in S/H/L	46
Participate as needed and requested but am not permanent member of CET	121
Participate as permanent member of CET	32
Other	4

TABLE II

**SUMMARY OF CLINICIANS' ASSESSMENTS OF THE IMPORTANCE  
OF 35 SELECTED COMPETENCY SKILLS PRE 766,  
CURRENT NEEDS, PROJECTED NEEDS FOR THE  
FUTURE—BASED ON A 1 TO 5 SCALE\***

SKILL	COMBINED GROUP (211 Clinicians)	SKILL	COMBINED GROUP (211 Clinicians)
	$\bar{x}$		$\bar{x}$
<b>A. Identification Skills</b>		<b>9. Observe</b>	
1. Pre-School Screening		Pre 766	3.4
Pre 766	2.8	Current	4.2
Current	4.4	Future	4.4
Future	4.6	<b>10. Serve as Case Manager</b>	
2. Kindergarden Screening		Pre 766	2.1
Pre 766	3.3	Current	3.5
Current	4.4	Future	3.8
Future	4.6	<b>11. Utilize Program Prototypes</b>	
3. Continuous Screening		Pre 766	2.8
Pre 766	3.4	Current	4.0
Current	4.0	Future	4.3
Future	4.1	<b>12. Case Conference Parent Interaction</b>	
4. Team Screening		Pre 766	3.5
Pre 766	2.6	Current	4.5
Current	4.0	Future	4.8
Future	4.4	<b>13. Team Decision-Making Skills</b>	
<b>B. Evaluation Skills</b>		Pre 766	3.3
5. Write Behavioral Objectives		Current	4.5
Pre 766	2.8	Future	4.7
Current	4.1	<b>C. Administration Skills</b>	
Future	4.4	<b>14. Progress Reports</b>	
6. Prepare Education Plan		Pre 766	3.7
Pre 766	2.6	Current	4.4
Current	4.5	Future	4.6
Future	4.7	<b>15. Long-range Planning</b>	
7. Interpret Data from Other Specialists		Pre 766	3.0
Pre 766	3.6	Current	4.5
Current	4.5	Future	4.6
Future	4.7	<b>16. Final Reports</b>	
8. Use Speech Tests		Pre 766	4.0
Pre 766	3.9	Current	4.5
Current	4.6	Future	4.6
Future	4.9		

TABLE II (Continued)

SKILL	COMBINED GROUP (211 Clinicians)	SKILL	COMBINED GROUP (211 Clinicians)
	$\bar{x}$		$\bar{x}$
<b>D. Therapy Skills</b>		<b>27. Therapy-Auditory Discrim.</b>	
17. Therapy Pre-School		Pre 766	3.9
Pre 766	2.7	Current	4.4
Current	4.2	Future	4.6
Future	4.6	<b>28. Therapy-Amplifi- cation</b>	
<b>18. Therapy-Elementary</b>		Pre 766	2.5
Pre 766	4.3	Current	3.1
Current	4.6	Future	3.5
Future	4.8	<b>29. Therapy-Sign Language</b>	
<b>19. Therapy-Jr. High</b>		Pre 766	1.8
Pre 766	3.3	Current	2.5
Current	3.8	Future	2.9
Future	4.1	<b>30. Therapy-Behavioral Modification</b>	
<b>20. Therapy-High School</b>		Pre 766	3.1
Pre 766	3.0	Current	3.7
Current	3.7	Future	4.0
Future	3.9	<b>E. Education Skills</b>	
<b>21. Therapy to age 21</b>		<b>31. Conduct In-Service Programs</b>	
Pre 766	2.1	Pre 766	2.6
Current	3.1	Current	3.7
Future	3.5	Future	4.2
<b>22. Therapy-Articulation</b>		<b>32. Conduct Information Programs</b>	
Pre 766	4.3	Pre 766	2.9
Current	4.5	Current	3.6
Future	4.5	Future	4.1
<b>23. Therapy-Voice</b>		<b>33. Instruct Parent Groups</b>	
Pre 766	3.6	Pre 766	3.4
Current	4.1	Current	4.1
Future	4.3	Future	4.4
<b>24. Therapy-Fluency</b>		<b>34. Use Media Materials</b>	
Pre 766	4.0	Pre 766	2.7
Current	4.3	Current	3.4
Future	4.5	Future	3.8
<b>25. Therapy-Language</b>		<b>35. Consult with Parents, Teachers, Specialists</b>	
Pre 766	3.7	Pre 766	4.2
Current	4.7	Current	4.7
Future	4.9	Future	4.8
<b>26. Therapy-Speech Reading</b>			
Pre 766	3.5		
Current	4.0		
Future	4.3		

1, unimportant and  
5, important.

TABLE III

PROFILE OF ACTIVITY CHANGES OF CLINICIANS IN  
TOTAL EDUCATIONAL MANAGEMENT FROM PRE 766  
TO PRESENT ON A SCALE OF 1 TO 5\*\*

	$\bar{x}$
1. Interaction with Other Specialists	4.3*
2. Classroom Teacher Contact	3.6*
3. Formal Parent Education	3.8*
4. Informal Parent Education	3.4*
5. Parental Involvement	3.9*
6. Formal Teacher Inservice Education	3.8*
7. Informal Teacher Inservice Education	3.6*
8. Resource Person to Teachers and Specialists	3.5*
9. Supervision of Paraprofessional Workers and Students	3.9*
10. Pre-school Screening	3.8*
11. Caseload Threshold Testing	4.0*
12. Actual Therapy Time with Pupils	2.9
13. Diagnostic Therapy	3.3*
14. Preparation of Materials for Resource Room	4.0*
15. Regular Class Therapy	3.1
16. Special Class Therapy	3.3*
17. Paperwork and Reports	4.7*
18. Individual Therapy	3.5*

\* Significantly different from 3.0 (no change) at the .01 level of confidence.

\*\* 1, less; 3, no change; 5, more.

TABLE IV  
CASELOAD PROFILE CHANGES RESULTING FROM  
CHAPTER 766 ON A SCALE OF 1 TO 5\*\*

	$\bar{x}$
1. Hearing Impaired	3.1
2. Multiply Handicapped	3.5*
3. Language Delayed or Disordered	4.2*
4. Voice	3.1
5. Bilingual	3.1
6. Developmental Delay (MR)	3.3*
7. Fluency /	3.0
8. Articulation only	2.8
9. Organic Pathologies (cleft plate, cerebral palsy, etc.)	3.4*

\* Significantly different from 3.0 (no change) at the .01 level of confidence.

\*\* 1, less; 3, no change; 5, more.