

DEAF CHILDREN AND MATHEMATICS

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Deaf children are retarded in mathematics relative to their hearing peers. There are two possible and interrelated reasons for this: 1. their relatively poor linguistic skills and secondly, the social consequences of deafness (lower teacher expectations, the use of less than optimal and possibly inappropriate teaching methods). These two elements, the linguistic and the social, no doubt interact in complex ways. At the same time, some experimental work appears to suggest that there is no absolute obstacle to the deaf child learning mathematics. This inconsistency between the deaf child's potential and actual performance is discussed and ways of optimizing their mathematical skills are suggested.

INTRODUCTION

It is, perhaps, surprising that recent textbooks on the psychology of the deaf and partially-hearing child and education (for example, Conrad, 1979; Rodda & Grove, 1987; and Marchark, 1993) contain no reference to learning mathematics. In fact, mathematics has been a largely neglected area in the education of deaf and hearing-impaired children (Bunch, 1987; Fridriksson & Stewart, 1988). This is a serious omission, as industry and commerce now require a higher level of numeracy than was previously the case. The purpose of the present paper is to outline what is known about the psychology of learning mathematics by deaf pupils and what might be done to improve their mathematical skills. Skemp (1971, page 134) argued that "If it is agreed that genuine mathematics is simply a specialised form of intelligent activity, then we need no longer wonder why it should be enjoyable for its own sake." We must ask to what extent deaf children are capable of this intelligent activity; and how they can be encouraged to develop further.

The mathematical abilities of deaf children have been overshadowed by the intense interest and effort in improving their communication skills. Fridriksson and

Stewart (1988) have suggested reasons why mathematics has received so little attention. Teacher training programs tend to emphasize speech and language skills, and students on these courses are not provided with an adequate foundation in mathematics teaching. Secondly, mathematics in the classroom is often only pencil-and-paper learning with little hands on experimentation or computer use. Thirdly, mathematics is not seen as important, and progress in mathematical understanding is not stressed. It would appear that underlying these reasons is a fundamentally pessimistic view of the potential of deaf children. Outside the school classroom the skills required in industry and commerce are becoming increasingly more complex and technology based, and at the same time jobs requiring numeracy, and computing skills based on numeracy, increase as manual employment declines. A knowledge of mathematics is then important for deaf and hearing-impaired people.

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