DOCUMENT RESUME

ED 303 237 PS 017 691

AUTHOR Roberts, Clare; And Others
TITLE A Comparison of the Classroom and Playground Behaviour of Mildly Disabled and Non-Disabled Students in an Integrated Educational Setting.
PUB DATE Aug 88
NOTE 37p.; Paper presented at the Australian Developmental Conference (5th, Sydney, Australia, August 26-28, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Classroom Observation Techniques; *Classrooms; Comparative Analysis; *Disabilities; Elementary Education; *Elementary School Students; Foreign Countries; Mainstreaming; *Peer Acceptance; *Playgrounds; *Student Behavior
IDENTIFIERS Australia; *Normal Children

ABSTRACT

Classroom and playground behaviors of 95 integrated mildly intellectually handicapped and mildly disabled students were compared with those of 95 nonhandicapped, age- and sex-matched regular class students. All subjects attended state government primary schools and were between 8 and 13 years of age. Subjects' behavior was observed in the integrated classroom and in playgrounds by means of a time sampling method that contained 9 categories of classroom behavior and 9 categories of playground behavior. Data indicated that the behavior of the integrated mildly handicapped students was in many ways similar to that of their regular class peers. Both groups of students showed low levels of negative, disruptive, and aggressive behavior in the classroom and playground. The groups did not differ significantly in their amounts of interaction with adults or peers in the classroom. The groups' patterns of initiation with peers did not differ in either setting. But some differences were found between the groups' classroom and playground behaviors. Results are discussed in terms of theories of social acceptance and the influence of both individual and system factors on the successful integration of mildly disabled students. (RH)

A Comparison of the Classroom and Playground Behaviour of Mildly Disabled and Non-disabled Students in an Integrated Educational Setting.

Clare Roberts, Chris Pratt

The University of Western Australia

and

David Leach

Murdoch University

Running head: SOCIAL BEHAVIOUR IN AN INTEGRATED SETTING

Abstract

The classroom and playground behaviours of integrated handicapped students are frequently cited as reasons for rejection of these students by their regular class peers. The present study compared and contrasted both the classroom and playground behaviour of 95 integrated mildly intellectually handicapped and borderline students, (mildly disabled), with that of 95 non-handicapped, age and sex matched, regular class students. The children all attended state government primary schools and were aged between eight and thirteen years. The behaviour of both handicapped and non-handicapped children was observed within the integrated classroom and playground settings using a time sampling method with nine categories of classroom behaviour and nine categories of playground behaviour. The data indicated that the behaviour of the integrated mildly handicapped students was in many ways similar to that of their regular class peers. The results were discussed in terms of theories of social acceptance and the influence of both individual and system factors on the successful integration of mildly disabled students.

Integration in the regular school is receiving increasing recognition as a legitimate educatio.al option for disabled students. However, there remain many issues surrounding the process of integration which require empirical verification. The mere placement of disabled students within a regular school context does not mean that this will automatically result in increased social interaction between disabled and non-disabled students. As Gresham (1982) suggested in a recent review of the literature, there is little evidence to support the notion that the increased contact between mildly disabled and non-disabled students in an integrated setting results in more positive attitudes towards, and social acceptance of, the disabled students.

The social behaviour of children has often been investigated because of its relationship to social acceptance and rejection by peers. Researchers investigating this relationship with non-disabled students have indicated that certain social behaviours such as positive peer interaction, greeting others, asking for and giving information and making conversation are predictive of social acceptance, (Asher & Hymel, 1981; Asher, Oden & Gottman, 1977). Given the finding that mildly disabled students often hold low social status positions in regular classrooms, (Gottlieb, Semmel & Veldman, 1978), it is has been hypothesised that these children display different patterns of social behaviour to their regular class peers, (Gresham 1982).

While the classroom behaviour of mildly disabled students has been studied using observational research methods, (Espiner, Wilton & Glynn, 1985; Forness & Esveldt, 1975; Gampel, Gottlieb & Harrison, 1974; Gottlieb, Gampel & Budoff, 1975; Herink & Lee,

1985; Hudson & Clunies-Ross, 1984; Kaufman, Agard & Semmel, 1985), the social behaviour of such children in the playground setting has been a neglected area of research. In this investigation both the classroom behaviour and playground behaviour of mildly disabled students, (mildly intellectually handicapped and borderline), and their regular class peers were studied.

Gampel et al. (1974) compared the classroom behaviour of 12 segregated educationally mentally retarded (EMR) students and 14 recently integrated EMR students to that of low IQ, regular class children and children of average intellectual ability, in an American junior primary school. These researchers found that the integrated EMR students' behaviour more closely resembled that of the low IQ regular class children than that of the segregated EMR students, after only four months in an integrated setting. When observed again at the end of a whole year of integration, (Gottlieb et al., 1975), the integrated EMR students were found to be displaying more pro-social behaviours than both the segregated EMR students and the non-retarded regular class students.

More recent research carried out in Australia, (Hudson & Clunies-Ross, 1984), New Zealand, (Espiner et al., 1985), and the United States (Herink & Lee, 1985; Kaufman et al., 1985), suggests similar results. However, a more detailed analysis of the social behaviour of the two groups of children does reveal some differences. Hudson & Clunies-Ross (1984) systematically observed 15 intellectually disabled students in both the regular classroom and the playground, (grades 1 to 3). They found no difference between overall rates of both positive and negative

interactions for the disabled students and a randomly selected non-disabled peer group sample. The disabled students however, were observed to initiate only half as many positive interactions as their regular class peers. They were also observed to initiate twice as many interactions with the classroom teacher as their non-disabled peers. Unfortunately these authors did not report classroom and playground behaviour separately and therefore the results noted above relate to the overall behaviour patterns observed.

Herink & Lee (1985) compared the social behaviour of 20 mildly and moderately intellectually handicapped pre-schoolers with that of 20 non-disabled children and found that the disabled children were substantially integrated into the emotional and social life of the peer group but not fully integrated into the verbal life of the peer group. These researchers also found an inverse relationship between teachers' initiation of social interaction with the disabled children and the degree to which they were integrated into the peer social group.

Kaufman et al. (1985) observed 300 EMR children and regular class non-disabled children in the United States. They found that the integrated EMR learners displayed more antisocial and less friendly/cooperative behaviour then non-disabled peers, but that the differences were too small to be of educational significance.

With regard to playground behaviour, Hudson & Clunies-Ross (1984) observed their 15 disabled students in the playground, however no results specific to the playground setting were reported. A recent study completed in New Zealand by Pipe, Redman & White (1983) however, found high levels of social interaction between intellectually disabled and non-disabled pre-schoolers in

both the classroom and the playground.

Hence empirical evidence from studies investigating the classroom behaviour of disabled and non-disabled students appears to be equivocal in its support for the hypothesised difference in social behaviour patterns between the groups. However most of the studies cited above, (excepting Kaufman et al., 1985), used relatively small samples and have predominantly investigated children in preschool or junior primary school grades. Older non-disabled students in upper and middle primary grades have been shown to display more stable friendship choices (Ollendick, 1981). These students would also be expected to show different patterns of interactive behaviour. Although Kaufman et al. (1985) considered a large sample of students. They did not compare the social behaviour of disabled and non-disabled students in a playground setting.

There is a need therefore to investigate and compare the social behaviour of mildly disabled students with that of their regular class, non-disabled peers, in both the classroom and playground settings. It is important also to consider older students. This paper seeks to meet these aims by investigating the classroom and playground behaviour of 95 mildly disabled students and 95 non-disabled peers aged between 8 and 13 years.

Method

Subjects

The subjects were 190 primary school students between the ages of eight and thirteen years. Of these students, 95 were mildly disabled students who were enrolled in Educational Support Centres attached to eleven regular State primary schools within the metropolitan area of Perth (Western Australia). These

students were all integrated into the classrooms of the regular primary school for varying periods of time during the day. The remaining 95 subjects included a sample of non-disabled students enrolled in the same eleven State primary schools. The non-disabled students were chosen from the integrated classrooms attended by the mildly disabled students.

The mildly disabled students fell into the following three diagnostic categories when classified on the basis of the AAMD definition, (Grossman 1983); moderately intellectually disabled, 3 percent (3), mildly intellectually disabled, 35 percent (34), and those functioning intellectually at a borderline level, 61 percent (58). All 95 students had been referred to the Support Centres because they were performing at a level of academic achievement two or more years below that expected for their chronological age.

Table 1 shows mean percentages of time integrated and other demographic details of these students, classified according to level of intellectual functioning.

Table 1 about here

Non-disabled students were matched with an integrated disabled student by choosing a regular class peer of the same sex, with the closest birth date to the targeted disabled student. Hence the sample of non-disabled students included 69 males and 26 females. Table 2 shows mean age and number of disabled and non-disabled students according to their grade. As it is not uncommon for mildly disabled students to repeat a primary grade, in some cases the non-disabled child with the

closest birthdate was somewhat younger than their matched disabled peer.

Table 2 about here

Measures of Classroom and Playground Behaviour

Models available in Gampel et al (1974), Hudson and Clunies-Ross (1984), and Ollendick (1981) were used in developing two sets of behavioural categories for observing behaviour in the classroom and in the playground. In both settings the pattern of interactions and the type of activity engaged in were recorded.

Observation and recording of the students' interaction patterns were the same for both classroom and playground settings. The following details were recorded;

1. The type of interaction - an initiation, either successful or unsuccessful or an ongoing interaction.
2. The person involved in the interaction other then the target child - either peer, teacher or another adult.
3. The quality of the interaction - either positive or negative.

Where an interaction initiated by a teacher, or another adult was coded, a further distinction was made between a statement, request or a non-verbal initiation.

The type of student behaviour in the classroom and playground required two different sets of categories. In the classroom the attending behaviours of the target student were recorded. These behaviours consisted of:

1. On task
2. Off task - quiet
3. Off task - disruptive

4. Off task - aggressive

In the playground the student's activity was recorded as one of the following categories:

1. Unoccupied behaviour
2. Solitary play
3. Onlooker behaviour
4. Parallel play
5. Interactive play.

Procedure

A time sampling method was used to gather the observational data. The observational interval was 25 seconds including, 15 seconds observational time and 10 seconds recording time. The first behaviour to be observed within the 15 second observational time was the behaviour that was coded. The intervals were cued by a beeper mechanism which was heard through an earpiece.

In both the classroom and playground settings targeted students were observed in a series of five minute blocks broken up into twelve, 25 second intervals. The total length of any single observation session was up to 30 minutes and each student in a matched pair was observed for three blocks of five minutes in every 30 minute session. This resulted in a total of 36 observational entries for each child in a matched pair for the 30 minute session. All pairs of students were observed for three sessions in the classroom and three sessions in the playground, resulting in a total of 108 classroom and 108 playground observational entries per student.

In the classroom setting a matched pair of students was observed in an alternating sequence of five minute blocks over the 30 minute session. The order of observation of the pair of

targeted students was counterbalanced to reduce the effect of variance in behaviour relating to the beginning or end of classroom lessons. The classroom observations were completed at varying times of the day coinciding with those periods where the mildly disabled students were integrated into the regular classrooms. Because the disabled students were more likely to be integrated into the regular classrooms for the two afternoon sessions, 81 percent of the classroom observations were completed during these time periods.

Several lesson types were observed. Table 3 shows a breakdown of the types of lesson observed and the percentage of the total number of observation entries for each lesson type. Because disabled and non-disabled students were observed in pairs the percentages are same for both groups of students. Students spent the majority of their time in individual seat work or listening to the teacher giving a lesson. However small group activities were also observed.

Table 3 about here

In the playground setting students were observed during free play sessions. Students within a target pair were observed one after the other, the first child being observed for up to three consecutive five minute blocks, then the second child being observed. The change in procedure from the classroom to playground settings related to the practical difficulties of observing children in large playground areas. Observing target pairs in alternating five minute blocks was not possible due to the amount of time needed to search for children.

The playground observations were completed during recess time when the students were involved in free play activities. A variety of playground games and activities were observed during these periods, for example, structured games such as cricket and basket ball, involvement with playground equipment or talking.

Five psychology students, plus the chief investigator acted as observers. An initial training of three observers was carried out over a three week period including eight sessions of one hour duration. Both videoed sequences of behaviour and in-vivo practice were used to train observers. A further five sessions were completed to train the remaining two observers who were employed at a later date in order to complete the total number of observations. Observations were carried out over a six month period in the last two terms of the school year, to ensure that the students' behaviours would not be influenced by a new environment.

Reliability checks were carried out prior to the commencement of observation and at four points during the six months period when the observations were being completed, with all six observers present. The reliability coefficients were calculated by dividing the number of exact agreements for all observers in each observational interval, by total agreements plus disagreements, (Anastasi, 1976). Initial inter-rater reliability coefficients were .94 for classroom observations, and .81 for the playground observations respectively. Inter-rater reliability coefficients for the four reliability checks carried out throughout the data collection phase ranged from .80 to .89 for classroom behaviours and .81 to .83 for playground behaviours.

Results

In order to obtain a subset of behaviours for further statistical analysis, two stages of data reduction were carried out with both classroom and playground observational data.

The first stage involved eliminating and collapsing categories which exhibited very low rates of occurrence. Frequency scores were calculated for the data characterising the type of activity, four categories of classroom attending behaviour and five categories of playground behaviour. These frequencies were then transformed into proportions of the total number of observations for each subject, in both settings, (108 in each case). Figures 1 and 2 show these scores represented as percentages for both the disabled and non-disabled groups.

Figures 1 and 2 about here

As can be seen in Figures 1 and 2, aggressive behaviour in the classroom and unoccupied behaviour in the playground occurred with frequencies of less then three percent for both groups of students. These two categories were therefore excluded from further data analysis.

Frequency scores for the large number of categories of interactional behaviour were also calculated for the classroom and playground settings. As would be expected, both groups of students engaged in less interactive behaviour in the classroom than in the playground, (disabled - 10.36 percent: classroom, 67.13 percent: playground; non-disabled - 11.64 percent: classroom, 77.89 percent: playground).

A number of interaction categories occurred with very low

frequency in both the classroom and playground settings and hence the data was collapsed to obtain a subset of variables. These combined categories consisted of the following variables, with scores calculated separately for both the classroom and playground settings:

1. Positive adult interactions
2. Negative adult interactions
3. Positive peer interactions
4. Negative peer interactions
5. Successful child initiations
6. Unsuccessful child initiations
7. Successful initiation from an adult
8. Unsuccessful initiation from an adult
9. Successful initiation from a peer
10. Unsuccessful initiation from a peer.

All positive and negative, adult and peer interactions were then transformed to proportions of the total number of interactions for each subject. Figure 3 presents the mean percentage of these interactions for disabled and non-disabled students in both settings. Positive and negative interactions were mutually exclusive, and therefore only positive interactions were included in further analyses.

Figure 3 about here

The successful and unsuccessful initiations were transformed to proportions of the total number of initiations for each subject. Figure 4 presents the mean percentage of child initiations and Figure 5 presents the mean percentages of adult

and peer initiations for both groups of students in the two settings. Successful and unsuccessful initiations were mutually exclusive categories. They were therefore excluded from further analysis.

Figures 4 and 5 about here

After the completion of the first stage of data reduction each subject had a score profile of 17 proportional scores representing their behaviour in the classroom and playground.

The second stage of data reduction involved submitting these 17 scores for both disabled and non-disabled students, to a principal components analysis with varimax rotation, (Thorndike 1978). Eight factors emerged from the analysis, accounting for 73.3 percent of the total variance. Of the eight factors, the first five represented interpretable groups of behaviour categories accounting for 54.61 percent of the total variance. The remaining three factors did not show clear groupings of variables. Hence variables loading highly on these factors were analysed separately. Only those variables with factor loadings over .40 will be discussed.

Factor 1 accounted for 14.57 percent of the variance and represented peer interactional behaviour in the playground. This factor comprised the categories of interactive play, positive peer interaction and parallel play, which showed a negative loading.

Factor 2 was represented classroom attending behaviour and it accounted for 13.52 percent of the total variance. This factor contained the categories of on task and off task - quiet. The

latter category loaded negatively on this factor.

Factor 3 accounted for 11.01 percent of the total variance and grouped together all child/peer initiation patterns. This factor comprised of successful child initiations in the playground (negative loading), successful peer initiations in the playground, and successful peer initiations in the classroom.

Factor 4 represented both types of positive interaction in the classroom, peer, (negative loading) and adult. This factor, which defined classroom interaction, accounted for 8.09 percent of the total variance.

Finally, factor 5 consisted of two classroom variables, successful child initiations and successful initiations from an adult (negative loading). This factor accounted for 7.42 percent of the total variance and represented child/adult initiation patterns in the classroom.

Variables loading over .40 on each of factors 6 to 8 did not show meaningful groupings of interaction or behaviour and therefore the five remaining variables were included separately in all further analysis. These included disruptive behaviour in the classroom, positive adult interactions in the playground, successful initiation from an adult in the playground, solitary play and onlooker behaviour. The results of the varimax rotation for the factors 1 to 8 are presented in Table 4.

Table 4 about here

Following the second stage of data reduction, factor scores on the first five factors were obtained for all subjects by inversing the scale of variables which loaded negatively and

calculating an average of those variables with a factor loading of greater then .40 on an individual factor.

These five factor scores plus scores on the remaining 5 categories not represented in the factor analysis were then used as dependent measures in a multivariate analysis of variance, to determine differences in behaviour between disabled and non-disabled students. The means and standard deviations of these 10 variables are shown in Table 5.

Table 5 about here

A Hotellings t^2 test for repeated measures (Dixon 1981) revealed a significant difference between groups, ($f(10,85) = 7.80$, $p < .0001$). Further paired comparisons using matched sample t-tests revealed significant differences on four of the ten behavioural categories. The disabled students were observed to engage in less peer play interaction, ($t(94) = 4.07$, $p < .001$), and more solitary play, ($t(94) = 5.71$, $p = .0001$), than their non-disabled peers. The disabled students also engaged in less classroom attending behaviour, ($t(94) = 6.02$, $p < .0001$), and more positive adult interaction in the playground, ($t(94) = 2.14$, $p < .05$), than did the non-disabled students. No significant differences were found in the following interaction variables; child/peer initiations, positive class interactions, child/adult initiations and successful adult playground initiations. Disabled and non-disabled students also did not differ in the amount of disruptive behaviour displayed in the classroom and onlooker behaviour in the playground.

Discussion

These results indicate that there are many similarities in behaviour patterns between mildly disabled and non-disabled students attending integrated classes. Both groups of students showed low levels of negative, disruptive and aggressive behaviour in the classroom and playground settings. The two groups of students also did not differ significantly in their amounts of interaction with adults or peers in the classroom. Finally, the patterns of initiation with peers did not differ across groups in either setting.

There were however differences between the groups in the type of behaviour engaged in, in both the classroom and playground. In the playground setting, disabled students interacted and played less with their peers then did the non-disabled students. Although the results show that the disabled students were not totally isolated, this finding has implications for the social acceptance of disabled students in an integrated setting. When compared with results of recent studies of social acceptance and social behaviour in non-disabled children, (Dodge 1983), the behaviours of the disabled students resemble closely those of neglected children.

When not interacting with their peers the disabled students were observed to engage in significantly more solitary play and more positive interactions with adults, than the non-disabled students. These results are similar to both Herink & Lee's (1985) findings with pre-schoolers and Hudson & Clunies-Ross (1984), who found that disabled primary school children initiated twice as many positive interactions with adults as their non-disabled peers. Since the current study found no significant differences

between the groups in the proportion of adult initiations in the playground, this suggests that it is the disabled students themselves who seek out and initiate interactions with adults in the playground.

A number of alternative explanations for this behaviour can be suggested. Gresham (1982) believed that disabled students were socially rejected and excluded from interactions with their regular class peers because of their anti-social behaviour and lack of social interactional skills. However the results of this study show that the frequencies of negative interactional behaviour in classroom and playground settings were low and did not differ across the groups of students. Also, no significant difference was found between disabled and non-disabled students in their child/peer initiation patterns, (factor3), evidence which appears to contradict Gresham's (1982) thesis.

While the disabled students did not engage in more disruptive or negative behaviour then their non-disabled peers, they may have been viewed by their peers as cognitively less competent and therefore less desirable as playmates. Disabled students were observed to engage in less on task behaviour and more quiet, off task behaviour than their non-disabled peers. While these behaviours did not appear to be associated with differences in adult attention between the two groups in the classroom they may have been noticed by other class members. The integrated disabled students could be perceived by their peers as unable to meet the cognitive demands of the games played outside in the playground.

An alternative explanation is that the disabled students choose to engage in more solitary play and interaction with

adults in the playground. This may be seen as a less threatening option then attempting to join already established groups. The majority of disabled students in this study were not full time members of their regular classes and often had joined the class within the last one to two years. Hence they had not had the advantage of mixing with the same peers consistently all day from the beginning of their school careers. This behaviour could be viewed as similar to that of non-handicapped students who are new to a class or school. This alternative looks not only at the strengths and weaknesses of the individual disabled or non-disabled child for an explanation of low levels of social acceptance, but also considers the system into which they are placed.

Finally, a note of caution needs to be addressed regarding the initiation categories. The frequencies of occurrence of these six behaviours were low in both groups of students compared to those of other categories investigated. The use of factor scores to summarize the data improved the stability of these ratings. However categories such as successful play initiations from an adult should be interpreted conservatively. Further research focusing exclusively on finer aspects of social interaction patterns in the classroom and playground is needed to determine whether more subtle differences exist between mildly disabled and non-disabled students.

In conclusion, one of the major aims of integration is to provide disabled students with opportunities for interaction with and social acceptance by non-disabled students. The present data suggests that integration is achieving this aim. The disabled students did not engage in any more disruptive or negative

behaviour then did non-disabled students. They were shown to be interacting with peers in the playground approximately 50 percent of the time sampled and their patterns of initiation and response with peers did not differ from that of the non-disabled group. However, differences in behaviour patterns were observed particularly in regard to the peer interactions in the playground and attending behaviour in the classroom. It is important that both these areas receive specific attention.

The results of the current study suggest that disabled students interacted less with peers and more with adults then the non-disabled students. An explanation which considers only the strengths and weakness' of the individual child could suggest that the mildly disabled students need coaching in the area of social skills, (Gresham, 1982; Gresham & Elliott 1987). To promote generalization, the integrated setting is the logical place in which to learn and practice these social skills. However, aspects of the regular classroom/school environment can also be modified to promote more interaction and acceptance across groups.

Attending behaviour also needs to be addressed. Because of their learning difficulties, mildly disabled students need to spend more time "on task" to maintain and improve their academic performances. If this can be achieved through changes in classroom organization and alternative instructional strategies which allow for more individual difference, disabled students will be perceived by their peers as being better able to cope with the demands of the integrated classroom. Structured opportunities for successful interaction between disabled and non-disabled students could lead to better interaction patterns

in the playground. Also the manner in which regular class students are prepared for the integration of disabled students is important. If the disabled student is viewed as a "new" classmate rather then a "different" classmate many of the behaviours displayed might be perceived differently.

The results of this investigation therefore support Gottlieb's (1981) suggestion that it is not sufficient to provide contact between disabled and non-disabled students to build inter-group social interaction. If inter-group social interaction is to be an aim of integration programmes it should be carefully planned and all influential factors investigated. It is not sufficient to train the disabled student while ignoring other aspects of the system, such as the teacher and regular class peers.

References

Anastasi, A. (1976). Psychological Testing, 4th edition. New York: MacMillan.

Asher, S.R: & Hymel, S. (1981). Children's social competence in peer relationships: Sociometric and behavioural assessment. In D.J. Wine & M.D. Smye (eds), Social Competence (pp. 125-157). New York: Guilford Press.

Asher, S.R., Oden, S.L. & Gottman, J.M. (1977). Childrens' friendships in school settings. In L.G. Katz (ed.), Current Topics in Early Childhood Education. New Jersey: Ablex

Dixon, W.J. (1981). BMDP Statistical Software. Berkley: University of California Press.

Dodge, K.A. (1983). Behavioural antecedents of peer social status. Child Development, 54, 1386-1399.

Espiner, D., Wilton, K. & Glynn, T. (1985). Social interaction and acceptance of mildly retarded children in a mainstream special education setting. Australasian Journal of Special Education, 9, 8-15.

Forness, S.R. & Esveldt, K.C. (1975). Classroom observation of Children with learning and behavioural problems. Journal of Learning Disabilities, 8, 49-52.

Gampel, D.H., Gottlieb, J. & Harrison, R.H. (1974). Comparison of Classroom behaviour of special class EMR, integrated EMR, low IQ and non-retarded children. American Journal of Mental Deficiency, 79, 16-21.

Gottlieb, J. (1981). Mainstreaming: Fulfilling the promise? American Journal of Mental Deficiency, 86, 115-126.

Gottlieb, J., Gampel, D.H. & Budoff, M. (1975). Classroom behaviour of retarded children before and after integration into regular classes. Journal of Educational Psychology, 73, 307-315.

Gottlieb, J., Semmel, M.I. & Veldman, D.J. (1978). Correlates of social status among mainstreamed mentally retarded children Journal of Educational Psychology, 76, 396-405.

Gresham, F.M. (1982). Misguided mainstreaming: The case for social skills training with handicapped children. Exceptional Children, 48, 422-433.

Gresham, F.M. & Elliott, S.N. (1987). The relationship between adaptive behaviour and social skills: Issues in definition and assessment. The Journal of Special Education, 21, 167-181.

Grossman, H.J. (1983). Classification in Mental Retardation. American Association on Mental Deficiency: Washington D.C.

Herink, N. & Lee, P.C. (1985). Patterns of social interaction of mainstreamed pre-school children: Hopeful news from the field. The Exceptional Child, 32, 191-199.

Hudson, A. & Clunies-Ross, G. (1984). A study of the integration of children with intellectual handicaps into regular schools Australian and New Zealand Journal of Developmental Disabilities, 10, 165-177.

Kaufman, M., Agard, J.A. & Semmel, M.I. (1985). Mainstreaming: Learners and Their Environments. Cambridge, MA: Brookline.

Ollendick, T.H. (1981). Assessment of social interaction skills in school children. Behavioural Counselling Quarterly, 1, 227-243.

Pipe, M., Redman, S. & White, K. G. (1983). Social interactions of retarded children: Generalizations from mainstream to special school. The Exceptional Child, 30, 15-22.

Thorndike, R.M. (1978). Correlational Procedures for Research. New York: Gardner Press.

Author Notes

The research reported in this article was supported in part by a grant from the Apex Foundation for Research into Mental Retardation.

We are indebted to the Western Australian Ministry of Education for providing permission to conduct this research in State Government schools and we thank the principals and school staff for their cooperation

We gratefully acknowledge Dan Milech and Steve Zubrick for their assistance with advice on statistical analysis procedures.

Requests for reprints should be sent to Clare Roberts at the Clinical Psychology Unit, Department of Psychology, The University of Western Australia, Nedlands, Western Australia, 6009.

Table 1

Sex, Mean IQ, and Average Percentage of Time Integrated for Different Categories of Mildly Disabled Students

Group	Males	Females	IQ		Proportion of Week Integrated	
			Mean	Range	Mean	Range
Moderate Intellectual Disability	3	0	51	47 - 55	52%	39 - 66%
Mild Intellectual Disability	21	13	65	56 - 75	55%	24 - 100%
Borderline Intellectual Functioning	45	13	79	76 - 85	58%	33 - 100%

Table 2

Mean Age and Number of Disabled and Non-disabled Students Categorised by Grade Level

Grade	Disabled		Non-disabled	
	N	Mean Age	N	Mean Age
3	10	9.43	10	8.70
4	21	9.57	21	9.34
5	24	10.81	24	10.47
6	23	11.68	23	11.34
7	19	12.62	19	12.21

Table 3

The Percentage of Classroom Observational Entries for Different Lesson Types.

Classroom Lesson	Percentage of Total Observations
Reading	23.59
Spelling	0.88
Language Arts	27.29
Mathematics	7.04
Science	5.26
Social Studies/Health	18.84
Art	8.98
Music/Drama	3.17
Other Non-Academic Activities	3.17
Unspecified	1.88

Table 4

Variables with Factor Loadings above .40 on Varimax Rotation of Classroom and Playground Behaviours

Behaviour Category	Factors							
	1	2	3	4	5	6	7	8
Interactional Play	.84							
Parallel Play	-.82							
Positive Peer Play Interactions	.65							
On Task Behaviour		.95						
Off Task - Quiet Behaviour		-.86						
Successful Child Play Initiations			-.73					
Successful Play Initiations from Peer			.66					
Successful Class Initiations from Peer			.55					
Positive Adult Class Interactions				.81				
Positive Peer Class Interactions				-.76				
Successful Child Class Initiations					.80			
Successful Class Initiations from an Adult					-.73			
Positive Adult Play Interactions						.82		
Class Disruptive Behaviour						.43		
Successful Play Initiations from an Adult							.75	
Solitary Play							-.51	
Onlooker Behaviour								.89

Table 5

Means and Standard Deviations for Factor Scores and Individual Behaviour Categories in the Classroom and Playground

Behaviour Category	Student Type			
	Disabled		Non-Disabled	
	Mean	SD	Mean	SD
Peer Play Interaction*	.405	.148	.455	.142
Class" On Task"*	.228	.139	.316	.107
Child/Peer Initiations	.003	.209	.034	.219
+ Class Interactions	.179	.234	.235	.229
Child/Adult Class Initiations	.062	.266	.079	.291
Class Disruptive Behaviour	.034	.049	.042	.057
Solitary Play*	.176	.141	.091	.101
Onlooker Behaviour	.080	.075	.066	.077
+ Adult Play Interaction*	.028	.059	.013	.016
Successful Adult Play Initiations	.047	.152	.016	.081

Note: N = 95 in all cases.
* significant at $p < .05$.

Figure Captions

Figure 1 Mean percentage of observation intervals for different categories of attending behaviour

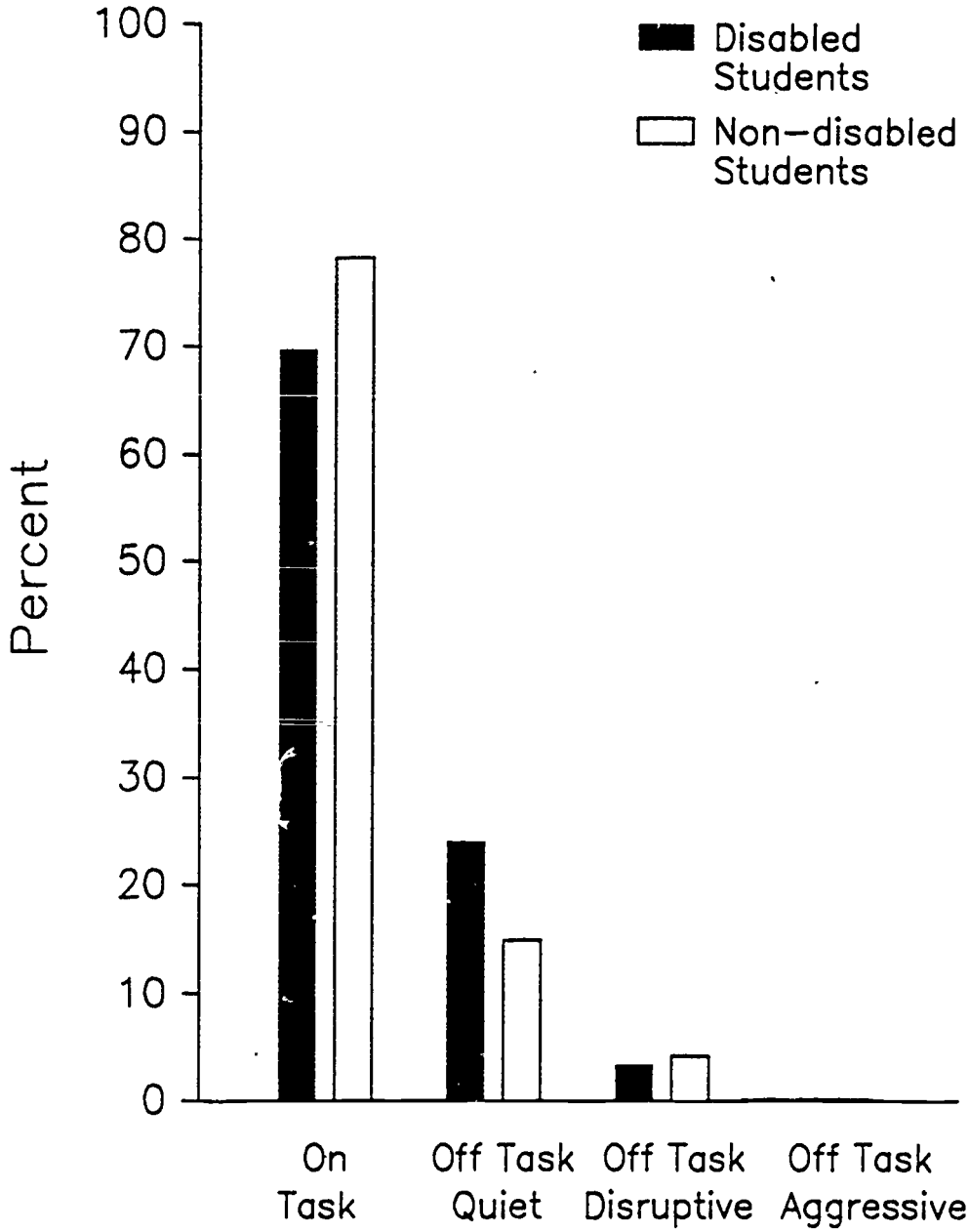
Figure 2 Mean percentage of observation intervals for different categories of playground behaviour

Figure 3 Mean percentage of positive and negative, adult and peer interactions

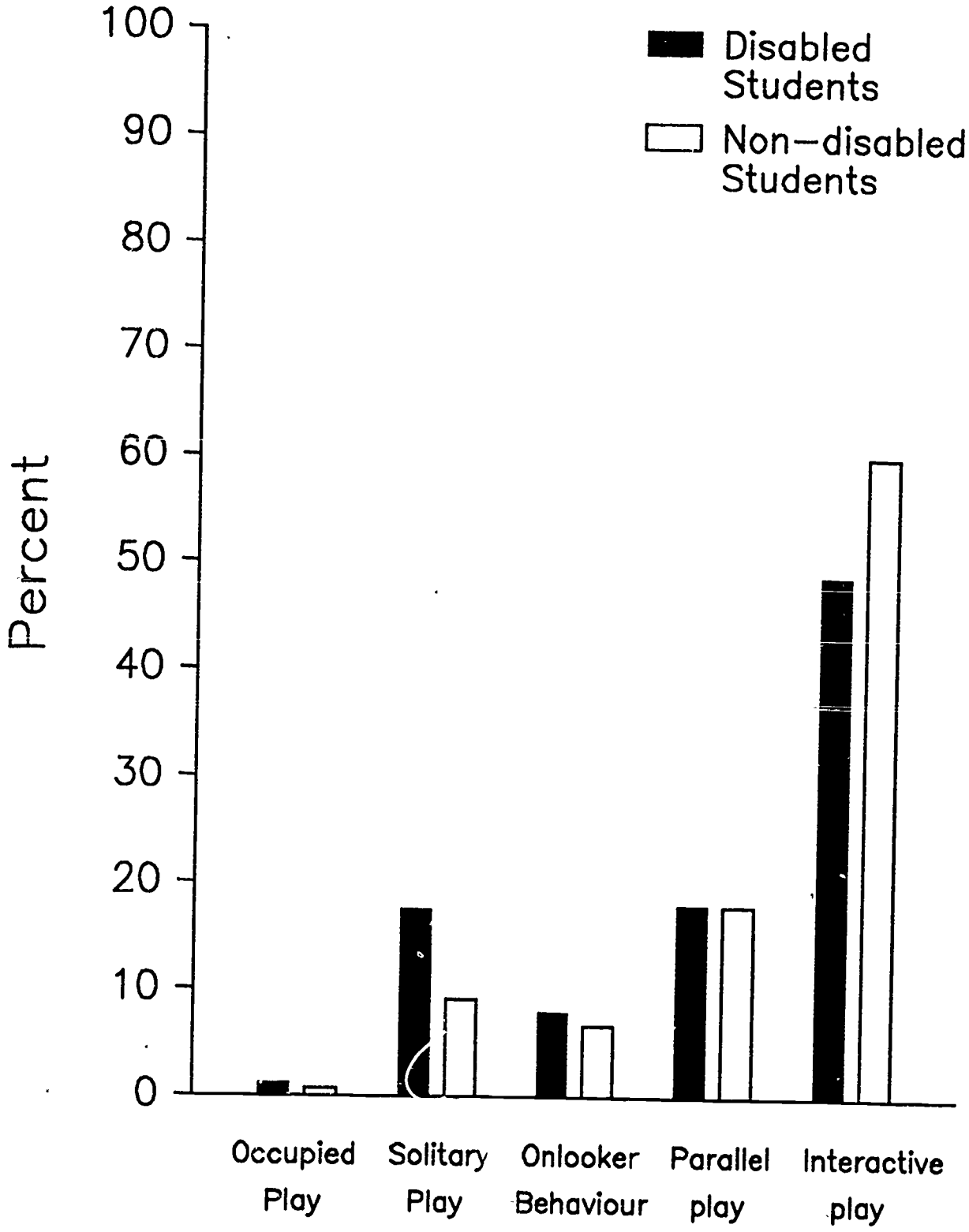
Figure 4 Mean percentage of observation intervals for child initiated interactions

Figure 5 Mean percentage of observation intervals for adult and peer initiated interactions

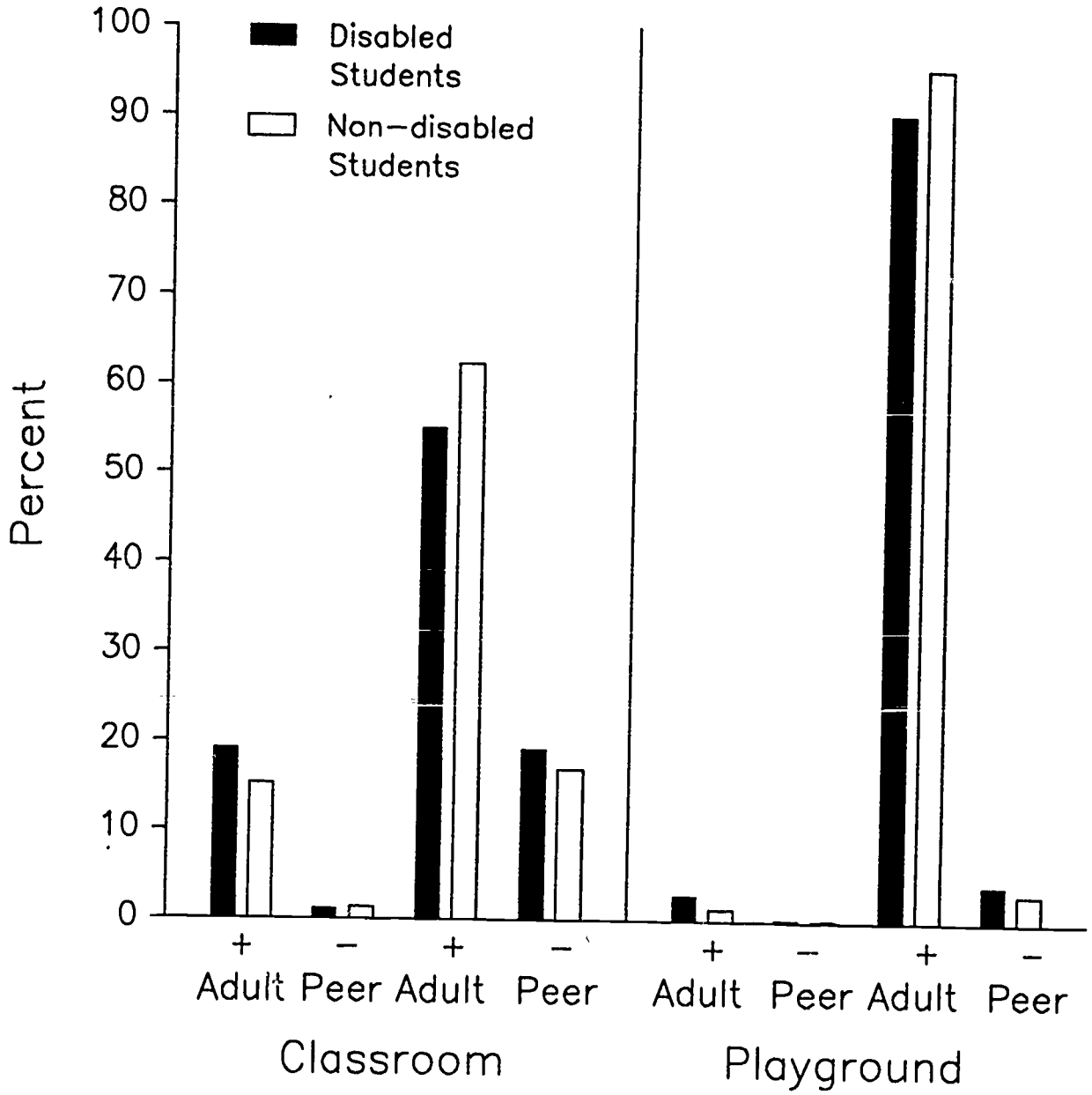
Mean Percentage of Observation Intervals
for Different Categories of Attending Behaviour

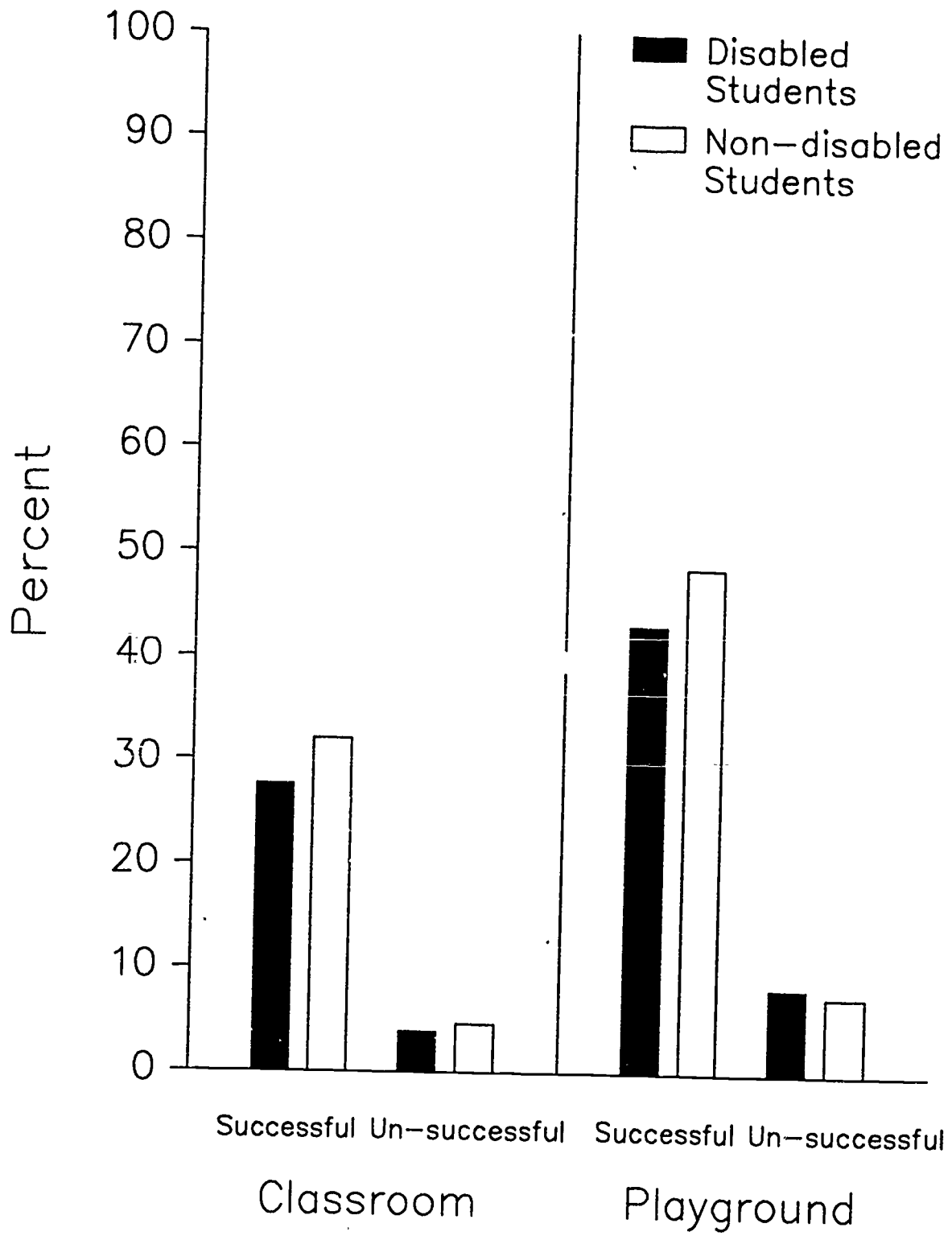


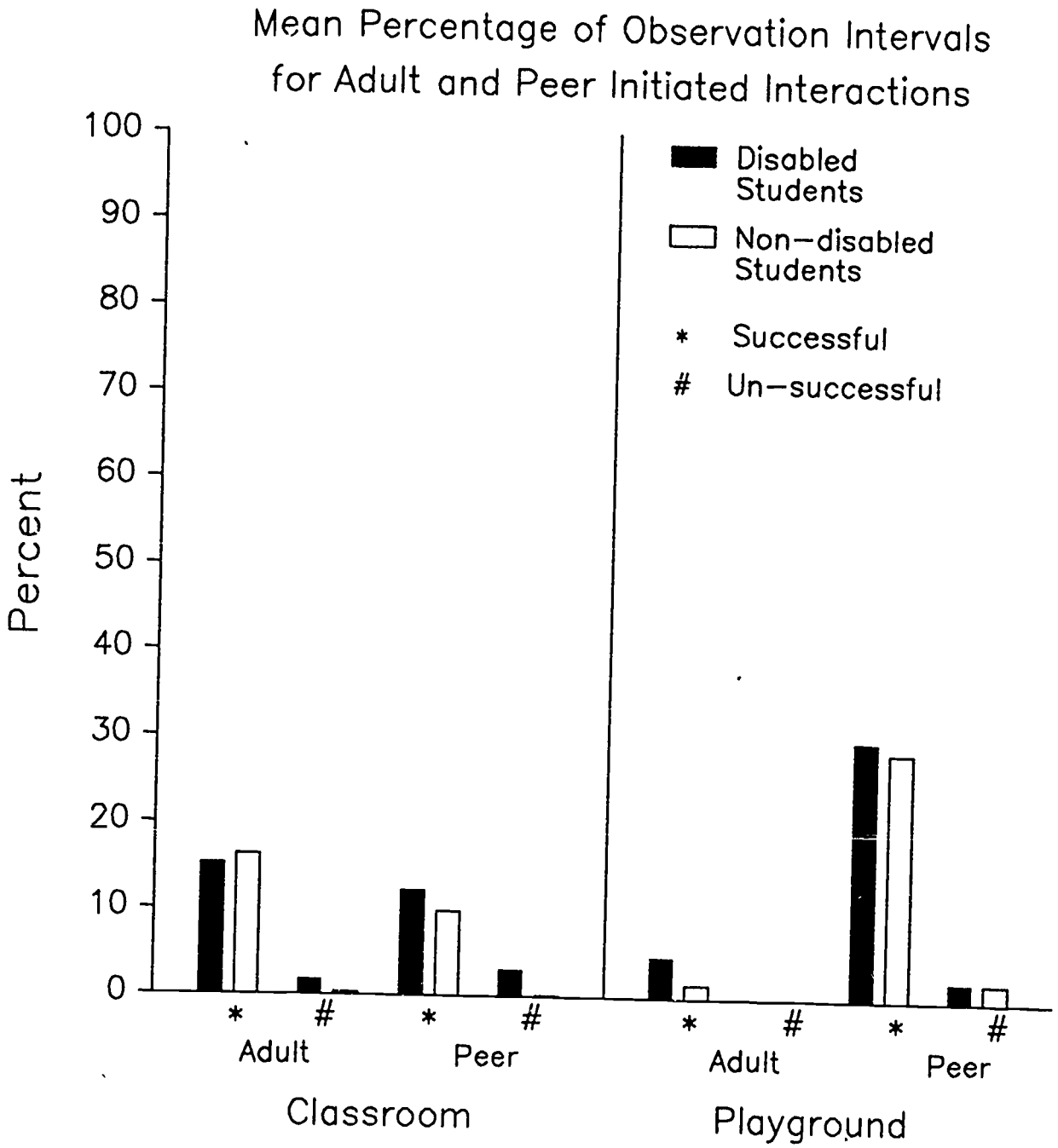
Mean Percentage of Observation Intervals for Different Categories of Playground Behaviour



Mean Percentage of Positive and Negative, Adult and Peer Interactions.




Mean Percentage of Observation Intervals for Child Initiated Interactions
Percent
100
90
80
70
60
50
40
30
20
10
0
Disabled Students
Non-disabled Students
Successful
Un-successful
Successful
Un-successful
Classroom
Playground


Mean Percentage of Observation Intervals
for Adult and Peer Initiated Interactions
Percent
100
90
80
70
60
50
40
30
20
10
0
Disabled Students
Non-disabled Students
* Successful
# Un-successful
* # * # * # * #
Adult Peer Adult Peer
Classroom
Playground