5.2.2 PROCEDURE

In December 1989, class teachers were requested to rank all their pupils according to their (the teachers') perception of the pupils' general academic ability during a meeting with the researcher. Teachers completed the ranking of their pupils on prepared lists which contained only the names of their pupils in alphabetical order. The ranking procedure was completed within 15 minutes, without reference to any records of pupil performance. The teachers were unaware of the purpose behind the request and the lists depicting the rankings were collected on completion. The teachers did thus not have a copy of their ranking. It must be noted that the total population of pupils (842), and not just a sample, was ranked.

In June 1990, teachers were trained in the use of the RRS. Training emphasized that the RRS should not be completed at one sitting but that teachers should observe the pupils closely over a period of time. The importance of creating an environment wherein the behaviours sampled by the RRS would be most likely to occur was also stressed. Each teacher was then requested to apply the RRS to the 5 pupils in his/her class that constituted those selected at random to form part of the sample. The researcher ensured that each pupil in the sample was not placed in a class of the teacher who had taught him/her in 1989, thus ensuring that the ranking of pupils (in 1989) and the administration of the RRS (in 1990) was not done by the same teacher.

5.2.3 EXPERIMENTAL DESIGN

A correlation between the ranks allocated to the Study group pupils and their scores on the RRS was calculated. Pearson's Product Moment Correlation Coefficient was used in the statistical analysis as the data was of equal-interval scale values.

A comparison between each category of RRS scores of the Pilot group and those of the Study group was undertaken by means of a "t" Test for Two Means for Independent Samples.

5.3 RESULTS

5.3.1 PARAMETERS

Lewin (1979 - pg 374), provides the following table of critical values of correlations that indicate statistical significance.

TABLE 4

SAMPLE SIZE AND CRITICAL VALUES OF CORRELATIONS NEEDED FOR STATISTICAL SIGNIFICANCE.

SAMPLE SIZE	LEVELS OF CONFIDENCE	
	.01	.05
10	.76	.63
15	.64	.51
20	.56	.44
30	.44	.34
50	.35	.27
80	.28	.21
100	.25	.19

The sample sizes for this research were 37 for the pilot group and 140 for the study group respectively.

It was decided to employ a .01 level of confidence. Thus for a sample size of 37 a correlation of .44 or more would have to be found for any kind of statistical significance to be inferred. For the large sample of 140 a correlation of .25 or more was required.

Correlations between the Teachers' ranking and scores on each component of the RRS are presented in Table 5.

TABLE 5

CORRELATIONS BETWEEN TEACHER RANKING AND SCORES ON EACH COMPONENT OF THE RENZULLI SCALE

	INT	CRE	TAS	TOT
TEACHERS' RANKING	.70	.71	.70	.74

SAMPLE SIZE = 140
LEVEL OF CONFIDENCE = .001

5.3.2 ANALYSIS OF CORRELATIONS IN TABLE 5

An analysis of the correlations obtained show that highly significant correlations (.70 to .74) between Teacher Ranking and scores on each facet of the RRS was found.

Table 6 reflects the average scores obtained by the Pilot and Study groups respectively, on each category of the RRS. The Pilot group was constituted of pupils who had been identified as gifted on the basis of academic achievement. The Study group was constituted

by a random sampling method. As the Study group was drawn from a different population no Pilot group pupils were included in the Study group.

A comparison between the groups was undertaken to ascertain if the group identified by the teachers as gifted was in fact significantly differentiated on the RRS from the group constituted through a random sample. This test of differentiation was a further measure of the effectiveness of teacher nomination as a means of identification.

TABLE 6

AVERAGE SCORES OF THE PILOT AND THE STUDY GROUPS OBTAINED ON EACH CATEGORY OF THE RENZULLI SCALE

	ACTUAL SCORES				PERCENTAGES			
GROUP	INT	CRE	TAS	TOT	INT	CRE	TAS	TOT
PILOT	31	29	22	82	78%	73%	69%	73%
STUDY	20	20	16	56	50%	50%	47%	50%

The results of the "t" Test for Two Independent Samples was found to be statistically significant at Alpha = .01, indicating that the Pilot group had significantly higher scores on average than the Study group. (See appendix 2 for statistical data).

This establishes the relative validity and accuracy of teacher nomination. The sample of "gifted" pupils had very high average scores on the RRS (69% to 78%). These findings support the assertion made by Denton and Postlethwaite (1983), that teachers make significantly accurate selections of pupils in the above average range. The average scores of the study group ranged from 47% to 50% - which is indicative of a normal distribution expected of such a group.

6. DISCUSSION

6.1 INTERPRETATION OF FINDINGS

The definition of giftedness adopted in this study was that of Renzulli, namely it viewed giftedness as consisting of an interaction of above average intelligence, high levels of creativity and task commitment. The highly significant correlations between teacher rankings and scores on the RRS ($r = .70$ to $.74$; $p < .001$) indicates that teacher nominations reflect reliable and accurate predictions along all categories of the RRS.

However, Fatouros (1986), Renzulli and Smith (1977), and Jacobs (1971) caution against the complete reliance on teacher nomination / selection, as elements of racial, sexual and other bias impact on their decisions. Although there were strong correlations, a limitation is that it still indicates a level of inconsistency of about 30%. Circumspection is thus necessary when using teacher nominations as a selection tool.

The RRS uses a 4 point rating scale per item. The rating key is as follows: 1 = You have seldom or never observed this characteristic; 2 = you have observed this characteristic occasionally; 3 = you have observed this characteristic to a considerable degree and 4 = you have observed this characteristic almost all of the time. From these descriptions it would appear that a rating of 3 indicates above-average ability and a rating of 4 reflects superior ability. There are 28 items on the RRS; the minimum score possible is 28, and the maximum 112. If a pupil receives a rating of 3 on each item his/her total score

would be 84. Thus, total raw scores of 84 and above could indicate above-average ability. This suggests that a score of 84 could be used as a "cut-off" point to ratify nominations made by teachers. The RRS could serve as a counter check on selections thus avoiding the complete reliance on teacher nominations as an identification method.

The question arises that if the RRS is a valid and reliable instrument, why should teacher nomination be used at all. If teacher nomination was not used then the RRS would have to be administered to all pupils - thus invalidating the search for a time conserving means of identification. If teacher nomination could serve as a screening device and the RRS as a counter check a time conserving, cost effective and efficient identification procedure could result.

Based on the suggestions by Renzulli & Smith (1977), Hagen (1980), Fatouros (1985) and Skuy et al (1990) that an "inclusive" rather than an "exclusive" approach should be used in the identification of gifted pupils, it was important to establish whether teachers in their assessment would take an approach that would be more inclusive as measured against the criteria suggested by the RRS. The findings of this study showed that teachers did take a broad, inclusive approach.

The inclusive approach increases the likelihood of more pupils being selected in terms of the operational definition of giftedness adopted by the study. Teacher ratings stem from prolonged interaction with pupils, whereas the psychometric approach invariably depends on a "one-off" performance on a standardised test. The prolonged interaction allows a teacher to formulate a perspective of the pupils that is dynamic and that

takes due cognisance of the impact of maturation, experience and learning on pupils' ability and performance. Thus more pupils will be allowed into the programme than would have been the case if a traditional method had been used.

6.2 IMPLICATIONS OF STUDY IN THE SOUTH AFRICAN CONTEXT

Ross (1977) postulated that teachers' perceptions of pupil ability had a profound effect on the manner in which they approached pupils. He concluded that low perceptions by the teacher usually led to low performances by the pupils - conversely, high perceptions usually led to high performances. He also stated that prediction often influences the outcome of what one is predicting.

The "self fulfilling prophecy" alluded to here could serve to benefit pupils. If teachers have a high regard for a specific manifested ability of a child they would tend to be more encouraging of the child generally. This could exert a positive influence on the child's perception of himself/herself thereby creating the motivation and context for a higher performance in other areas of endeavour. Furthermore, pupils who would not be classified "gifted" using psychometric criteria, could also be selected for gifted programmes, thus widening the net. However, there is a limitation in that whilst it is a positive self fulfilling prophesy for some pupils it may be a negative one for others. Performance on the actual programme would determine whether a pupil remains in the programme, thus nullifying the incorrect perceptions teachers may have had and minimising the effect of too high expectations from pupils.

This has significant implications for education in South Africa. Teachers should be encouraged to have an open, positive, encouraging attitude towards all pupils. An awareness of this is important for teacher training in that programmes should ensure that the creative potential of all children is emphasised and that opportunities should be created for all children to fulfil their potential.

Currently, most education departments in the country place a heavy reliance on traditional methods of identification - thus adversely affecting the selection of culturally disadvantaged pupils. Tests used have not been standardised for the majority of pupils and these pupils tend to obtain lower scores on such measures as would otherwise have been the case (Baldwin, 1987). A movement away from the traditional approach (especially one based on tests with suspect validity) would benefit the majority of pupils. A non formal, dynamic identification procedure would be more relevant and more valid. Such a procedure would also not "blame the victims" of a poor education system for their lack of manifest ability.

The procedure also makes optimum use of the available skills and human resources available. The need for highly trained psychologists/psychometrists as identification agents is lessened. Instead, such highly qualified people could serve as consultants, monitors, and facilitators of the process, thus making their skills accessible to a wider section of the community.

Most education departments have not embarked on programmes for gifted pupils in the junior primary phase because of a lack of manpower and funds. These

are crucial, formative years for pupils (Fatouros, 1980) and enrichment programmes at this stage will help to develop their potential to a significant degree and help to prevent underachievement. Whilst a cost-effective method of identification will help in reducing the financial and manpower constraints on the education budgets it would not solve the problem of a lack of funds for the provision of programmes. The identification procedure adopted by this study could be accommodated within the existing budgets of most education departments. The high correlations obtained makes teacher nomination a viable approach in general and more so in the South African context.

The inclusion of teachers as major agents in the identification process also affirms the skills, status and competence of teachers. At a time when the morale of teachers is low the broad effects of such affirmation should not be underestimated.

7. CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

From the analysis of the data it can be concluded that teacher nomination is a valid, effective and viable alternative method of selecting pupils for inclusion in programmes for gifted pupils. However, it might be prudent not to rely completely on teacher nomination. Teacher nomination could be used as a first screening i.e. applied universally. The RRS (using the cut off score of 84 suggested earlier) could then be used to differentiate those pupils that have been chosen by the teacher rather than be administered universally.

The study established the reliability and concurrent validity of teacher nominations but a limitation was the lack of a criterion against which the predictive validity of teacher nominations could be assessed. A future study of the performance of the pupils on the programme could indicate whether their selection, based on teacher nomination, was appropriate. Thus, actual performance on the programme is a potential criterion by which the validity of the identification procedure could be judged (Carter & Hamilton, 1985 - pg 6). Performance of these pupils in the regular school programme could give indications about the beneficial (or otherwise) effect of the enrichment programme.

Education in South Africa is currently organised under apartheid legislation which segregates pupils along racial lines. The advent of racially integrated schools has significant implications for the selection procedure used in this study. While academic achievement was found to be a valid criterion for inclusion of pupils in special programmes within segregated schools its validity would be questionable in integrated schools where different standards and levels of academic performance co-exist in different

segments of the community. In integrated schools the effectiveness of teacher nomination would be challenged because there would be a need for teachers to take cognisance of potential, of creativity and of more divergent kinds of approaches. The fact that teacher nomination correlates so highly with the different categories of the RRS, suggests that it could be used in integrated, non-biased selection. Skuy (1988) found that most disadvantaged gifted children obtained below average IQ scores on standardized tests, thus questioning the validity and reliability of standardised measures in an integrated school. Pupils from different academic levels, socio-economic status and cultural background may present with low performance in a narrow academic sense. It is therefore vitally important that teachers and programmes adopt an orientation that focuses on potential and individualisation rather than on performance per se. Such an orientation could ensure that disadvantaged gifted pupils are less likely to be excluded from programmes.

The viability of including peer and parent involvement in this selection process could also be researched.

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