

THE USE OF AIDES IN A PUBLIC SCHOOL ARTICULATION THERAPY PROGRAM

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Problem

Introduction

It is not an uncommon experience to find nonprofessionals working in the area of education. These aides (paraprofessionals, subprofessionals supportive personnel, etc., etc.) assist the teacher in the routine classroom activity. In the area of speech pathology there is not a common utilization of aides. However, in recent years there has been a growing interest within speech pathology concerning the utilization of aides in the direct delivery of speech and hearing services (Alpiner, Ogden and Wiggins, 1970, Ptachek, 1967).

In 1973 Landis reported a successful outcome in the training and utilization of one aide. She concluded that it was possible to train nonprofessionals to provide basic remedial speech and hearing services (Landis, 1973). Unfortunately, her positive conclusions were based on only one subject.

It would appear that while there is interest in and encouragement for the use of aides there is very little substantive information about whether or not they can reliably and effectively provide services to children. Yet the advantages of a successful aide program would present a most compelling argument in terms of improved efficiency indirect services utilization of professional resources and cost effective therapy.

Purpose

In an effort to gain more substantial information about the utilization of aides in public schools a study was initiated in a rural midwestern 3 county area. The study, involving aides in articulation therapy, was exploratory in nature. The two major questions were:

1. Can trained aides carry out therapy procedures as correctly as professional clinicians.
2. Can children who receive therapy from trained aides produce the target phoneme correctly in conversation after training.

Method

In an effort to obtain answers to the two questions posed by this study a comparative procedure was designed. This involved training both the aides and clinicians in the use of the Monterey Articulation Program. After attaining equivalent

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skills in the program operation both clinicians and aides administered the program to selected students during the school year. At the end of that time data were gathered on the administration of the program and on clinical improvement of the students. A comparison between data for teachers and clinicians was designed to yield answers to the questions of this study.

Subjects

The subjects for this study were 19 adults who were employed by the local school system. Ten of these persons were aides who were selected from respondents to a public announcement for speech therapy aides. The remaining 9 persons were regularly employed speech therapists for the school system.

Each aide was screened by personal interview and standardized test. Selection was based upon interest and motivation, lack of speech or hearing defects and general aptitude and ability.

Program

A grammatical articulation procedure was chosen for this study. The Monterey Articulation Program (Baker and Ryan 1971) was the specific program selected. One of the prominent characteristics of this particular program is the explicit detail with which it describes and sequences the teacher activity. In addition, the program has a substantial data history which defines both the grammatical operation and anticipated therapeutic impact upon the student.

The Monterey Articulation Program, described in detail elsewhere (Gray, 1974), provided a clear cut method of procedure and a substantial performance history. Both of these characteristics are desirable and necessary in any attempt to compare therapeutic activities.

Students

The students in this study were selected from 651 regular public school pupils who had been identified through routine articulation screening procedures as needing articulation therapy. From this general population 84 students were selected for the present analysis. Those selected satisfied four conditions. These were (1) had more than 1 defective sound on the McDonald Deep Screening Articulation Test, (2) had two defective sounds that were within 2 points of each other on the McDonald pre test, (3) had only 1 of these 2 equivalent defective sounds worked on via the articulation program, (4) had both sounds retested on the McDonald post test at the end of the program.

The 84 students who met these requirements were comprised of 56 males and 28 females with a mean age of 7.5 years, S.D. = 1.8. The 64 students who were stimulable on their misarticulated phonemes were assigned to the aides and the remaining 20 were assigned to clinicians. The specific phonemes which were involved were /s, /_s/, /S/, /e/, /l/, /s/, /+/, /+S/, /p/, and s-blends

Of the two sounds for each student, one was randomly selected to be the target phoneme for the articulation program. The other sound was not worked with but rather was to serve as a control.

Training

The distributors of the Monterey Articulation Program¹ held a training workshop for the aides and clinicians. It provided basic skills in evaluation of phonemes and in the administration of the program itself. Both aides and clinicians passed performance and written tests on the operation of the program and were judged competent to run the program.

The clinicians were to act as supervisors for the aides in the school. Aides were not trained to administer or interpret any diagnostic tests. All such activities and subsequent therapeutic decisions were carried out by the professional clinicians.

Data Analysis

During the therapy activity the aides and clinicians maintained data sheets on which they recorded program step, number of responses, accuracy and amount of therapy time by student, by lesson. Whenever a student finished a program the completed data sheets were turned in. The information on the sheets was converted into data statements about the operational characteristics of the program run and its administration.

These data are called run data (Gray, 1974). The major categories of run data are student responding accuracy, number of responses needed to complete a program, amount of therapy time needed to complete the program and response rate. These categories indicate the proficiency with which the procedure was carried out.

The Behavioral Sciences Institute, the program developers provide standard values for each run data category. These standard values provide a reference by which clinician and aide performance can be evaluated.

The Monterey Articulation Program itself has a built in criterion referenced pre and post test. The change in accuracy between pre and post test serves as a measure of clinical impact resulting from the programmatic procedure. In addition to this intra program measure, the McDonald Deep Screening Test of Articulation was administered to the students prior to and upon completion of the Monterey Articulation Program. This outside measure of articulation was used to assess the clinical impact of the procedure. Also, difference scores were used to compare clinical gains obtained by students seen by aides with those obtained by students of teachers.

Results and Discussion

Table 1 presents the run data values for the various categories. The Behavioural Sciences Institute standard values (BSI STD.) are presented in addition to the mean values for clinicians and for aides.

¹ Monterey learning systems, 99 via Robles, Monterey, California 939110.

TABLE 1. Run data in mean scores for Monterey Articulation Program. Data are presented for aides, clinicians and the BSI Standard.

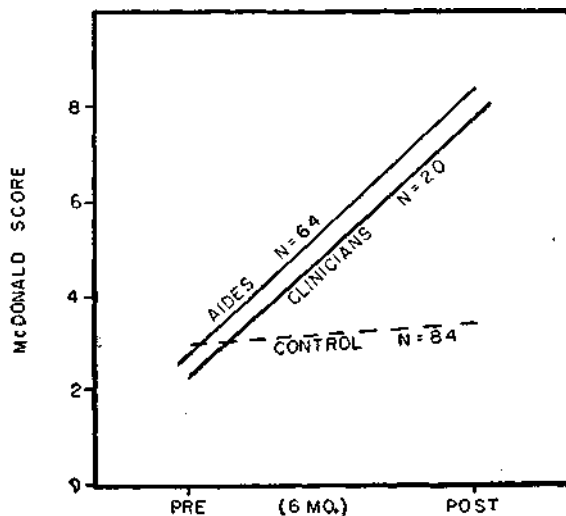
	% Correct	# Responses	Time	Rate	CRITERION TEST	
					Pre %	Post %
Aides	95.6	578	1.8 hrs.	321	44	96
Clinicians	96.4	531	1.9 hrs.	280	42	97
B.S.I. Standard	92.4	575	2.2 hrs.	350	34	95

It can be seen that both clinicians and aides had run data values which were equivalent to or better than the standard. The notable exception was the response rate category in which the aides and the clinicians were slower. It can be noted that there were no remarkable differences between the values for clinicians and aides. These observations hold for the programmatic run data as well as for the program pre and post criterion tests.

From these results it can be assumed that there were no substantial differences between clinicians and aides in run data for any listed category. In addition, it can be assumed that both clinicians and aides operated the program in a manner which was equivalent to the standard values presented for the program.

Figure 1 presents the results of the pre-post McDonald test comparison. The difference between the pre McDonald and the post McDonald test scores was

FIGURE 1. Pre and Post mean scores on the McDonald Deep Screening Articulation Test for students of aides, clinicians and a control sample.



significant beyond $P=.01$ for both aides ($t = 5.30$, $DF = 166$) and clinicians ($t = 5.07$, $DF = 38$). The control group of sounds demonstrated no significant change.

Finally, there was no significant difference between aides and clinicians on either the pre McDonald scores or the post McDonald scores. Thus, from these data it would appear that both aides and clinicians achieved equivalent clinical gains with their respective students.

Summary and Conclusions

The purpose of this study was to obtain information about the ability of trained aides to carry out programmatic articulation procedures successfully with students in a public school setting. The Monterey Articulation Program was used by both aides and clinicians with their respective case loads.

The data on administration of the program, termed run data, indicated that aides could carry out this particular articulation program in a manner equivalent to that of clinicians and to the BSI standard. Data on the pre program McDonald test and the post program McDonald test suggest that aides did achieve therapeutic gains equivalent to those obtained by clinicians.

It would appear from the findings of this study that aides can be successfully utilized to administer the Monterey Articulation Program with the anticipation of no loss in programmatic efficiency or in clinical impact. However, several considerations should be pointed out in an effort to keep generalizations of these findings in proper perspective.

First, the Monterey Articulation Program is a highly detailed and specific procedure which requires no individual creativity. Also, it minimizes as much as possible the opportunity for individual teacher decisions concerning procedural decisions. Clinical judgement and therapeutic logic are both imbedded in the operational instructions to the teacher.

Second, the aides were carefully selected. In addition they attended a rigorous training workshop and were required to pass practicum and written tests. They had no responsibility for child or phoneme selection. Also they made no clinical decision other than those minimal ones concerning student response accuracy which were necessary for administration of the program.

Third, they met frequently with their supervising clinicians. These supervisors made all the clinical judgements about student selection and dismissal and general case disposition.

Fourth, the aides worked with only sounds that were stimuable. Students with non-stimuable sounds were assigned to clinicians. This tended to make the two comparative groups not necessarily equivalent in severity. However, with respect to the Monterey Articulation Program, this difference was not considered to be detrimental to the outcome of the study. This particular aspect was included as a cautionary measure since this was a public school setting rather than a laboratory setting.

These considerations are not meant to disallow the findings of this study. However, the results should be viewed in light of the constraints of the situation. The role and activity of the aide was highly described, monitored and restricted. Thus, casual generalizations to therapy in general or to equivalence between aides and clinicians is to be avoided.

The study does point up rather clearly that, in a carefully defined situation, aides can work in portions of articulation training with efficiency and clinical impact which is equivalent to that of clinicians. The findings suggest that aides can be utilized effectively and with confidence in these carefully structured situations.

Finally, the findings point up the need for further study. The results of this study should be verified by others using other procedures and other constraints. These findings do not answer questions concerning non-stimulable sounds or articulation disorders of a more severe nature. They do not answer questions concerning necessary attributes of aides or amount and degree of required training. These questions and many more should be answered before any general statement of encouragement, can be made about the use of aides in public school articulation programs. However, the potential value and contribution of aides in programmatic articulation therapy holds great promise in the improvement of delivery of services to children.

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