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# Monitoring of Public Law 94-142

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A key component of the Education for All Handicapped Children Act of 1975 (P.L. 94-142) is the requirement that each state education agency (SEA) monitor all public agencies within the state to insure compliance with the major provisions of the Act. This requirement has placed many SEAs in a new and challenging role. Historically, local education agency (LEA) autonomy was often dominant and SEAs had neither the resources nor in some instances the authority to monitor LEAs. Special education units within SEAs, in particular, had previously concentrated on a consultative and technical assistance role. SEAs reported that to meet the new requirements for monitoring they needed more time, money, and staff. In spite of issues related to role changes and availability of resources, however, states have made a substantial effort and have achieved significant results in implementing the monitoring requirements of P.L. 94-142.

In this article we present an overview of state practices and progress in assuring that all handicapped children have available a free appropriate public education. The information presented here was obtained by the Bureau of Education for the Handicapped (BEH) in an effort to determine the

progress SEAs have made in meeting the monitoring requirements of P.L. 94-142. Forty-four SEAs provided descriptive information concerning their monitoring efforts in 1977-78 and 1978-79. This information provided a basis for documenting changes in SEA monitoring practices and procedures. A more intensive analysis of monitoring efforts was conducted in 7 states and 15 LEAs. These seven states were selected to represent various geographic areas and the predominant approaches to monitoring in use across the country.

## Monitoring Functions

There are four major monitoring functions that are common to all SEAs: previsit preparations, on-site procedures, reporting, and follow-up. Previsit preparations include documenting the monitoring process, organizing staff and assigning tasks and responsibilities, training staff, and scheduling visits. Typical on-site procedures include reviewing LEA documentation and procedures; examining in detail a sample of student records, including IEPs; and interviewing administrators, teachers, and parents. Reporting usually includes providing immediate oral feedback to LEA administrators at the completion of a monitoring visit as well as providing a formal written report. The written report may contain commendations as well as corrective actions required for any LEA procedures and/or practices that are not in compliance with federal requirements. Follow-up activity by the SEA is necessary whenever corrective actions are required. The state may require documentation or conduct a verification visit to insure that the corrective action is taken. Follow-up may also include the provision of technical assistance by the state to assist the LEA in implementing the recommendations

or requirements of the report.

Variations in state practices exist regarding each of these four major monitoring functions. For example, training tends to be more formalized when monitoring teams have non-SEA personnel as members. Although most states have developed standardized monitoring procedures, variations exist in the extent to which the procedures are documented in writing, the criteria used in evaluating LEA practices and procedures, the procedures used for on-site visits, and the amount of time it takes to provide LEAs with a final written report of a monitoring visit. There appears to be extensive variability in the timelines for preparing monitoring reports. For example, California requires that the report be sent to an LEA within 3 weeks after a site visit, whereas other states may take as long as 6 months to complete such reports. Finally, the comprehensiveness of follow-up procedures varies from state to state and depends upon the number of staff available.

## Monitoring Approaches

A number of approaches have been developed by the states to carry out these monitoring functions. Although there are many variations, four major organizational approaches have emerged. These are the centralized, the regional, the contractual, and unified approaches, which are described below.

**Centralized approach.** In this approach a centralized unit managed by the SEA Special Education Division is responsible for monitoring all of the special education programs within a state. The advantages of this approach are that there is centralized control; procedures are consistent from one locale to another; and the personnel involved in monitoring are knowledgeable about special education. It directly links monitor-

ing with follow-up and technical assistance since the same staff are usually involved. The disadvantages include possible overload on staff members and the difficulties in separating the monitoring role from the technical assistance role.

**Regional approach.** A regional approach delegates monitoring functions to SEA regional special education units. It retains most of the advantages and disadvantages of the centralized model but reduces them to a more manageable scale. It does present an extra problem, however, in that the units need to coordinate with each other to ensure that their monitoring procedures are consistent.

**Contractual approach.** The monitoring function may be contracted to a university or private organization. This approach has the advantages of allowing a concentrated start-up effort without disrupting the normal activities of the SEA special education unit. It may also be used to reduce an unmanageable backlog of monitoring. The state retains the option of returning these monitoring functions to the SEA and using the procedures developed by the contractor. The main disadvantages are potential loss of quality control, problems in coordination and relations with LEAs, and difficulties in enforcing compliance when the findings have come from a contractor.

**Unified approach.** A single unit is developed by the state to monitor all state and federal educational programs, usually in one visit. This is one of the newest approaches and has some unique advantages and disadvantages. The potential advantages include reduction in the number and types of visits to an LEA, elimination of duplication and overlap in program monitoring, uniformity of monitoring, and the development of a staff specializing in monitoring. Disadvantages are the staff's lack of specialized knowledge in special education, the separation of the technical assistance and follow-up

functions, and the increased disruption to an LEA that such a comprehensive visit may cause.

#### **Administrative Strategies**

In conjunction with the above approaches, the states have devised various administrative strategies to meet the requirements that they monitor all their LEAs within a 3-year period. One such strategy is to differentiate between compliance monitoring and program monitoring. This type of differentiation permits SEA staff to review each LEA program for compliance with P.L. 94-142 every 3 years and to conduct more comprehensive program reviews on a schedule commensurate with SEA resources and priorities. To date, this strategy has been used in conjunction with either a centralized or regional approach to monitoring; it could potentially be applicable to the contractual and unified approaches as well.

Another administrative strategy has been to supplement state personnel through the use of peer consultants. The use of peer consultants has permitted some states to monitor all of their programs comprehensively every 3 years. The peer consultant model can be used with any of the four approaches to monitoring and is perceived to have the following advantages:

1. It provides greater variety to the monitoring team, which may include superintendents, principles, special education directors, teachers, and parents of handicapped children.
2. It provides added personnel at a minimum cost. The peer consultants can be paid by their home districts, leaving only the consultants' expenses to be paid by the SEA.
3. It is valuable as an in-service training experience for the peer consultants.
4. It aids in the dissemination of good programs and practices.

5. It assists the peer consultants in understanding the monitoring process and preparing their home LEAs for monitoring.

These administrative strategies have been presented to illustrate the variations which exist even within particular approaches to monitoring. No single approach or strategy can meet the needs of all SEAs; SEAs must select the approach and strategies which meet the specific conditions within their state. Needs will change with time and approaches should be reviewed for continued relevance.

#### **Progress**

In a comparatively short period of time, states have made significant progress in implementing the monitoring requirements of P.L. 94-142. Although most states were cited on BEH program administrative reviews for failure to include all provisions of P.L. 94-142 in SEA monitoring, all 44 states surveyed have improved their monitoring during the past year. All of the states reported having monitoring documentation in place in 1979 compared with only 68% in 1977-78. In addition, 32% of the states reported an improvement or modification of procedures and documentation during the past year. The survey provided the following indications of improvements:

- 45% of the states have increased the number of personnel assigned to monitoring activities.
- An average of 11 staff members per SEA spent a significant portion of their time carrying out monitoring duties. The range was from 1 to 40.
- 36% of the states have increased the number of personnel on a typical site visit. The median number of personnel on a site visit team was between 4 and 5, with a range of 1 to 38.

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# The Federal Role in Providing Vocational Education for the Handicapped

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\*The opinions expressed in this paper are those of the author and do not reflect the position or policy of the National Institute of Education or the U.S. Department of Health, Education, and Welfare and no official endorsement by the NIE or HEW should be inferred.

Since 1963, Federal vocational education has taken on increasing social policy dimensions for meeting the needs of special populations. With the 1976 amendments to the Vocational Education Act, the basic document for

understanding the Federal role in vocational education, a new mandate was added: the utilization of other pieces of legislation through a "consistent, integrated, and coordinated approach" to further the educational and social policy dimensions of the Vocational Education Act for meeting the needs of special groups. Thus, two basic Federal strategies for dealing with special needs populations can be identified: those strategies specific to the Vocational Education Act and those that involve coordination with other forms of legislation. While these two approaches are common to all categories of special needs

groups, the needs to be met stem from different morphologies. One can be an American Indian, also a woman, handicapped, economically disadvantaged, and have a limited English-proficiency. Differing factors of causality as well as multiple special needs affect individuals. These points are crucial for the development of strategies for meeting those needs and for the classification of individuals.

From a Federal and legislative perspective, diversity among handicapped populations is a critical issue for understanding the administration of the various legislations for meeting the needs of the various populations. It also suggests that the ability to meet those needs through special pieces of legislation can be a more complex idea than it seemingly appears. This point is exemplified in the Federal role in providing vocational education services for the handicapped.

The vocational education legislation emphasizes, as one of its major goals, equal access to vocational education programs to all persons. A variety of strategies are specified. Persons who have special knowledge, experience, or qualifications with respect to the special education needs of the physically or mentally handicapped are to be represented on national, State, and local advisory councils, planning groups, and the like. The strategy that has received the most attention, indeed that has caused the most controversy, is found in Sec. 110 of the Vocational Education Act which requires that for each fiscal year at least 10 per centum of the cost of each State's allotment be used to pay 50 per centum of the cost of vocational education for handicapped persons. This mandate is commonly referred to as a "matching set-aside." Through regulation, the Of-

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lack of personnel and resources.

## Summary

In general, states have responded very positively to the monitoring requirement and have made extensive efforts to monitor LEAs. A variety of monitoring approaches and strategies have been developed and have met with varying degrees of success. Either a centralized or regional approach combined with the use of peer consultants appears to be the most successful but its usefulness varies with state and local conditions. SEA monitoring has progressed faster and farther than might have been expected by many of the critics and observers who thought public agencies might not be responsive to the role changes needed to implement the monitoring requirements of P.L. 94-142. The remaining challenges are for SEAs to effectively develop and implement procedures for monitoring all public agencies and for effective sanctions and corrective actions to be developed and applied to remedy remaining compliance issues.

- 45% of the states reported an increase in the number of LEAs visited. Almost all states said they were monitoring approximately onethird of their LEAs annually.
- 39% of the states reported an increase in the number of other public agencies visited.
- 16% of the states reported an increase in the number of site visits to private agencies.
- Training for monitoring teams was provided by 89% of the states in 1978-79, compared to 52% in 1977-78. This training, additional experience in monitoring, and improved preparation resulted in improved efficiency of site monitoring teams.
- Follow-up or corrective action visits were reported by 89% of the states in 1978-79, compared to 45% in 1977-78. The extent of follow-up is still a major problem because of a

Office of Education has further specified that these funds are to be applied to "an amount not to exceed 50 per centum of the excess cost (i.e. costs of special education and related services, above the costs for non-handicapped students) of programs, services, and activities . . . ." Thus, the issue of matching excess cost has raised concern on the part of State and local governments over the lack of funds at their level for such programming. More recently, the Congress echoed their concern in the Technical Amendments Related to the Education Amendments of 1978, where the accompanying House Report urged the Office of Education "not to allow available set-aside funds to lapse because of the rigidity of the present law." This directive has been so recent that the Office of Education has not yet had time to issue a new statement of policy. Needless to say, the issue of financing vocational education programs for the handicapped will remain one of the most debated concerns.

To begin to understand how the Federal government provides resources and thus formulates a policy for vocational education for the handicapped requires mention of at least three other pieces of legislation: Education of the Handicapped Act, the Rehabilitation Act of 1973 and the Comprehensive Employment and Training Act of 1973, as amended. More recently the Senate has begun hearings on the proposed Equal Employment Opportunity for the Handicapped Act of 1979 and that could have implications for vocational education programs since preparation for gainful employment is one of the major aims of the Vocational Education Act. Each piece of legislation has differing goals and purposes and thus differing implications for the delivery of services.

The Education of All Handicapped Children Act of 1975 (P.L. 94-142), provides funding for public schools to make public education available to all handicapped youth at no cost to their parents. This act

is an amendment to the Education of the Handicapped Act which deals with education opportunities for individuals to age twenty-one. One of the major innovations of P.L. 94-142 is the requirement of an individualized educational program, or an IEP, which requires an education plan to be established for each handicapped student in a public agency to assure that the student receives an appropriate education. Including vocational education as a program option in the preparation of this plan has become a major concern of various advocacy groups for the handicapped. While P.L. 94-142 deals with many aspects of providing education for the handicapped, its current relationship with vocational education is mainly programmatic.

On the other hand, the Rehabilitation Act especially Section 504, is concerned with the civil rights of handicapped persons for it defines and prohibits discrimination against the handicapped in any agency, public or private, which receives Federal funds. This point is clearly aligned with the intent of the Vocational Education Act in providing access to vocational education for all persons.

More recently, the Comprehensive Employment and Training Act which deals with providing for the needs of economically disadvantaged persons has been amended to include handicapped persons as a class of economically disadvantaged. This allows a wide range of programmatic options to be made available to handicapped persons. This definition differs from the Vocational Education Act which distinguishes between the disadvantaged and the handicapped, although the strategies for dealing with both populations in the vocational education legislation are similar. The Comprehensive Employment and Training Act and the Vocational Education Act are also closely linked by a series of joint and unilateral amendments that provide for a variety of cooperative program activities and thus the eligibility of the handi-

capped to be served by vocational education is increased.

The purpose of this brief and very simplistic overview has been to illustrate how the Federal government becomes involved in providing services for handicapped persons through vocational education. The Federal role is first through legislation, then through regulation administered by a variety of agencies. It is on the regulatory level where the issues become so complicated for it is at that point where the legal mandate is translated into bureaucratic procedure. One possible interpretation of the Federal role is that of resource pooling: to make available a variety of resources across multiple Federal programs to deal with needs such as those of the handicapped that are not confined to any one program or legislation.

The major problems with these forms of coordination are administrative for these programs are administered across many departments and agencies. This too is a changing picture. The newly mandated Department of Education, which administers the Vocational Education Act, will have responsibility for what was formerly the Bureau of Education for the Handicapped which administered P.L. 94-142 and the Rehabilitation Services Administration which administered the Rehabilitation Act. Both of these latter programs will be combined under the auspices of an Assistant Secretary of Special Education and Rehabilitative Services. While such a reorganization is premised upon efficiency in operation of daily activity, such coordination will take time to put into effect. In the last few months there has been a renewed emphasis on the part of the Federal government for the improved coordination of special education, vocational rehabilitation, and vocational education programs on the State and local levels. Numerous workshops have been planned or are being planned.

To discuss vocational education for the handicapped one must be

# Mainstreaming and Teacher Education

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aware of two different approaches to the provision of services: one is programmatic while the other involves attention to individual needs. Neither are necessarily mutually exclusive approaches, but a basic paradox does exist. When vocational education is viewed as a program, collective concerns are raised. When it is viewed from a specific population perspective such as the handicapped, a different set of priorities is voiced. To put this in slightly different terms, some issues are uniform in their administration while others are nonuniform or particularistic. This problem is central to the development of a coordinated Federal human resources policy that cuts across a variety of areas such as vocational education for the handicapped.

Providing Federal resources for vocational education programs for the handicapped is further complicated by the nature of the Federal role in education. Education is still a State and local function. The Federal financial contribution is only about one eighth of the total cost of vocational education programs in this country. The Federal government is thus reduced to a series of compliance mechanisms for receipt of its funds to insure the intent of the legislation. This fact is basic to understanding the differing perceptions of the purposes of vocational education that sometimes appear between Federal and State or local officials.

Yet another problem in understanding the best means for providing vocational education services for handicapped persons is the lack of a sufficient data base on which to base decisions. Vocational education is a diffuse and complex field. Most information currently available has been

developed from information on exemplary or ideal-type programs which avoids the questions associated with normative and modal information on patterns of behavior. There is currently activity on the Federal level to improve this situation with major efforts currently under way on the part of the National Center for Education Statistics and the National Institute of Education. The information being collected will hopefully yield a much better understanding of how the needs of the handicapped can be met through vocational education when the Congress reauthorizes the Vocational Education Act in 1982.

## SUGGESTED READINGS

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The purpose of this paper is twofold. First, an attempt will be made to identify and discuss several implications of Public Law 94-142 for institutions involved in teacher education. Second, the paper will offer a brief review of a teacher education program, "Mainstreaming-Elementary Education" (M-EE) at Northern Illinois University. This program, or parts of it, could serve as a model for those institutions of higher education still searching for ways to meet the PL 94-142 mandate.

Public Law 94-142 has far reaching implications for schooling in the nation, and it is quite obvious that the implications for universities and colleges of education are deep and far reaching. As Stedman (1978) noted, "the Federal Law (94-142) and its obvious and as yet unknown effects will have one of the most broadly shaping and comprehensive impacts of anything since Sputnik" (p. 1). Similarly, Turnbull and Turnbull (1976) state that the movement of the right for education for the handicapped "requires the most thoughtful response of university schools of education and other departments" (p. 17). These two quotes represent a small sample of views expressed by professionals and teacher educators who have discussed the need for the massive involvement (see Grosenick and Reynolds, 1978; Reynolds, 1978; Mann, 1976; Reynolds, 1979).

Presently, many institutions of higher education are not meeting the new set of conditions brought

by PL 94-142. Turnbull and Turnbull (1976) pointed out that far too few university programs are presently available to approach a balance of supply and demand in providing educational services to handicapped individuals. It seems to be a consensus of many other experts that the present level of preparation of teachers does not meet the new conditions set forth by PL 94-142 (Reynolds, 1979). An even more extreme view has been expressed by Fishell and Fox (1976) who state that the worst enemy to mainstreaming is higher education. According to their view, universities represent an example of a restrictive environment and may be seen as a model of what not to do in mainstreaming. A sizable number of experts suggest that PL 94-142 could offer a great opportunity for major reconceptualization and for major revisions of teacher education programs. Drew and Perry (1978) quote Dean Erdman as saying that "the very existence of professional schools of education will be tested in this decade" (p. 73). A major criticism on the current status of teacher education has been expressed by Howsam (1976a) when he said "This society will not continue to be satisfied with teacher education that is irrelevant and incompetent" (p. 72).

Reynolds (1979) added that teacher preparation never was optimum, and it is especially inadequate for the handicapped. He suggested that PL 94-142 offers a great opportunity to bring the teaching profession to maturity and improve the quality of teacher education. The idea that PL 94-142 can serve as a catalyst for a major reform and a major upgrading and retooling of teacher education has been expressed by several authors (Ryan, 1979; Corrigan, 1978a, 1978b; Mitzell, 1979; Reynolds, 1979; Denmark, Morsink and Thomas, 1979; Stedman, 1979).

Dean Corrigan (1978b) stated that "a major shake-up is needed in the form and substance of teacher education from the introduction to teaching through the teaching

career of the teacher" (p. 259). However, he also recognized the problems of teacher education within the university when he stated that teacher education has a marginal academic responsibility. According to Corrigan, teacher education has existed in a no man's land between the needs of teachers on the one hand and attributes of academic discipline on the other. Teacher education is asked to make knowledge more practical, but at the same time, also more scholarly. Corrigan stressed that teaching should be accepted as a legitimate field of study in colleges and universities. He believes that PL 94-142 will provide teacher education with the opportunity to establish itself in universities where it can draw upon the resources of different academic disciplines.

Whitmore (1978) noted that education in the last 40 years has been "more related to quantity and the marketability of 'products' than to production of the highest quality possible" (p. 270). Sprint-hall (1978) also offered quite heavy criticism of the schools reporting research that has shown distressing findings about students academic and psychological development. According to his view, "mainstreaming and school reform are closely linked, like the two sides of the same coin" (p. 361) (and these are linked to reform in teacher education).

Some authors suggest that PL 94-142 may offer an opportunity for sweeping changes or a major school reform in this nation. Mitzell (1979), for example, questioned the economy of using a classroom as an instructional unit which is too small in size and therefore cost inefficient. He raised the notion of redefining school as a unit rather than a classroom which may have far-reaching implications for teacher education (i.e., differential education for different roles).

Other authors have recognized a new set of roles and responsibilities that teachers will have in the future. For example, Corrigan

(1978a) discussed the expansion of the teacher's role from the traditional classroom teacher to being able to perform a broad range of human services in a wide variety of settings such as: counseling sites, store front schools, social agencies, correction centers and senior citizen centers. To describe these roles he used the term "human service educators."

Are universities ready for the proposed changes? What steps should they take in meeting the new requirements initiated by PL 94-142?

Several writers have suggested that some foundations have been laid which could facilitate the process of change. For example, Denmark, Morsink and Thomas (1979) identified three forces which may set the stage for redesigning teacher education programs. First, the accumulation of useful and relevant information from research and technological development in the past decade. Examples include research that relates to attitudinal change, research on learning of handicapped individuals and research which relates to the process of change itself. Second, they noted the existence of increased sources of support for change which provide small "but strategic amounts of money to support curriculum change and staff development" (p. 5) (also see Clair, Hagerty and Marchant, (1979). Another promising factor identified by the authors is the recent introduction of a bill in Congress to provide financial help for colleges of education interested in program revisions (Senate Bill 360 -The Schools of Education Assistance Act introduced by Senator H. Williams on February 6, 1979). Third, Denmark and his associates noted an encouraging progression in the improved relations now developing between teacher organizations and teacher education institutions.

It seems that a useful approach in introducing changes or in redesigning teacher education could be conceptualized as points on a continuum. This continuum



starts with basic or minimal changes and ends at a point suggesting a major redesign or a deep revision of teacher education. Clair, Hagerty and Marchant (1969) discussed approaches to curricular change conceptualized along this line of thought, and grouped them into three categories: (1) simply adding a course on education for handicapped students, (2) infusion of content relating to education of the handicapped into existing courses and (3) basic revision of teacher education programs.

A review of the literature dealing with needed changes in teacher education in response to PL 94-142 has offered a list of factors or variables that need to be considered in planning the desired changes. It should be stressed that a number of papers have already shown actual implementation of changes in colleges of education which may serve as models for those who have not started yet. Several innovative programs are presented in Mann (1976) (e.g. Howsam) and in Grosenick and Reynolds (1978) (e.g., Gilberts and Weisentein; Hall; Whitmore; Grosenick and Woods; and Johnson, Howie and Corcoran).

Overall, the majority of papers tend to support a major reorganization in colleges of education, including changes in their structure content and context rather than simple ones such as additional courses (see Corrigan, 1978a, 1978b; Denemark and Associates, 1979; Fishell and Fox, 1976; Reynolds, 1978, 1979; Stedman, 1979).

One of the elements identified in most papers for consideration before any attempt is made to introduce a change is the need for an attitudinal change on the part of the faculty (Clair and Associates, 1979; Best, 1976; Johnson Associates, 1978; Mitzel, 1979; Ryan, 1979). They recommend a strong component of staff development, i.e., of the faculty in the institution of higher education, to change attitudes, alleviate fears and increase knowledge and skills

related to mainstreaming.

A second major element to be considered is related to the determination of the skills or competencies needed by classroom teachers who will assume new roles in the mainstreaming classrooms. A perusal of the literature reveals lengthy lists of suggested competencies which seem to overlap. For example, Radar (1978) discussed 13 categories of teacher competencies identified by Deans' Grants projects. These included the nature of mainstreaming, the nature of handicapped pupils, attitudes, resources, teaching techniques, learning environments, learning styles, classroom management, curriculum, communication, assessing student needs, evaluating student progress and administration. Based on a series of conferences held at the University of Minnesota by the National Support Systems Project, Reynolds (1979) called for the need for a common body of knowledge and practice that could be derived. He used the term "professional culture" suggested by Housam, Corrigan, Denemark and Nash (1976b) "to designate the knowledge, skills, behaviors, attitudes and values that make up the collective basis for practice and decision making by members of a profession" (p. 5).

Based on the conference, Reynolds identified 10 clusters of capabilities relating to the implementation of training programs for teachers who are engaged in meeting the new requirements of PL 94-142. These included curriculum, teaching basic skills (including: literacy, life maintenance, and personal development), professional consultation and communication, teacher-parent-student relationships, student-student relationships, exceptional conditions, referral, individualized teaching and professional values. Reynolds also outlined a model for the conceptualization of teacher education which included two dimensions - areas of study and instructional modes. Under areas of

study, he presented five general domains for the organization of the subject matter which include: general or liberal education; specific subjects in the specialty area, undergirding disciplines (i.e., psychology, philosophy, sociology), educational foundations and professional practice. The six "instructional modes" represent a progression from direct instruction to modes in which a student is confronted with complex clinical field and internship experiences. The six modes include: presentation - lecture, learning, resources, laboratory, clinical, field and internship. Reynolds' summary of ideas regarding both the ten clusters as well as the modes of instruction present excellent guidelines for change. It should be mentioned that many of Reynolds' points tend to be supported by other professionals while others are still open for continued dialogue and critique. (The National Support System project (1979) published seven critique papers discussing these views.

One of the components of teacher education that needs expansion and strengthening is that of field experience and practicums. A large number of papers have recognized that existing field based experiences are inadequate and require broadening, especially in response to mainstreaming. (See Corrigan, 1978a, 1978b; Denemark and Associates, 1979; Best, 1976; Ryan, 1979; Turnbull and Turnbull, 1976; Reynolds, 1978).

The existing fragmentation within colleges of education also become a target of criticism. Several papers have called for the need to cut the dualism between special education and elementary education. In an era of mainstreaming where regular classroom teachers, special education teachers and other professionals are expected to communicate and interact, it is no surprise that many papers have stressed the need for an increased interaction and communication and a sharing of

responsibilities between faculty members within the college of education and with faculty involved in teaching professional courses outside the college (Drew & Perry, 1978; Diggs, 1976; Corrigan, 1978b; Denmark and Associates, 1979; Hall, 1978; Hawsam, 1976a).

Another important variable is the need for the active involvement of local school districts in the planning of changes and the improvement of the curriculum. The need of a shared responsibility and collaboration between universities and schools becomes a crucial component in the movement toward a change (Clair and Associates, 1979; Denmark and Associates, 1979; Hawsam, 1976a; Ryan, 1979).

It is quite obvious that the proposed changes in colleges of teacher education require a substantial expansion of what Corrigan (1978) called "Life space" in which he referred to resources such as: time, facilities, instructional and research, personnel and budget. Major papers have called for an increased number of years of training to at least 5 years (Denmark and Associates, 1979; Mitzell, 1979; Stedman, 1979). Ryan (1979) suggested a sequence starting with two years of general studies followed by three years of specific training. Corrigan (1978a, 1978b) recommended a six-year program including one year of internship.

Sarason and Doris (1978) stated that we cannot assume that institutions will accommodate appropriately to mainstreaming because we think it is desirable. Sarason and Doris also noted that pressures for mainstreaming did not come from within educational institutions, and one may predict that these pressures will be resisted. Similarly, Corrigan (1978b) pointed out that the university does not view itself as an instrument for carrying out educational and social reforms like those implemented in PL 94-142.

Philosophically, the concept of mainstreaming is open to

criticism, and it is quite obvious that not everyone supports the movement. Ryan (1979), a supporter of mainstreaming, raised doubts about the capacity to translate a beautiful set of ideas into an operating set of realities. He also raised the question as to whether there is evidence that mainstreaming in operation is "good." Hall (1978) added that mainstreaming is relatively new and complex, and that there is no adequate body of field based research from which explicit answers can be drawn. As a matter of fact, Semmel, Gottlieb and Robinson (1979) in their extensive review of the existing empirical literature on mainstreaming have raised some questions about its effectiveness.

We also need to become aware of possible and real backlashes to mainstreaming. For example, Reynolds (1979) questioned whether Congress will continue to support mainstreaming, and suggested that communities will have to pay the bill. (Will they be ready?) Recently, a C.E.C. Newsletter (1979) reported a backlash in the schools.

One of the most crucial variables to be considered is that of change. Any change produces mistrust generated by the unknown. It threatens stability and produces resistance (see comments by those who have been involved in the process of change, e.g., Gilberts and Weisenstein, 1978; Whitmore, 1978; Witty, 1976). Hall (1978) identified seven stages of concern that individuals "go through" about an innovation (e.g., mainstreaming), and also identified eight "Levels of Use" that have been demonstrated by individuals as they implement an innovation. A variety of strategies or approaches for the implementation of change in colleges of education have been reviewed in the literature (e.g., Hall, 1978; Gilberts and Weisenstein, 1978; Grosenick and Woods, 1978; Witty, 1976).

A final point that has produced some concern is related to the con-

sumers of teacher education programs, i.e., the student/teachers. Mainstreaming requires complex skills of professional activity. As Sprintall (1978) pointed out, "teachers must have at their fingertips a broad repertoire of teaching styles; they must be able to respond to individual differences, acknowledge the wide range of individual differences, and modify curriculum materials to provide a constructive educational match between learning activities and the levels of the learners" (p. 365). Several authors (e.g. Mitzell, 1979; Ryan, 1979) questioned whether colleges of education who have students of average ability can really transform them into skillful practitioners.

### M-EE Mainstreaming Elementary

#### Education

In realizing the need for change for colleges of education prompted by PL 94-142, and the proposed alternatives as well as the related problems, Project M-EE at Northern Illinois University represents a model in the preferred direction. The program is one out of more than 100 Deans Grant projects across the nation.

Keeping in mind a continuum of possible changes universities may choose to follow, M-EE has placed itself at a point far from incorporating a basic change (i.e., an addition of a single course) to a position closer to the desired point of a major revision and redesign.

The major competencies included in the program are:

1. Students will be able to identify the major learning and behavior characteristics of exceptional children (particularly those related to classroom work).
2. Students will be able to identify, select, adapt and use material and teaching strategies in working with handicapped children.

3. Students will be able to identify the steps and elements of an IEP and be able to write IEP's.
4. Students will be able to identify existing sources, services and organizations involved in the education and rehabilitation of the handicapped.
5. Students will be able to select and use appropriate classroom behavior management techniques.
6. Students will be able to use both formal and informal diagnostic instruments to determine the level of performance of a pupil.
7. Students will be able to plan, develop, and follow a sequence of tasks based on the level of ability and available materials.
8. Students will be able to communicate with other professionals working with handicapped pupils, and with parents of the handicapped.

The M-EE program is developmental in nature; that is, the professional sequence is based on a developmental sequence of knowledge and competencies related to children, the teaching process, and the teaching profession.

Level I - "**The Child as a Learner,**" emphasizes human development and learning, and focuses on the "normal" child and the exceptional child as learners. It provides direct classroom experiences that are closely related to child study. The mainstreaming component includes characteristics of the exceptional children designed for the needs of elementary education majors. The field experience includes an exposure to a wide range of educational placements and existing services for the handicapped. This will be achieved through visits to settings such as a residential facility; a school for the blind, a

correctional facility, a sheltered workshop and a mental health center. Students will also meet with a superintendent of an institution for the mentally retarded, a director of special education and a psychologist.

Level II - "**The Role of the Teacher,**" focuses on curriculum, methodology, materials and evaluation. Laboratory opportunities in the schools are designed to give experience in planning and guiding learning activities. The mainstreaming component includes a course dealing with topics such as planning for the exceptional child; survey of methods for working with the handicapped child; writing IEP's and working with parents of the handicapped. Field experience at that level includes classroom participation with individual mainstreamed children in the role of a teacher aid.

Level III - "**In Search of Teaching Style,**" the senior experience includes full-time student teaching and a seminar dealing with professional problems. The mainstreaming component includes a course in behavioral management and social interaction in the classroom, and a course dealing with the psycho-educational measurement of exceptional children. The field experience will include full-time student teaching in a mainstreaming classroom.

The mainstreaming component has been designed to parallel and extend the pre-service preparation of the elementary teacher. Although the mainstreaming component is made up of various experiences (e.g., courses and field based experiences) it does not add to the total number of hours (e.g., 124) required for graduation in the Department of Elementary Education. This was made possible by enabling students to choose mainstreaming as an area of concentration.

It should be emphasized that a strong element in the program is the field experiences in which students will gradually be confronted with more complex responsibilities culminating in full

responsibility for a mainstreaming classroom as a student teacher.

The program is experimental in the sense that it admits a small number of students (25 each year) which will enable the directors more careful monitoring and evaluation as well as more time for program development. The small group of students will also make it possible to spend time for individual conferences and advisement. One of the components that was carefully designed is the evaluation of the program's effectiveness. The 25 M-EE students will serve as the "experimental" teacher group while another group of 25 students from the elementary education program will serve as the contrast group. Data about the background information of both groups will be collected before the program starts as well as the attitudes of both groups toward mainstreaming. Data will be collected throughout the program regarding student performance in the courses and field experiences. Grade point averages of the two groups will be compared at the end of the program, and both groups will again respond to an attitude scale. A follow-up evaluation of both groups will also be conducted. The data collected will include the placement of the graduates, their roles, as well as an evaluation of their performance in teaching. As an experimental project, the directors plan to use the information and feedback gathered to modify and strengthen components of the program.

Although the project emphasizes the training of students in mainstreaming competencies, a component of staff development has also been incorporated. This is accomplished through the gradual involvement of elementary education faculty members in the project and through faculty participation in meetings and conferences dealing with PL 94-142 and mainstreaming.

The way to a major redesign and reorganization at the college is very long. Project M-EE has already taken many steps in that direction.

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# Teacher Competencies and Public Law 94-142

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A major concept inherent in the goals of PL 94-142 is that special education and related services be provided to meet the unique needs of **each** handicapped child. The law conceives of an appropriate education, as being based on the needs of individual pupils. Individualization is clearly a central educational ideology of the recent legislation concerning the education of handicapped pupils. The thrust of this proposition is to negate the categorical, norm-based classification of learning or behavioral characteristics of handicapped children. For a variety of historical reasons, both professional and social, the importance of norm-referenced testing as a basis for evaluation and placement of the handicapped has been diminished (c.f. Mercer, 1970; Dunn, 1968). The categorical approach to special education has also been supplanted by increasing attention to learning and social characteristics of handicapped children which have been found to cut across traditional special education classifications (Blackhurst, et al.,

1973; Christopholous & Valletutti, 1972; Schwartz, 1971). In addition, research into the negative consequences of labeling associated with placement in special classes (Guskin, 1974; Jones, 1972; Rowitz, 1974) has contributed to the emphasis on individual needs rather than diagnostic categories as the basis for educational placement and planning for handicapped children.

The Individualized Educational Program (IEP) provisions of Public Law 94-142 were designed to serve as the mechanism whereby the goal of individualization in assessment, placement and programming for handicapped pupils could be realized. Each of the substantive requirements of the IEP provisions of the law reflect particular educational values, and assumptions about teacher behavior and competencies. The stipulation that the IEP include a statement of the child's present level of performance, a statement of instructional goals, objectives and evaluation procedures for determining whether objectives are being achieved, assumes that the teacher will adopt this framework in conceptualizing and programming for each handicapped child in his/her class. Implicit in these requirements is that accurate determination of a child's level of academic and social-emotional functioning is possible (and desirable) and that educational goals can be selected that are systematically related to the pupil's present functional level.

The teacher competency needed for reasonable determination of a pupil's present level of educational performance is skill in pupil assessment. This, in turn, assumes knowledge of standardized achievement and aptitude tests, and facility with informal observation and criterion-

referenced assessment of pupil performance. The prescriptive aspects of IEP--setting annual goals and short-term instructional objectives--presume that teachers know about and have the skills to select and match educational goals to assessment data. In addition, teachers are assumed to have knowledge and skills for operationalizing long-term (i.e., annual) educational goals through task analysis, in order to formulate relevant short-term objectives. There is the further assumption that teachers can take the IEP for a handicapped pupil and integrate the implementation of the individual plan into the instructional plan for an entire class or subgroup of a class.

The expectation that the IEP be prepared by a multidisciplinary professional team, which also includes parents, carries with it the additional assumption that both regular and special education teachers can effectively participate in cooperative assessment and educational planning meetings. These skills are primarily interpersonal and group communication skills which have not traditionally been part of the classroom teacher's role (Lortie, 1975).

The educational assumptions underlying individualized educational planning and implementation which directly relate to teacher behavior and competencies are summarized as follows:

- Teachers have or can gain competence in individual pupil assessment, in preparation of instructional objectives related to assessment outcomes, and for participation in and contribution to multidisciplinary pupil planning.

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- Teachers have or can gain the competencies for effective accommodation and instruction of handicapped pupils in the social and educational milieu of the "regular" class.

- Teachers have or can develop facilitative attitudes toward mainstreaming of handicapped pupils into regular educational programs.

The assumption is that teachers either have these competencies and attitudes or they can acquire them through preservice or inservice training. How tenable are the assumptions about teacher competencies related to mainstreaming and individualization?

Although limitations on the size of this article demand a selectivity with regard to the inclusion of issues, some of the key questions cited above have been selected for a review of the related empirical literature. By means of review of selected mainstreaming-related research on teacher behavior, some implications for competency-based teacher training may be drawn.

### **Are Teachers Prepared for Their Role in Multidisciplinary Planning?**

Positive changes in the role of the classroom teacher may be one outcome of the relatively new practice that IEP's be prepared in multidisciplinary meetings which include the child's teacher (or teachers). Lortie (1975) described the typical teacher's isolation in the classroom and the negative consequences of such isolation for the professionalism of the teacher role. The multidisciplinary planning process may prove to be an ideal mechanism for professional growth, through educational problem solving in a collegial forum.

Several studies have recently been completed on problems of teacher participation in a group decision-making and IEP planning (Fenton, Yoshida, Maxwell & Kauf-

man, 1977; D. Semmel, Yoshida, Fenton & Kauffman, 1978; Yoshida, Fenton, Maxwell & Kauffman, 1977). Among the findings that bear on the teacher's role in group planning processes is the recurrent observation that regular class teachers differ significantly from special education teachers in their perception of the importance of their contribution to IEP decision-making (Yoshida, Fenton, Maxwell & Kauffman, 1977). Regular education teachers rated themselves lowest on both participation and satisfaction compared to other participants. Under simulated case-conference conditions, regular class teachers failed to influence group decision-making in any educationally significant manner (Semmel, Yoshida, Fenton & Kauffman, 1978). The findings of these studies indicate a pattern of passivity by the regular class teacher in the group decision-making process. One explanation offered for these findings was that the expectations which team members have for their own role and the roles of others reflect the pattern of influence associated with the team member's hierarchical position within the school organization (Fenton, et al., 1977).

The teacher participation issue is an important one from the point of view of the success of multidisciplinary planning as a useful educational innovation. Without meaningful teacher participation in group deliberations, there may be great discrepancy between the plan that group produces, and the program that the teacher implements. The IEP implementation task is difficult enough with the teacher's participation in the planning stage. Without such participation, the teacher's motivation to follow prescribed objectives is apt to be low.

### **Do Teachers Have Competency in Assessment of Pupil Performance?**

The evidence from a number of studies suggests that teachers do have the ability to make good

judgments about pupil performance. Teachers' estimates of pupil academic achievement and their impressions of pupil social-emotional status have been found to be generally accurate. This generalization is qualified by findings of studies which show differences according to the specific pupil variable being considered. Brophy and Good (1974) observed that teachers' impressions are stable across time, whether or not they are accurate. Studies reported by Nelson (1971) and Walker (1978) found teacher ratings based on direct observation of pupil behaviors were valid indicators of pupil emotional disturbance. The use of teacher judgments about pupil personality characteristics was reported to be a valid technique for screening behaviorally disordered children when the California Test of Personality was used as a standardized criterion (Harth & Galvin, 1971).

Keough, Tchir, Windeguth-Benn (1974) held that a majority of recent studies offer evidence that teachers are "surprisingly" accurate predictors of future successes and problems of pupils. Similar conclusions were drawn by Minon (1976). In a longitudinal study of teachers (K through 5), Keough and Smith (1970) reported that 90% of pupils rated by kindergarten teachers on a reading readiness scale achieved in the predicted direction. These results were similar to those of Brophy and Good (1970), who found a high correlation between teacher ratings of expected achievement and total scores on the Stanford Achievement Test administered at the end of the school year.

Keough, Tchir and Windeguth-Benn (1974) found that teachers of both middle and low socioeconomic status (SES) children could discriminate between categories of high-risk children, although there was some biasing effect due to SES. This study touched on an important issue in research on teacher assessment capabilities: **How differentiated are teacher estimates of pupil**

**ability?** Are teacher judgments gross estimates, or can they differentiate between relevant aspects of pupil performance? Hanby and Stiles (1976) found that teachers were unable to make accurate differential diagnosis of specific learning disabilities. Farr and Roelke (1971) examined teacher ratings of three components of reading skill (vocabulary, word analysis and comprehension) with subscales of 3 standardized tests, and obtained high correlations between teacher ratings and the standardized tests. But, although the tests differentially discriminated between pupils on the 3 subskills, teacher and reading specialist ratings did not differentiate the separate reading components. Farr and Roelke suggested that teacher assessments may be valid at a global level only.

The feasibility of using teachers' recommendations rather than student chronological age-grade placement as the basis for selecting appropriate levels of a standardized achievement test was studied by Yoshida (1976). He found teacher judgments to be accurate in selecting the appropriate test level for educable mentally retarded (EMR) students, even when disparities between pupil age-grade level and appropriate test level were very large.

The teacher training literature, provides numerous examples of teacher assessment competencies as an outcome of specific teacher training methods. Particularly successful in developing trainee assessment competencies are programs utilizing the techniques of applied behavior analysis (Hall, et al., 1971; McKenzie, et al., 1970) and competency-based teacher education (CBTE) programs (Courtage, et al., 1975; Schwartz, et al., 1972; Wood, 1975). It may be reasonable to expect that teachers who receive preservice training in Competency-Based Teacher Education, Behavior Modification or Diagnostic-Prescriptive programs will be more effective in contributing to multidisciplinary pupil assessment than teachers

who do not (see Semmel, Semmel, & Morrissey, 1976).

The empirical literature appears to suggest that teachers have the competencies necessary for assessing broad levels of pupil performance. However, their accuracy is limited to relatively gross assessments. They apparently are less able to differentially assess specific problems of pupils. Hence, it would appear that teacher training programs would be more effective in appropriately preparing teachers to work with handicapped pupils in the mainstream if they focused on building competencies related to specific assessments of pupil levels and learning characteristics. Emphasis on training teachers to uncover curriculum-related problems of pupils (e.g., oral and silent reading, spelling, mathematics, social-emotional problems) would be particularly useful, given their expanded role. Training in the use of informal reading inventories, systematic observation, construction of criterion-referenced tests, administration and interpretation of diagnostic instruments and standardized tests would appear appropriate competencies for regular grade teachers in mainstreaming programs. If teachers of mainstreamed handicapped pupils are asked to play an expanded role in assessing the pupils' levels of performance, in diagnosing educational problems and determining expected levels of functioning, then it is incumbent upon teacher training programs to provide the necessary experience to prepare for these responsibilities.

#### **Do Teachers Have Competency in Establishing Instructional Objectives?**

Instructional objectives are statements which define exactly what, how well, and under what conditions a student will be able to perform (Mager, 1962). The systematic approach to goal specification has been integrated into many facets of contemporary education. Bloom (1956) and

Krathwohl, Bloom and Masia (1964) have provided the guidelines for the construction of curriculum and instructional objectives based upon a comprehensive organizational scheme of learning hierarchies. Behavioral objectives have also been influential (if not instrumental) in the Competency Based Teacher Education (CBTE) movement (Elam, 1971; Semmel, Semmel & Morrissey, 1976). Similarly, the method has profoundly influenced contemporary curriculum construction (Duchastell & Merrill, 1973; Kapfer, 1971).

In special education, systematic instructional development in programs for the severely retarded and emotionally disturbed have used behavioral objectives extensively as concomitant aspects of applied behavioral analysis (e.g., Anderson, 1972; Haring & Phillips, 1972; Hewitt, 1968). In the field of learning disabilities, diagnostic schema serve as a guide to the development of instructional objectives.

Although a number of special education teacher preparation programs have reported using and teaching about instructional objectives (Deno, 1973; Semmel, Semmel & Morrissey, 1976), few published studies of the effectiveness of instructional objectives in special education were located.

Duchastell and Merrill (1973) and Davies (1976) reviewed recent research on the effectiveness of instructional objectives and found results inconclusive due to differences between studies in the degree of specificity of objectives that were studied. In some instances the effectiveness of the treatment itself was in doubt. However, Davies (1976) was able to draw some inferences from the rather weak research. He concluded that general objectives are as effective as specific objectives; that verbs are the most critical aspect of the objective; that children taught by teachers using objectives learn more than children whose teachers do not use objectives; and that teachers need more training in using

behavioral objectives. Given the limitations of the research described earlier, and the paucity of studies in the area, these conclusions are probably not warranted, with the possible exception that teachers need more training in writing objectives (see also Turner & Macy, 1978; Walker, 1978).

### Teacher Competencies in Mainstreaming Handicapped Pupils

Teachers' ability to successfully individualize instruction has come into question as the result of current research on engaged learning time in the basic skills (Rosenshine, 1979). Rosenshine cites research indicating that teachers who work with one or two pupils at a time appeared unable to effectively supervise the remaining children (Stallings & Kaskowitz, 1974). These researchers found a negative relationship between time spent working with one or two pupils, and achievement for the whole class. They also found a positive relationship between time spent working with pupils in groups and class achievement.

These findings, taken together with research indicating that teachers are reluctant to individualize instruction, in spite of verbalized expression of its desirability (Stern & Keislar, 1975), suggest much caution is in order in training teachers to develop this skill. Indeed, meeting individually determined objectives does not necessarily mean that the pupil must be instructed on a one-to-one basis. Individual instruction is only one of many possible instructional alternatives. As the research alluded to above indicates, individualization can be counterproductive. In addition, providing individual, programmed or tutorial instruction to a handicapped child without integrating that pupil in the social milieu of the class is an obvious negation of the goals of placement in the least restrictive environment. Similarly, the instructional effectiveness of individualization within the

classroom is not firmly established.

### Summary and Conclusions

The selected review of literature on teacher competencies related to the implementation of mainstreaming suggests the following: Teachers tend to demonstrate the ability to make relatively valid judgments about pupil academic achievement and social-emotional status. While there is an ostensibly contradictory literature on teacher susceptibility to "experimental" manipulation (c.f. Rosenthal & Jacobson, 1968), the finding that teachers' judgments and use of rating scales are frequently valid and stable over time, suggests that the basis for development of better, more differentiated teacher assessment skills is present. The literature on teacher skills with instructional objectives is less promising. The research in this area is poor and we do not know whether the concepts and attendant methods are unworkable or whether there has not been an adequate demonstration that teachers can be trained to prepare and use instructional objectives effectively. Because participation in multidisciplinary staffing is a non-traditional role for teachers, and because there is much anxiety and some negative attitudinal bias on the part of regular class teachers concerning mainstreaming of handicapped pupils, new and creative teacher education programs will be required to provide the relevant skills that will support the development of new roles and attitudes. While this paper was limited to a discussion of teacher competencies related to mainstreaming, no program of competency development will be successful without first convincing teachers of the merit of integrating handicapped children. Teacher attitudes toward handicapped pupils, mainstreaming participation in multidisciplinary planning and individualization of instruction are some of the areas of teacher attitude development that

must precede or accompany the development of competencies (Semmel & Morgan, 1978; Semmel, Gottlieb & Robinson, 1979).

Teachers will need to be prepared to plan for mainstreamed pupils on an individual basis. Skills for implementing an individual plan, however, will need to go beyond individual instruction and emphasize the integration of the handicapped pupil into the social and instructional environment of the class. Handicapped children must be taught directly in order to learn. Individualized attention is not synonymous with individualized instruction. Teachers will have to be trained to maximize the amount of direct instructional time received by their handicapped pupils--both in individual and group instructional contexts.

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# Teachers' Attitudes toward Mainstreaming Handicapped Children

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The purpose of this article is to explore the relevance of teachers' attitudes to the provision of appropriate education for handicapped children, as mandated by Public Law 94-142 (Education for All Handicapped Children Act). Although passed by the Congress in 1975, most of the provisions of the Law did not take effect until September, 1978. Considerable change in special education practices has been the result. The major intent of the law is not radical: to provide handicapped children with the type of public education that is desirable for all children in our society, one that is both free and appropriate to individual needs. The processes and procedures mandated to meet this intent are simple, however, and are revolutionizing our conceptions and delivery of special education services.

While PL 94-142 does not define an appropriate education, it is very clear that the most "normal" educational environment is the most desirable one. This press toward normalization reflects a significant change in basic assumptions concerning the type of program that is most beneficial for handicapped children. In past years, it has been widely held that a segregated setting was the most appropriate for the education of handicapped children; segregated classrooms for the more mildly handicapped in public schools, and segregated facilities for children who are more severely

handicapped. PL 94-142 should not lead to the abandonment of self-contained classes, special schools, or institutions, as each type of placement may continue to be necessary to meet the needs of some handicapped children. However, in order for handicapped children to be educated with non-handicapped peers to the maximum extent appropriate, as dictated by the federal law, most children will be placed in at least somewhat less restrictive environments; environments which allow for greater levels of interaction with nonhandicapped children.

The federal law does not mandate mainstreaming, but it does require that children not be removed from regular education unless it can be shown that the nature and severity of their handicap is such that their needs cannot be met in that setting with the assistance of supplemental aids and services. The Least Restrictive Environment (LRE) component of PL 94-142 has led to significantly more handicapped children receiving at least a minor part of their instruction within regular class settings. As a consequence of the public law, both regular and special teachers are being asked to take on new roles and adapt to changing patterns of responsibility. We believe that teachers' attitudes toward the law, mainstreaming, and handicapped children are critical components in determining the level of success which will be achieved in meeting the broad intent of PL 94-142 within mainstreamed contexts. In brief, we expect teachers' attitudes to effect the manner in which they cope with the problems of defining and carrying out their new roles. In the remainder of this article, we will explore some of the specific ways in which we expect teachers' attitudes to have impact

on the provision of appropriate educations for handicapped children.

The passage of PL 94-142 and the accompanying increase in the use of mainstreaming as an educational alternative has focused considerable attention on the attitudes of regular classroom teachers. Regular teachers' views of mainstreaming, their degree of acceptance of handicapped children, as well as their attitudes toward their competence to teach handicapped children, have all been investigated (Baker & Gottlieb, in press). Regular teachers' attitudes in these areas are expected to influence the extent to which handicapped children become not only physically integrated, but integral members of regular classes, benefitting academically, socially, and emotionally from the mainstreaming experience (Baker & Gottlieb, in press).

Regular teachers' attitudes can influence handicapped children only to the degree that the attitudes are reflected differentially in observable behaviors that directly affect handicapped children, their peers, their parents or others who have impact on the handicapped children. It seems only reasonable to assume, however, that teachers who are hostile to the idea of, mainstreaming, unfamiliar or uncomfortable with handicapped children, or feeling incompetent to teach handicapped children, will betray these feelings behaviorally with negative consequences resulting for handicapped children.

While research has found few teachers express strongly hostile attitudes toward mainstreaming, many teachers have expressed reservations. Shotel, Iano, and McGettigan (1972), for example, found that regular class teachers to be quite unified in their belief that mainstreaming, even with

special education support, is not the most appropriate placement for most EMR (educable mentally retarded) children. Large class size and the related problems it produces undoubtedly contribute to regular teachers' hesitancy toward mainstreaming. Project PRIME, a large scale study of mainstreaming of EMR children in Texas, found that the average regular class teacher involved in mainstreaming was teaching 30 children, 4 of whom were handicapped. Generally, the regular class teacher was without the assistance of a teacher's aide and often without access to sufficient suitable special education materials (Baker, Safer, & Guskin, in press).

In order to plan for instruction, engage in instruction, and creatively cope with the many needs of approximately 25 to 30 nonhandicapped children, as well as the special instructional and social needs of about 4 handicapped children, a regular teacher will have to expend large amounts of time, effort, and patience. Regular teachers who are not generally favorable toward mainstreaming cannot be expected to make the sizeable effort necessary to result in successful mainstreaming, successful for both handicapped and nonhandicapped children. Without adequate supportive service, even teachers with favorable attitudes may find it difficult to maintain that positive outlook for any length of time.

Consequently, in addition to general attitudes toward mainstreaming, regular teachers' feelings toward the handicapped could have important consequences for handicapped children mainstreamed into their classes. Regular teachers who are not negative toward the concept of mainstreaming still may be uncomfortable or fearful about the prospect of having handicapped children in their classes. The source of this apprehensiveness is likely to be a lack of knowledge and experience with handicapped individuals. Project PRIME found that few regular classroom

teachers had taken special education course work, or even had had contact with handicapped children prior to the introduction of mainstreamed education into their schools (J. Agard, personal communication). Teachers who are well at ease with handicapped children are likely to interact differently with them than with nonhandicapped children. Research has indicated that handicap, particularly a physically obvious handicap, causes physical tension in others and that interaction is briefer when one person in the interaction is physically handicapped (Kleck, Ono & Hastorf, 1966). Reactions vary to tension which arises from dealing with unfamiliar behaviors or appearances. A teacher who is openly unaccepting and intolerant of handicapped children would certainly be a poor model for nonhandicapped children. Unfortunately, a teacher with much more positive intentions may also be a poor model if he or she is uncomfortable in interacting with handicapped children and treats handicapped children differently from nonhandicapped peers. The nonhandicapped peers are likely to note differential treatment and be less accepting of the handicapped child as a full-fledged member of the classroom group. While the regular teacher will probably become more relaxed as the school year progresses, the social structure of a class is generally relatively stable after the first three weeks of classes. Thus, the regular teachers' initial feelings may have a significant impact on the continuing social acceptance of handicapped children.

While concern more often has been expressed about regular teachers' than special teachers' attitudes, special teachers' attitudes are equally important in assuring that mainstreamed handicapped children receive high quality appropriate educations. Mainstreaming requires cooperation between many individuals, particularly between regular and special teachers. Many mainstreaming models prescribing different ar-

rangements of teacher roles have been employed in public schools (i.e., the special teacher may be a resource room teacher to whom the handicapped child goes for some academic instruction, an itinerant teacher who comes into the regular class to provide direct instruction, a consultant to the regular teacher . . .). Regardless of the model or models adopted, regular and special teachers must communicate and work well together to ensure continuity and appropriateness in the handicapped child's program. Special education should be considered a program, a special program designed to meet the needs of an exceptional child, not a placement in a particular setting. A special program can be implemented in a regular or a special class setting, by a regular or a special teacher. In mainstreaming, the handicapped child's academic program is often likely to occur in both settings and be presented by both types of teachers. If special education is considered to be something that occurs only in special classrooms, handicapped children are likely to suffer because necessary coordination between education providers is unlikely to occur.

Special teachers are often placed in the role of primary overseers of mainstreamed handicapped children's educational programs. The special teachers who are negative toward mainstreaming may not take the steps necessary to coordinate the handicapped child's educational program received in different settings (Gottlieb & Many, in press). In addition, unfavorable special teachers may be unable or unwilling to provide support to regular teachers. Research has indicated that regular teachers lack confidence in their competence to teach handicapped children (Guerin & Szatlocky, 1974). The already minimal level of confidence of regular teachers could be further eroded by special teachers who are unwilling to share their expertise with regular teachers in a tactful, com-

municative, and supportive way. The long history of separatism of regular and special education may make it difficult for some regular and special teachers to share responsibilities. On a positive note, however, most regular teachers questioned by Gickling and Theobald (1975) indicated a belief that regular teachers would take advantage of the opportunity to work with special education personnel if time allowed.

Regular and special teachers need to share responsibility for the handicapped child's education, not only with each other, but also with other person's knowledge about the child's problems and capabilities. Particularly important in this regard are the child's parents. A key mechanism for ensuring that handicapped children receive an appropriate education is the individualized education program (IEP). PL 94-142 requires that an IEP containing 6 major components be developed for each handicapped child between 3 and 21 years old. An essential aspect of the IEP planning process is that the IEP must be developed at a meeting by a group of individuals. At a minimum, the group must consist of a local school administrator, the child's teacher (regular, special, or both), the child's parents, and, when appropriate, the child. Ideally, the parents are to be active participants, contributing, not merely acquiescing, to the IEP document.

Extensive interviews were conducted with parents, teachers, and administrators in Washington State to assess reactions to various IEP requirements (Lewis, Morrissey, & Safer, 1977). The interview data suggested that there was overwhelming agreement among parents and educators that parental participation in IEP planning was desirable. Parents were thought to be able to contribute unique information about the development, handicapping condition, and programming history of the child; provide more continuity

to the planning effort; and be more able to reinforce educational concepts in the home, thus strengthening the effects of the educational program. Thus, parents were thought to be an important element in ensuring the provision of a maximally appropriate education. Both parents and teachers also agreed, however, that there were likely barriers to active parent participation. Furthermore, school personnel, including teachers, were seen to be the source of many of these barriers. Two factors which the Washington State parents felt particularly inhibited parent participation were the use of educational jargon by school personnel, and the selection of a program by school personnel prior to the IEP meeting. When parents attend IEP planning meetings, they are generally the only nonprofessional educators present. If teachers, as well as other school personnel, are not committed to parent involvement and sensitive to the ways in which it can be promoted or inhibited, meaningful parental contributions are not likely to occur. Thus, this is another way in which teacher attitudes are expected to effect the extent to which the intentions, not simply the technical requirements of PL 94-142, are fulfilled, and handicapped children receive the type of education they deserve.

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# Using Resource Rooms to Promote a Less Restrictive Environment

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With the current emphasis on the implementation of PL 94-142, we are experiencing a qualitative change in the nature of special education. Under PL 94-142, all handicapped children and youth are provided legally with such rights as a free and appropriate education, the right of due process, and the opportunity to be educated in the least restrictive environment (LRE) to the maximum extent possible. This final provision, the LRE, has been popularly referred to as mainstreaming. For purposes of this paper, we prefer to use Kaufman, Gottlieb, Agard, and Kucic's (1975) definition which states that mainstreaming is

... the temporal, social, and instructional integration of eligible exceptional children with normal peers. It is based on an ongoing individually determined educational needs assessment, requiring clarification of responsibility for coordinated planning and programming by regular and special education administrative, instructional, and support personnel (1975, p. 7).

That handicapped learners are to be mainstreamed into regular education classrooms is now a given. However, the issue remains as to what the most effective service delivery mechanism for the exceptional learner will be. Returning to the above definition, what types of "coordinated planning and programming by regular and special education administrative, instructional, and support personnel" (Kaufman et al., 1975, p. 7) are presently in operation in the schools? And, perhaps more importantly, is that planning and programming effective?

Deno (1971) and Kirk and

Gallagher (1979) note several alternatives for exceptional learner placement: (a) consultant services; (b) itinerant teachers; (c) resource rooms; (d) self-contained classes; (e) special day schools; (f) part-time special classes; (g) residential schools; and (h) hospital and homebound instruction. The first four are in use primarily as service delivery models for the mildly handicapped, while the last four are reserved more appropriately for severely disabled individuals.

Of the above alternatives, the resource room has become the most popular service delivery model for the mildly handicapped in that it is viewed to have: (a) the greatest degree of efficiency; (b) reduced stigmatizing effects on the handicapped; and (c) offered remedial services which will enable the learner to successfully remain in regular classes with his/her nonhandicapped peers (Meyen, 1978).

Under the resource room paradigm, there are at least five types of programs presently operating in the schools. The first is the categorical resource program which is based on traditional labels, funding, and teacher certification constraints (Wiederholt, Hammill, & Brown, 1978). The second resource room model is the cross- or multi-categorical resource program. Within this type of program, diagnostic labels are less intrusive in programming effects because the emphasis is placed on each learner's particular instructional functioning level.

The third model is the non-categorical resource program where both identified handicapped and identified underachieving non-handicapped peers are placed. This approach appears to have the least labelling stigmatizing effects on any disability type (cf. Smith & Greenberg, 1975). The final models

to be discussed are the itinerant resource program for handicapped learners, and the itinerant model. They differ in that the former provides direct services to the teacher rather than the learners. Unfortunately, shortcomings of this model have been noted resulting from time constraints (see Mayhall, Jenkins, Chestnut, Rose, Schroeder, & Jordan, 1975). Conversely, the latter offers remedial help directly to the handicapped children.

It is the purpose of the present paper to focus on the resource room model (i.e., categorical, multi-categorical, non-categorical) and assess its efficacy as a viable alternative form of education for the handicapped. To this end, we will first examine research dealing with the efficacy of resource rooms, following which will be conclusions and recommendations based on the research findings. The research on resource rooms generally focuses on two major areas: academic achievement and social acceptance/adjustment, although variables are examined concomitantly in several studies. We will, therefore, first examine academic achievement literature and then turn to that of social acceptance/adjustment.

## Academic Achievement

Walker's (1974) investigation with mildly retarded individuals who were taught in regular classes with access to a resource room vs. a self-contained control group, revealed that the resource room group scored significantly higher in vocabulary and reading than did the control group. However, no difference between groups was revealed on arithmetic performance.

Sabatino (1971) utilized an LD population of 114 S's matched on chronological age, sex, IQ, and

perceptual impairment. S's were divided among four treatments: (a) Resource Plan A, or one hour every day; (b) Resource Plan B, or one-half hour twice a week; (c) self-contained; and (d) control group. The findings with regular class instruction only, revealed that all special placements resulted in significantly higher performance than under the control condition. Further, it was shown that Resource Plan A was significantly more effective than either Resource Plan B or the self-contained model. No significant differences were found between Resource Plan B and the self-contained model. A learning disabled population was also studied by Affleck, Lehning, and Brow (1973). Here, however, the investigators used a within group design to examine the rate of improvement of resource room S's, as compared with interpolated historical rates of improvement. The analysis of results showed that the S's made significant pre-test to post-test gains. It was also found that S's rate of progress was significantly improved by the resource room placement.

Glavin, Quay, Annesley, and Werry (1971) utilized a behavior disordered elementary school population in which classroom teacher identified S's were randomly assigned to regular class with resource service or to regular class only groups. A behavior modification program using a token economy was instituted. It was found that the regular class/resource group scored significantly higher on reading comprehension and arithmetic fundamentals than did the regular class only group. In 1973, Glavin et al. completed a follow-up evaluation on the same population. It was shown that the regular class/resource group scored significantly higher than the regular class only group on reading vocabulary, total reading, arithmetic fundamentals, and total arithmetic.

Finally, Cantrell and Cantrell (1976) utilized the resource room

model as a preventative intervention measure with a group of first graders who were referred by their classroom teachers for a variety of special class placements. With scores adjusted for prevention intervention and IQ, the findings revealed that the regular class/resource group had significantly higher achievement scores at the end of the year than did the regular class only group.

Not all investigations, however, revealed superior performance by resource room S's. Those findings which showed no significant differences between groups include: Smith and Kennedy (1967) using a mildly retarded population; Glavin (1974) in a follow-up study with a behavior disordered population; and Budoff and Gottlieb's (1976) study with segregated vs. resource room EMR's.

#### **Social Acceptance/Adjustment**

Turning to social acceptance/adjustment, there is again, an inconsistency in the results of the studies in this area. Sheare (1974) examined social acceptance of the retarded by working with a group of 400 non-retarded S's who were randomly assigned to an integrated or segregated treatment situation. Results revealed that integrated normals were more accepting of EMR's than the segregated normals and that females, as a group, tended to be more accepting than males. Sheare (1978) also examined the impact of resource programs on the self-concept and peer acceptance of learning disabled individuals. Assessing self-concept and peer acceptance, it was found that the LD S's had significantly lower self-concepts than their normal peers, and were also rejected more than their normal peers.

Walker (1974), in the same study in which he looked at achievement, also measured social adjustment. The resource program group showed significantly better social adjustment than did the segregated special class group. No significant differences be-

tween groups were found, however, in self-concept.

In evaluating peer acceptance of retarded learners in a resource room model as compared with non-retarded peers, Bruninks, Ryders, and Gross (1974) looked at the following factors: same sex vs. opposite sex ratings and urban population ratings vs. suburban population ratings. Their findings showed that urban/same sex ratings were significantly higher for the resource program group, while suburban/same sex ratings were significantly lower for the same group. No significant main effect was found to exist in social acceptance between groups for urban or suburban groups or for opposite sex ratings.

Flynn's (1974) study compared three groups: (a) mildly retarded receiving resource service; (b) mildly retarded staffed into but not yet receiving service; and (c) normal controls. The findings indicated that the control group scored significantly higher in social adjustment than did either of the two experimental groups.

Budoff and Gottlieb (1976), although not finding significant differences in academic achievement between groups of segregated and regular class/resource served EMR's, also measured student motivation, student cognitive style, and teacher rating of behavior of resource room students and segregated students. After two months of resource room placement, no significant differences were found. However, nine months after the experiment began, it was found that the resource room S's scored higher than the special class or segregated S's on measures of both motivation and cognitive style. Teacher ratings revealed no significant difference over time.

Glavin et al. (1971), discussed above, reported improved behavior for both experimental and control groups in the regular class. They further found that the experimental group exhibited significantly better behavior in the resource room.

Both Smith and Kennedy (1967)

and Glavin (1974), finding no academic achievement difference between experimental (regular class and resource room), and control (regular class only) groups, also failed to find significant differences between their groups on social acceptance or adjustment.

### Discussion

The majority of articles reviewed reported that resource programs for the mildly handicapped were at least as effective as and in some cases more effective than segregated special class placements in terms of academic achievement and social acceptance/adjustment. It is not the intention of the authors to discuss the findings of the reviewed articles in terms of possible methodological flaws, but to use the findings as a basis on which to make recommendations in favor of mainstreaming the mildly handicapped.

Mainstreaming or placement of the handicapped learner in the LRE now falls under the aegis of requirements due to federal legislation. However, the responsibility is one that must be shared by all involved. First, a system of accountability, perhaps with the individualized education program (IEP) as a guide, should serve as a constant reminder that facilitation of learning is of utmost importance. The resource teacher, in being responsible to regular and special education personnel, plays a key role in this accountability procedure.

Second, stigmatization will be avoided only when all teachers are exposed to pre-service information about special education. Adjunct to the reduction of negative effects of labels on regular class teachers and the demise of the effect of the self-fulfilling prophecy, all teachers must look at the curricular content they provide to determine: (a) if it is commensurate and appropriate to the chronological age of the handicapped learner rather than to the supposed functioning level; (b) if it

is of functional value to the handicapped learner; (c) if it is or can in any way be perceived by nonhandicapped peers in a demeaning way to the handicapped learner; and (d) if it is an "easy out" because of ignorance of what may be more appropriate.

Third, all concerned personnel must look at mainstreaming as a service to be provided rather than as a program required by legislation. That is to say, we have evidence that mainstreaming is effective, but it can only continue to be effective if we constantly scrutinize the services provided through such programs. Education for all mildly handicapped must adamantly argue against perpetuating the removal of these individuals from the regular class and actively encourage their inclusion. Segregation is not only in conflict with the law, but goes against an ever-growing research literature that, in many instances, denies its efficacy.

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# Nondiscriminatory Testing in EMR Identification

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"Protection in Evaluation Procedures" (PEP), one provision of PL 94-142, requires states to establish **nondiscriminatory testing procedures** in the evaluation and placement of handicapped children. While the PEP provision pertains to the evaluation of all handicapped children, the focus of the present paper is on children being considered for placement in programs for the educable mentally retarded (EMR), and on the question of whether individual tests of intelligence are "discriminatory" as used in the identification process. Given limitations of space, the treatment is restricted to an overview of the role of IQ in labeling, the criticisms of using intelligence tests as presented by Mercer (1973, 1979), an analysis of her position, and concluding with suggested ways in which IQ can be used responsibly to benefit children and not discriminate on the basis of ethnicity.

One must appreciate the purpose behind the identification of children as EMR. The intent is to tap children who will benefit from, or who need, the services available in the EMR program that are unavailable in general education. There is no purpose served in identifying children who will prosper as much by remaining in general education as in the program for EMR children. MacMillan and Meyers (1977) described two types of errors that are possible in the identification process, in which intelligence testing has played a role; (a) false positives, or errors of inclusion, where children identified as needing special services

do not, and (b) false negatives, or errors of exclusion, where children who need the special services are being denied them. The litigation (e.g., **Diana**, Note 1; **Larry P.**, Note 2) and the discussion of the PEP provisions of PL 94-142 have addressed errors of the first type most directly. Clearly the concern with EMR identification has centered around the disproportionate number of minority children labeled EMR. Moreover, the element in the identification process held most responsible for the ethnic imbalance in such programs has been the intelligence test (Cohen & DeYoung, 1973). Securing IQs for classification purposes was mandated by state legislation as an accountability step, and while acknowledging some "worship of IQ" and irresponsible practices (MacMillan & Meyers, 1977; Meyers, Sundstrom, & Yoshida, 1974) in securing and interpreting test scores the existing evidence fails to show widespread abuses in the identification process (Meyers, MacMillan, & Yoshida, 1978).

Let us turn to consider the role of IQ in the EMR identification process. In so doing, let us consider the question: To what extent does IQ, as used in the assessment process, contribute or prevent errors of inclusion or exclusion?

## Role of IQ in Labeling

Despite the oversimplified portrayal of EMR labeling presented to the courts, mental retardation and low IQ are not synonymous. Before children were labeled EMR, they typically: (a) repeated at least one year of school, (b) failed by comparison with sociocultural peers in their grade, (c) were given a complete assessment, and (d) judged

by a committee to need EMR programming (Mercer, 1973). Ample evidence exists to show that children who had IQs in the EMR range were never referred (Mercer, 1971) or even when referred and scoring below the IQ cut-off for EMR, were not placed (Ashurst & Meyers, 1973).

As mentioned before, legislation mandated that an IQ be secured, however an assessment goes well beyond mere "score getting" and involves a review of the child's medical and educational history, observation in the classroom, and securing input from parents and teachers to allow for the best educational decision possible to be made. For example, the retesting of the children done by black psychologists in **Larry P.** was done in violation of standardized procedures, IQ data thus secured were not compared to educational histories or achievement records, and observation and discussion with teachers were not performed. Meyers (1979) observed that such practices are in direct violation of responsible psychological practices.

Hence, IQ is used as one piece of information in the total assessment which serves to establish: (a) whether the academic problems leading to referral are due to intellectual limitations (as opposed to emotional, perceptual, etc.), (b) whether the child is eligible for the EMR program according to legislated guidelines, and (c) to prevent such placement when the apparent achievement problems are not associated with subaverage general intellectual functioning. To be emphasized is the educational nature of the decision (What program best fits the needs of the particular child?) be-



ing made, which is decided on the basis of a constellation of inputs--not just IQ. Children with IQs below an existing cut-off are not "errors" in the process if not placed; the schools are not in the business of identifying clean research populations but rather of matching children with the program that best fits their needs.

### **Mercer's Position vis a vis Intelligence Testing**

Mercer's (1973) analysis of how public schools label mentally retarded children led her to conclude that since the proportion of children of various ethnic groups referred by teachers for psychological assessment did not exceed their proportions in the school population, and since the ethnic balance in EMR programs reflected a gross overrepresentation of ethnic minority children, the element responsible must be the intelligence test. Her treatment of the referral data has been criticized by Gordon (1975), who noted that children referred for possible EMR, learning disabilities, and gifted were lumped together (the latter two categories being dominated by Caucasian children). Moreover, a teacher does not refer for EMR or LD, but because the child has problems and the teacher is requesting help in determining what is needed. So Mercer's conclusion that the ethnic disproportion in EMR was due to bias in intelligence tests seems premature.

In a recent speech, Mercer (1979) articulated the position that the **Larry P.** case reflected the need to distinguish between **stupidity** and **ignorance**. Her argument reflects a position that intelligence tests do not make that distinction since they do not measure capacity, a point readily conceded by most defenders of intelligence tests. Clearly, Mercer views stupidity as a more basic disability and equated it with "true" mental retardation, and proposes the use of her system, the **System of Multicultural Pluralistic Assess-**

ment (SOMPA) (Mercer & Lewis, 1977), which she contends is a non-discriminatory test.

The SOMPA is built upon the WISC-R, however IQ scores thus obtained are adjusted on the basis of a series of measures which tap the child's sociocultural background. These adjustments yield what is called a **learning potential** score for the child, presumably a better estimate of the child's capacity that is provided by the WISC-R for a child coming from a culturally different background.

### **Critique of Mercer's Position**

In an excellent article, Goodman (1977) criticized the "diagnostic fallacy" of Mercer, in which she noted that efforts to differentiate the original etiology of mental retardation is educationally irrelevant, since the educational treatment (i.e., instruction) is different for children whose academic difficulties are "caused" by A vs. B. Goodman goes on to criticize Mercer for the latter's misunderstanding of the reasons behind educational assessment.

Mercer's distinction between stupidity and ignorance, or her efforts to differentiate the defective from those who are merely "pseudo- or situationally retarded" is reminiscent of the old position of Doll (1941) regarding **pseudofeeble-mindedness**, and the distinction in terminology (mentally deficient vs. mentally retarded) used to differentiate organically impaired from other children in the retarded range. To quote Goodman:

By taking into account the sociocultural environment, we will be able to penetrate the phenotypic behavior, which the IQ in isolation represents, and reach the genotype, the really retarded (1977, p. 198)

This attempt to tap capacity is particularly troubling as described in a recent paper by Tryon (1979).

Tryon (1979) observed a common error involved when test scores are

interpreted as trait measures called the "test-trait fallacy." Test scores do not reflect a deep and enduring quality. After citing the SOMPA as an example of the test-trait fallacy, he observed that instead of considering intelligence tests as a sample of particular behaviors predictive of other specific behaviors, the assumed intent is:

...to measure the deep and enduring quality of learning potential assumed to be present though hypothetically masked to a greater or lesser degree by other factors. Through the test-trait fallacy we have moved from performance measures to inferences about ability and potential, that is inferences about what the person is capable and incapable of doing (Tryon, 1979, p. 403).

Educators must be careful in grabbing an assessment package advertised as less discriminatory on the belief that they get a measure of a "more innate trait" on which to make educational decisions. While fewer minority children may get labeled EMR, the sword that cut so quickly in the courts regarding too many minority children being identified can cut just as deeply on the backswing when minority children are denied services which they need.

If we consider tests as samples of behaviors predictive of specified other behaviors, let us consider how well the samples of behaviors predict scholastic achievement.

### **Responsible Use of Intelligence Tests**

Procedural guidelines safeguarding against shoddy administration, scoring, and interpretation of test results are needed to avoid blatant abuses in the use of intelligence tests. Such guidelines are currently enacted in PL 94-142 and are steps toward insuring reliable and valid scores. Sattler (1979) concluded after studying PL 94-142 that "individual intelligence tests must be ad-

ministered in order to satisfy the requirements of Public Law 94-142" (p. 4). The individual intelligence tests do not appear to be inherently biased against minority children, and the skills tapped by such instruments allow predictions to be made about academic achievement. Again, Sattler concluded that these instruments are as valid for ethnic minority children as they are for Caucasian children. Definitions of "biased" or "fair" have varied widely (see Flaugher, 1978 for an excellent description of this topic), and much of the disagreement centers on the validity criteria. For example, plaintiffs in *Larry P.* would accept only studies using teacher marks as the criterion for predictive validity of IQ, despite the subjectivity that enters into the grading process. Sattler (1979), commenting on this position, said "I want children to be able to read, .... and not simply to receive a passing grade and a social promotion" (p. 6).

The evidence on predictive validity (Cleary, Humphreys, Kendrick, & Wesman, 1975; Sattler, 1973) consistently reveals that IQ predicts achievement as well for black as for white children, and the conclusion drawn is that alternatives (teacher nomination, criterion-referenced tests, etc.) raise more serious issues regarding both reliability and validity than extant tests of intelligence.

Humphreys (1979) noted that there is a definite achievement component of what is sampled by tests of intelligence, but until a child is in 3rd or 4th grade, there is not sufficient content to have mastered, nor is it involving the kinds of content and processes that will be involved in achievement in upper elementary and subsequent grades. Hence, IQ is based on skills that are predictive of achievement at upper grades, however by the upper elementary grades the degree of success in school is a far better predictor of future success than is any test battery if used in the same school. In the identification of EMR children,

the child is most often identified in early elementary grades, frequently after repeating at least one grade. At second grade (and particularly when failing second grade), when achieving well below grade level there is not enough variety in achievements to allow predictions, and the test of intelligence is preferred.

The need for mandated intelligence testing for all mildly handicapped children seems to be unnecessary, however its usefulness in specific instances is certainly warranted. Tests administered by competent psychologists, interpreted responsibly, and supplemented by additional assessment data in my thinking constitutes a non-discriminatory test in the spirit of 94-142. In fact, its use in the above fashion will lead to far less discriminatory education than any of the alternatives proffered to date.

#### Reference Notes

1. *Diana v. State Board of Education*, C-70-37 (RFP Dist. Ct. N. Calif., 1970).
2. *Larry P. v. Riles*, U.S.L.W. 2033 (U.S. June 21, 1972).

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# Teachers' Knowledge of Public Law 94-142

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On November 29, 1975, President Ford signed Public Law 94-142 (Education for all Handicapped Children Act) into law. The impact of this law has already been felt across the nation. Thomas Irvin, Policy Officer with the Bureau of Education for the Handicapped, has suggested the enormous ramifications of this law noting that its provisions effect every handicapped child in the nation, all state and local education agencies involved in the education of handicapped children, and institutions of higher education that train special education personnel.

A detailed description of PL 94-142 is beyond the scope of this paper. Numerous descriptions, however, are available in the

literature. A comprehensive explanation of the law, its major sub-components and effect on handicapped children, their parents, school personnel, and university personnel is presented by Ballard and Zettel (1977).

The significance of this legislation can be readily seen in some of its major provisions, which include:

1. The provision of a free appropriate public education to all school age handicapped children.
2. Funding to state and local education agencies based on the number of handicapped children served.
3. Extensive child identification procedures, due process for students and parents, confidentiality of records, placement in the least restrictive environment, and yearly individualized written educational plans for each handicapped student.

While implementation of PL 94-142 was mandated to begin September of 1978, a question exists as to the extent to which those parties effecting the law, as well as those affected by the law, have sufficient knowledge of the law to insure its appropriate fulfillment. Despite the great impact of this law, and the enormous literature written about it, our search revealed only one study attempting

to evaluate knowledge about the major provisions of PL 94-142. In this study McCaffrey (1977) asked respondents to indicate on a 5-point Likert-type scale the degree to which they were familiar with 18 rights of exceptional children under PL 94-142. However, this response format, in essence, measured respondents' perceptions of their knowledge of PL 94-142's provisions rather than their actual knowledge of the law.

The purpose of this investigation was to assess classroom teachers' knowledge of the Education for All Handicapped Children Act (PL 94-142). More specifically, objectives of the study were: 1) to develop an appropriate instrument to assess knowledge of PL 94-142; and 2) to compare and contrast knowledge of the law among groups of special education teachers, regular elementary and secondary teachers, and vocational education teachers.

## Subjects

Subjects for this study were 102 elementary or secondary classroom teachers in a large metropolitan southern city. Each of the subjects was enrolled in a graduate level university course in their teaching field. The sample consisted of 26 regular elementary teachers, 10 regular secondary teachers, 50 special education teachers, and 16 vocational education teachers.

## Procedure

Subjects were given a 38-item true-false questionnaire developed by the authors to assess knowledge of PL 94-142. This instrument was readministered to all

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Western Psychological Association, San Diego, California, April, 1979.

Tryon, W.E. The test-trait fallacy. *American Psychologist*, 1979, 34, 402-406.

## Footnote

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subjects three weeks after the initial administration.

Items for this questionnaire were drawn directly from the text of PL 94-142. To the extent possible, the exact wording from the law was retained. This procedure insured content validity of the instrument.

Questionnaire items were developed from those sections of the law which primarily pertain to the role and responsibilities of teachers and the rights of handicapped children and their parents. Sections of the law which appeared to be concerned with administrative or fiscal matters were minimally represented.

## RESULTS

Initial questionnaire responses were analyzed by applying analysis of variance and Duncan's multiple range procedure to the four groups. Results summarized in Table 1 indicate that there was a significant difference among the groups of regular elementary, regular secondary, special education, and vocational education teachers.

A comparison of means and standard deviations for the four groups is presented in Table 2. Numerical rank order of the groups, based on the average number of correct responses, is vocational education, special education, regular secondary, and regular elementary teachers. Duncan's multiple comparison procedure showed that the special and vocational education teachers scored significantly higher than the regular elementary education teachers.

Group means were compared with the expected probable chance score of 19 (one-half of the 38 true-false items) by applying a test of significance of a proportion (Bruning & Kintz, 1968). The expected proportion of .50 was utilized due to the logically dichotomous nature of the true-false items on this knowledge-based questionnaire. As can be seen in Table 3 on-

ly the group of special education teachers scored significantly higher than the expected probable chance score of 19.

Seven items answered correctly most frequently and seven items answered correctly least frequently based upon results of the initial test are presented in Table 4. These 14 items represent 36.8% of the total 38-item true-false questionnaire.

Included with these 14 items are the correct responses, frequency percentages of correct responses for the total sample on the initial test and retest, and the absolute difference between the frequency percentages on the initial and retest administrations (absolute frequency differential).

## DISCUSSION

Analyses of the data indicated that the special and vocational education teachers scored significantly higher than the regular elementary education teachers. However, a comparison of the four groups' mean scores shows an actual difference of approximately two items. Consequently, there does not appear to be a meaningful difference among the sample groups of practitioners with regard to their potential to effectively implement PL 94-142. This 2-point differential on a 38-item questionnaire does not appear to distinguish a specific group's ability to provide mandated services and protect handicapped students' and their parents' rights.

Further analyses showed that only special education teachers scored significantly higher than the probable chance score of 19. Although special education teachers were the only group who scored significantly higher than chance, their mean score does not appear to represent a substantially higher knowledge-base of PL 94-142 than that of the other groups. This can be observed by examining the groups' mean scores in Table 3, which shows

that vocational education teachers had a higher mean score than the special educators.

The true-false item format of this questionnaire apparently invited subjects in the sample to guess. This guessing phenomena appeared to be evidenced through several elements of the data analysis. As previously cited, the special educators group was the only group who scored significantly higher than chance. An even more important factor was the lack of consistency in responses for the total sample over a 3-week time interval. A Pearson product-moment coefficient of only .49 indicated substantially different responses on the initial and retest administrations. These statistical analyses appear to support the position that the total sample was guessing sufficiently to indicate a lack of true knowledge about PL 94-142.

An individual item analysis further supports this phenomenon of guessing. As presented in Table 4, there was a considerably larger frequency differential for the seven items answered correctly least frequently than for the seven items answered correctly most frequently. Responses to the items answered correctly most frequently were relatively consistent as evidenced by a range of absolute frequency differentials of 0 to 5. In contrast, those items answered correctly least frequently had an absolute frequency differential range of 4 to 20. Consequently, responses to items answered correctly least frequently were more inconsistent. This suggested that considerably more guessing occurred on these items.

## CONCLUSIONS AND RECOMMENDATIONS

From the above data, it is apparent that there is a lack of knowledge of PL 94-142 among the four groups of educators represented in this study. This finding leads us to question the extent to which effective implementation of PL 94-142 can occur at present. An apparent need exists

for in-service training regarding the provisions of PL 94-142 which these educators are mandated to effect and are effected by.

It is further evident from this study that additional needs assessment research is warranted

nationwide. School districts across the nation should determine in some manner the extent to which their educational personnel are sufficiently knowledgeable about PL 94-142. Again, where there are gaps in the knowledge

base, appropriate staff training would be recommended.

This study was performed with a narrow range of key personnel effecting the implementation of PL 94-142. Further research must be extended to other groups such as school administrators, parents of handicapped children, school guidance personnel and other educational specialists.

Also, it is felt by the writers that improved instrumentation is necessary to measure knowledge of PL 94-142. Indeed, a new questionnaire has already been developed which utilizes a multiple-choice format. This design should permit more reliable results since the original instrument used a true-false format which appeared to permit a high probability of guessing. It is anticipated that the multiple choice format will minimize the guessing problem. However, it must be kept in mind that reliable responses can only occur where respondents have at least an adequate knowledge-base to work from.

The intent of PL 94-142 is to provide a free and appropriate education for all handicapped children. This law was created out of a dire need to guarantee and protect the rights of large numbers of handicapped children. Some of these children were completely excluded from public education due to the severity of their handicap. Others, who were mildly handicapped, were too frequently mislabeled and misplaced in special education settings which were inappropriate for their developmental needs. The results of this study indicate that passage of PL 94-142 alone is not sufficient to ameliorate these problems. It is apparent from this study that all professionals serving handicapped children in educational settings do not necessarily have sufficient knowledge to effectively implement PL 94-142. Consequently, it is strongly recommended that knowledge-based needs assessments and follow-up prescriptive educational workshops be planned nationally to ensure that professionals in

Table 1

Analysis of Variance Applied to Correct Responses on a Knowledge-Based Questionnaire on PL 94-142 for Groups of Regular Elementary, Regular Secondary, Special Education, and Vocational Education Teachers

Source	df	SS	MS	F ratio	Significance
Between Groups	3	73.83	24.61	3.13	.029
Within Groups	98	769.31	7.85		
Total	101	843.15			

Table 2

Means and Standard Deviations of Correct Responses for Regular Elementary, Regular Secondary, Special Education, and Vocational Education Teachers on the 38-Item Knowledge-Based Questionnaire on PL 94-142

Groups of Teachers	N	M	SD
Regular Elementary	26	25.35	2.90
Regular Secondary	10	25.60	2.37
Special Education	50	27.12	2.88
Vocational Education	16	27.37	2.60
Total	102	26.56	2.89

education possess a more comprehensive understanding of this significant law.

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Table 3

A Comparison of Correct Response Group Means for Regular Elementary Regular Secondary, Special Education, and Vocational Education Teachers on a 38-Item Knowledge-Based Questionnaire on PL 94-142 to the Expected Probable Chance Score of Nineteen

Groups of Teachers	N	M	Z Value
Regular Elementary	26	25.35	1.70
Regular Secondary	10	25.6	1.10
Special Education	50	27.12	3.01*
Vocational Education	16	27.37	1.73

\*Significant beyond the .05 level (Z = ± 1.96)

Table 4  
Frequencies\* And Frequency Differentials On Items Answered Correctly Or Incorrectly Most Often On The Initial Test And Retest Of The Knowledge-Based Questionnaire On PL 94-142.

Items Answered Correctly Most Frequently					
Item Number	Item Statement	Correct Response	Initial Frequency Percentage	Retest Frequency Percentage	Absolute Frequency Differential
20.	The purpose of PL 94-142 is to insure that all handicapped children have available to them a free and appropriate public education.	TRUE	100	98	2
16.	Under PL 94-142, parental consent must be obtained before a child is placed in a program providing special education.	TRUE	99	94	5
14.	The multi-disciplinary team used to determine whether a child should be placed in a special education program must include at least one classroom teacher or other specialist with knowledge in the area of suspected disability.	TRUE	94	97	3
5.	PL 94-142 gives the parents of a handicapped child the opportunity to inspect and review all education records with respect to the identification, evaluation, and educational placement of their child.	TRUE	93	93	0
8.	Parents may be accompanied and advised by legal counsel at any due process hearing concerning their child.	TRUE	92	91	1
19.	Parents may revoke their consent to the placement of their child in a special education program at any time.	TRUE	92	91	1
22.	PL 94-142 ensures that handicapped children have available to them the variety of educational programs and services available to non-handicapped children.	TRUE	92	93	1

Items Answered Correctly Least Frequently					
7.	When parents request an impartial due process hearing concerning the decision of a public agency about their child, the public agency must initiate such a hearing no later than one year from the receipt of the request.	FALSE	16	11	5
31.	By September, 1980, PL 94-142 will apply to all handicapped children aged 2-21.	FALSE	24	18	6
35.	A public agency may charge parents a fee for copies of their child's education records that they request.	TRUE	31	50	19
13.	Public agencies must amend portions of records that parents feel are inaccurate or misleading concerning their child at the parent's request.	FALSE	41	32	9
9.	Parents disagreeing with the evaluation of their child by a public agency must pay for an independent evaluation by a qualified examiner not employed by that public agency.	FALSE	47	43	4
30.	During the course of action of a due process waiting period and hearing, a child is to be placed in the educational program desired by the parents.	FALSE	47	34	13
15.	The right of handicapped students to inspect their own educational record is dependent on the age of the child and the type or severity of disability.	TRUE	50	70	20

\*All Frequencies were Calculated Based on the Number of Correct Responses



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