DOCUMENT RESUME

ED 356 494 CS 213 788

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TITLE	The Left-Handed Writer.
PUB DATE	[93]
NOTE	12p.
PUB TYPE	Information Analyses (070) -- Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Elementary Education; Elementary School Students; *Handedness; *Handwriting; *Left Handed Writer; Literature Reviews; Teaching Methods; Writing Difficulties; *Writing Research

ABSTRACT

Contrary to the beliefs of many, right-handedness is not a single factor existing in almost all people, with a few exceptions termed left-handed: neither extreme exists independently of the other. During the first 4 years of life there is a period of fluctuation between right and left-handed dominance. Statistics and findings vary in determining the number of left-handed students. Some authorities believe that genetic studies reveal a hereditary basis of the development of handedness, others believe that handedness is a result of environmental factors. While most teachers consider it sound educational practice to allow the student to develop writing skills with the left hand if it appears the child is definitely left handed, not long ago it was considered sound educational practice to force the left-handed student to change to the right hand for writing. Suggestions to assist in the positive instruction of left-handed children include: (1) identify left-handed students and plan special support for them; (2) use a left-handed teacher or older students as a resource person; (3) encourage them to develop a natural slant that is comfortable for them; and (4) on the primary level, group all left-handers together at the right front of the room. While there is some contradiction in the research literature, there are no major contradictions among the majority of experts who are producing pedagogical material in the area of handwriting for the left-handed. (Contains 22 references.) (RS)

THE LEFT-HANDED WRITER

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THE LEFT-HANDED WRITER

Today most teachers no longer attempt to change the handedness of left-handed students (Norton, 1993), but we probably know little more about handedness than when the forced changing was the subject of much discussion and debate. Historically, this has been an area of considerable discussion and opinion, but one of very little actual scientific research. And the limited research done in this area has at times been contradictory (Howell, 1978). Possibly all of this is true because of the many underlying factors that are involved in the entire concept of handedness. In fact, the identification and measurement of handedness is difficult because no single accepted criterion exists (Barry and James, 1978). What is seen as handedness may well be the outward physical form of several related or unrelated factors.

In the first place, handedness is just one factor of sidedness, which concerns the lateral dominance of all paired bodily functions (Dayhaw, 1953). It is not known if sidedness is hereditary, acquired, or both, but it is known that it governs lateral dominance. There are tests to determine lateral preference, but they are lacking in exactness and are somewhat inadequate due to the fact that there is a high frequency of mixed and inconsistent patterns in normal children (Ullman, 1977).

Contrary to the beliefs of many, right-handedness is not a single factor existing in almost all people, with a few exceptions termed left-handed. Neither extreme exists independently of the other. It is impossible to divide the population into left and right-handedness because there are degrees of handedness (Clark, 1961). The population

can be thought of as having degrees of sidedness, with complete left and right-handedness at either end, and many varying degrees between the two extremes.

Strangely, ambidexterity rarely exists except in young children and in the mentally retarded (Gesell and Ames, 1947). During the first four years of life there is a period of fluctuation between right and left-handed dominance. Often dominance is difficult to determine because some children will prefer their right hand for some tasks and their left hand for others (Kaufman, et al, 1978). Natural dominance is usually established in most children by the time they enter school, but one study found that approximately 60 percent of normal children in the early elementary grades demonstrated either a mixed or inconsistent pattern of hand preference (Ullman, 1977).

Statistics and findings vary in determining the number of left-handed students. In fact, there is wide disagreement on all phases of left-handedness. Some authorities have stated that as high as thirty percent of the total population may have certain left-handed tendencies, while others estimate between four and eight percent are left-handed (Williams, 1962). It must be stressed that there are many estimates, but there is no single authoritative set of figures.

In a study of 225,000 Michigan students in grades one and twelve, it was found that in grade one, 10.1 percent were left-handed and in grade twelve, 6.6 percent were left-handed (Goff, 1964). A Detroit study of 13,438 elementary students found 6.4 percent to use their left hand for writing (Weiser, 1965). A study was made in Scotland by the Scottish Council for Research in Education to determine approximately the percentage of left-handed writers between the ages of ten and eleven years (Clark, 1961). Of 5,790 students, 405 were

left-handed and accounted for 7 percent of the total. Within the 405 were 236 boys and 169 girls.

In an extraordinary study , Enstrom (1962) sent out forms to 10,000 teachers in four states in an attempt to determine a more accurate figure of left-handed elementary students. Over an eight year period, 9,000 of these forms were returned, representing 3,000 rooms and 48,809 boys, and 44,647 girls. These 92,656 students were in grades one through six. An average of 11.1 percent of them used their left hand for writing. Actually, 12.5 percent of the boys and 9.7 percent of the girls were left-handed. All findings have indicated more boys to have known left-handed tendencies than girls. One study suggested that the ratio was about two to one, but other studies have found a much lower ration, but always more boys than girls (Weiser, 1965). Possibly this could indicate boys are less concerned than girls about conforming. Also, boys are known to participate in more activities requiring the use of both hands. And maturation differences related to gender may be a factor in that certain skills require specific motor coordination. Gender maturational difference has been related to the greater number of males having handwriting difficulty (Rubin, 1990).

It was Williams' (1962) opinion that more than thirty percent of the students would be writing with their left hands if they were allowed to do so. There is a distinct possibility that many people write with their right hands because they were never allowed to use their left hands. In fact, there was no mention of teaching left-handers until 1915 (Enstrom, 1962).

Some authorities believe that genetic studies reveal a hereditary basis of the development of handedness. Several studies have found a

greater chance of a child being left-handed if there are instances of left-handedness in the family. For example, Rife (1951) found a relationship between left-handed parents and their children. If either of the parents were left-handed, there was one chance out of six of the child's being left-handed, but if neither of the parents were left-handed, the chances jumped to one out of sixteen. Environment may have influenced the above, but Rife felt heredity was the important factor. Other studies have been somewhat contradictory in their findings related to the heredity factor (Peterson, 1951).

Other researchers believe that handedness is a result of envirnomental factors such as training and social conditioning (Rubin, 1990). At any rate, it would appear that other factors help determine a person's sidedness. The society in which one lives would be a definite factor. If left-handed children were not tolerated, it could not exist. Historically, this has been carried into the classroom by numerous teachers. Latent left-handedness would be cultivated or suppressed, according to the attitudes of the student's early teachers. But even during this time of suppression, left-handedness did exist in the classroom, and Carrothers (1947) found a higher incidence of left-handedness in classes where the teacher was sinistral. The increase of left-handedness in recent years is an indication of a more tolerant environment in the educational realm (Norton, 1993). Clearly, all is not known or understood on the determination of handedness or sidedness in the individual, but this heredity versus environment controversy has been going on for decades without any resolution (Rubin, 1990).

While most teachers today consider it sound educational practice to allow the student to develop writing skills with the left hand if it appears the child is definitely left-handed, not so long ago it was

considered sound educational practice to force the left-handed student to change to the right hand for writing. Some educators felt that left-handedness was a form of rebellion against school authority because the school handwriting program was the first academic situation in which the students showed an indication of right-handedness. Those not conforming were considered to be rebelling and were made to change writing hands despite opposition from the child. The teacher was merely correcting a discipline problem.

Years ago left-handedness was thought to bring on speech defects and emotional disturbances. To avoid this, many students were forced to use their right hand for writing. It is interesting to note that many teachers would not change left-handed writers for a similar reason; changing handedness would bring on emotional and speech disturbances. Today most educators believe considerable damage may be done if a child is forced to use his less skillful hand. Emotional or speech problems could possibly be brought about by a zealous teacher bent on changing the child's writing hand despite opposition from the child. Under such conditions, the reprimands and punishment that accompanies such a change could do more damage than the change itself (Topetze, 1960).

Dayhaw (1953) suggested that in most cases it would be best to change handedness in order to avoid emotional problems. According to his theory, a left-handed child must learn everything a right-hander does, plus overcoming the handicaps he has such as desks, the shoving motion that he must use in order to write, smearing his ink because his hand covers his writing as he writes, and the like. This would require a great amount of ability and energy on the student's part, a possible setback because of material disadvantages. A double struggle

and unfair competition with right-handers would result.

Assuming the ability to learn is the same, Dayhaw reasons that learning would be harder for left-handers because they would have to transpose everything to their own key. Obstacles in the form of mental, emotional and social development would frustrate them. He felt there was also a possible relationship to stuttering. According to this theory, if the left-hander is changed for the above reasons, and in an orderly manner, no harm will result. It would remove the obstacles and unhappy emotions that may have developed.

In his studies of the Backward Child, Burt (1939) found that left-handedness occured one and a half times as often in these children, and two to three times as often in mentally deficient children, and four times as many left-handers stutter as do right handers. Martin (1952) found from sixteen to thirty percent of the cases in institutions for the feeble minded were left-handed. These findings may or may not have any significance because of the social and environmental factor. These children would possibly have less restraint and would be able to use the hand of their choice. If this were true, their average would not necessarily be any higher than the national average. As stated earlier, some studies have indicated as high as thirty percent of the population may have left-handed tendencies.

Another reason used by some teachers to change the writing hand of students is that right-handers write faster and easier. An experimental investigation of the speed of the right and left-handed writer failed to demonstrate any conclusive results (Smith and Reed, 1959). Closely related to this was the idea that left-handed students had inferior writing skills (Tompkins and Hoskisson, 1991). Again, no

significance difference has been demonstrated other than the problems associated with writing with the left hand.

Perhaps some have been changed because the teacher did not know how to teach left-handed students how to write. Without question, even today, left-handers are neglected and are subjected to poor instruction for the most part. This has been brought about over the years by conflicting and unsupported ideas. The difference in research findings has not greatly benefited those attempting to understand handedness (Howell, 1978).

There is no essential difference between left and right-handed writers, except for the use of a different hand. The left-handed writer is an individual --- not an exception to the rule. Left-handers should have the same attention and instruction given to their needs as do right-handers. A left-handed child needs to be taught penmanship methods appropriate for for left-handers, not those methods appropriate for a right-hander, except with the left hand.

It would be far easier for everyone if teaching handwriting to left-handed students was a simple reversal of right-handed techniques, but unfortunately, this is not the case. Because it is a right-handed world, sinistral students must deal with problems not encountered by other students. The desk may be awkward and the pencil sharpener a nightmare for the left-hander. But probably worst of all is our left to right writing direction. While this is ideal for the right-hander, a left-handed child's left hand will obscure and smear what has just been written because the hand moves across it (Temple and Gillet, 1989). Many have adopted the "hook" position in order to avoid this problem.

As pointed out by Howell (1978), the research literature dealing

with teaching handwriting to left-handed children has been sparce and somewhat contradictory, and has probably contributed to the variety of practices and confusion that has all too often lead to ignoring or disregarding the unique needs of the left-handed child.

A review of the handwriting sections of current Elementary Language Arts college textbooks written for methods courses revealed that there is still some differences of opinion among writers in the discipline, but is for the most part a matter of degree and deals most often with letter formation and slanting. But there is a definite commonality among those seriously addressing the problem, and they do draw heavily from research. Interestingly, some of the authors did not even mention left-handed writers, or only referred to them in passing -- as if an afterthought. It would seem that some of our practitioners of handwriting pedagogy are just as blameful for the poor state of left-handed instruction as is the research itself.

Many of the authors offered excellent, detailed teaching techniques to assist in the positive instruction of left-handed children. The most frequent suggestions were:

1. Identify the left-handed students and plan special support for them, but avoid any attention that may cause self-consciousness.

2. If possible, use a left-handed teacher or older student as a resourse person because the students will have trouble following a right-handed model.

3. Have them turn their writing paper to the right rather than to the left.

4. Have the students use a harder leaded pencil so it will not smear as easily.

5. Teach them to hold their pencils about an inch and a half farther up so tthey can see over or around their hand.

6. If possible, lower the desk top. They can better see what they have written if it is farther away rather than

too close.

7. Provide a lot of practice writing on the chalkboard.

8. Encourage them to develop a natural slant that is comfortable for them.

9. Help them develop the most legible form for each letter they can produce with ease and comfort.

10. On the primary level, group all the left-handers together at the right front of the room. They can see better and they can receive constant encouragement and assistance.

11. With older childern using an awkward position such as the "hook", if it cannot be changed easily, it is better to let the child continue with that position.

Without question, the left-handed child does need special instruction in handwriting. And while there is some contradition in the research literature, there are no major contraditions among the majority of experts who are currently producing pedagogical material in the area of handwriting for the left-hamded. Those addressing these needs offer positive techniques and suggestions that would most certainly assist any teacher attempting to teach left handed children. Perhaps if we would follow their lead rather than doing business as usual, we would be more successful with left-handed students. Too, it would appear that Colleges of Education need to pay far more attention to this by stressing the importance of handwriting and the methodology involved for both right-handers and left-handers -- even in this day and age of the computer.

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