Project Start ID
(Statewide Arts Talent Identification and Development)
Assessment and Identification Results

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Overview and Summary of Results

Project START ID was a three year project to implement gifted identification and talent development in the arts in two diverse elementary schools. In response to an Ohio state legislature mandate (H.B. 282, 2000) to include the performing and visual arts in the identification of gifted and talented students, Project START ID was designed as a demonstration of best practices and research in the arts and gifted education. The initial goal of the project was to implement yearly talent identification in four art forms in two elementary schools in different regions of the state and conduct research to study the validity and reliability of the assessment processes. The program then established advanced instructional classes for students and professional development for teachers in order to study the effects of talent identification and development on student performance, especially among low-scoring students who would not have been identified using other testing procedures.

The results of Project START ID provide evidence for the validity and reliability of the talent identification process in the four art forms. The students identified through this process were representative of their schools in terms of demographics and academic performance. The inclusion of the arts in identification was thus shown to be a means to increase diversity and equity in programs for the gifted. Equally important, the program established and demonstrated the practical applications of a systematic gifted and talented identification and development program for non-arts magnet schools. In order for schools to adopt such identification processes they must have access to trained personnel to facilitate arts assessment, assistance in organizing

and implementing the assessment schedule and procedures, and in- or out-of-school resources to support advanced instruction for identified students. Project START ID demonstrated how local public/private partnerships could provide the structure for systematic ongoing assessment to occur.

Project START ID offers a unique opportunity for educators and researchers in the fields of gifted and arts education to look at a complete profile of artistic talent across disciplines. No prior studies in the literature have been conducted using the same cohort of students in the four art forms. This research allows us to look at the effects of such assessment on the performance of students and on the practices and attitudes of teachers.

Methods

Project Goals and Objectives

The goals and objectives stated in the grant involved: a) the steps needed to develop the resources to conduct systematic assessment, including training teaching artists and classroom teachers; b) implementation of yearly talent assessment in four art forms, and c) a research study to investigate the effectiveness of the process and the affects of talent identification and development on students and teachers. The specific goals related to identification listed in the grant proposal were:

1) Train facilitators and teacher observers to effectively conduct the assessment process and reliably and accurately identify potential arts talent in their students.
2) Implement twice-yearly artistic talent assessments for all students in grades 2-5 including those in self-contained special education classrooms. Create a model for talent identification and development for use in non arts-magnet schools with limited arts resources.

3) Obtain empirical data on the identification processes to improve the identification of gifted students and to provide schools with the research needed support the inclusion of the arts in gifted and talented programs.

4) Increase demographic diversity in gifted and talented programs.

5) Follow potentially talented students over time in a rigorous, advanced instructional program to study the impact of the program on students and gather evidence on the predictive validity of the process.

6) Investigate the relationship between artistic gifts and talents in the various art forms to help inform instructional strategies and plan appropriate talent development opportunities both in and outside of the classroom.

Program Overview

Project START ID used the identification processes approved for use by the Ohio Department of Education (ODE). In dance, music and theater the Talent Assessment Process in Dance, Music and Theater (D/M/T TAP) (ArtsConnection, 1994;1996; Baum, Owen & Oreck, 1996; Oreck, Baum & Owen 2004) were the only systematic processes approved by ODE. In visual arts two methods, the Clark's Drawing Test (CDT) and a portfolio process developed by ODE's art consultants, were implemented. Artist facilitators and assessors were recruited based on recommendations of arts in education organizations throughout the state and trained in cooperation with the Ohio Arts Council. The identification plan called for all students in grades 2, 3, 4, and 5 and in the two participating schools to be assessed in four arts forms.

Assessment teams were trained to administer the process in each art form. In dance, music, and theater the teams consisted of two instructor/ facilitators (arts specialists and professional teaching artists), a gifted specialist and the classroom teachers of each participating

class. In the visual art portfolio process the teams consisted of 5 professional teaching artists and school arts specialists. The Clark's Drawing Test was administered by the schools' art teachers and scored by the test designers.

Training of Artist Facilitators

Recruitment and Qualifications. Artists were recruited for Project START ID through recommendations from various arts in education organizations from around the state primarily in the areas in which the demonstration sites were located. The general criteria for inclusion in the training process were:

- Experience working in a variety of school settings with elementary school children
- Demonstrated artistic excellence in own art form
- Highly observant of and sensitive to individual students while teaching
- Skilled at communicating with teachers and parents
- Flexible personality, adaptable to a variety of teaching circumstances and unexpected occurrences
- Experience leading professional development workshops for educators
- Can incorporate creative, problem-solving activities into teaching
- Experienced and skilled at team teaching and collaboration
- Able to analyze and adapt own teaching process
- Willing to maintain written lesson plans and logs
- Interested in assessment and curriculum development

Training of facilitators. Potential D/M/T TAP facilitators participated in four days of training in which they familiarized themselves with the criteria and assessment framework, developed their own five-session assessment curriculum and field tested their activities with

students. At the end of the first two days of training, teams of facilitators were selected to conduct the initial identification at the two demonstration sites. After the initial pilot administration in the Spring of 2001, facilitators were certified to administer TAP (Oreck, 2002) and additional training was provided to improve the process in subsequent administrations. Visual art portfolio assessors participated in two days of training with the developers of the process to learn the criteria, score sample student work and reach consensus on scoring benchmarks.

Training of Classroom Teacher Assessors. Classroom teachers on each grade level involved in D/M/T TAP participated in 1-2 hours of training prior to the first assessment session to learn the criteria and scoring system and to help them prepare their students for the process. Immediately following each assessment session, the three assessors held a 10-minute discussion while the students worked quietly or were escorted to the classroom or library. Each student in the class was mentioned in the discussions. This discussion served to increase the assessors' awareness of all the students in the class and was an important part of the on-going training of teachers.

Instruments and Psychometric Evaluation

D/M/T TAP. Each assessor completed a checklist of observed behaviors (Observation Tally Sheet) for each session. When an observer noticed one of the listed behaviors, a plus mark (+) was placed next to the relevant item in the student's box on the Observation Tally Sheet. In dance and music, one plus mark per rater for each item was counted toward the student's final item score for a session. In theater, which has only four items, two marks per rater per item were counted. The maximum score is the number of items marked by each of the three raters. Marks could not to be erased and negative marks were not scored. Additionally, each observer provided

an overall, holistic rating (1-5) for each session. This overall rating was combined with the item score for a final four-session total. Final scores were standardized by classroom and grade to rank students and to establish cut-off scores for inclusion in the fifth call-back session. Cut-off scores for official gifted and talented designation were set at Z = +2.0 and for selection for advanced instruction Z = .75 - 1.0 depending on the number of spaces available to be filled in the class. In addition to a score of two or greater for the first four assessment sessions, official gifted designation required unanimous scores of 5 from the two assessors in the fifth callback session.

Portfolios. Visual arts portfolios consisted of five distinct pieces of student work in various media along with written student comments on the work. A panel of 5 trained arts education professionals independently scored the portfolio. The scores were then combined averaged to reach a single final score. Students were identified as gifted and talented or selected for advanced instruction based on the scoring cutoffs established by the Ohio Department of Education. Cutoff scores for grades K-4 are 17-21 points for identification and 13-16 points for screening. Cutoff scores for grades 5-12 are 26-30 points for identification and 19-25 points for screening.

Clark's Drawing Test. Clark's Drawing Tests were scored by Dr. Gilbert Clark, developer of the test. The test is scored on a 10 point scale.

Assessment Schedule

The schedule for assessment was designed to provide complete data on four grade levels over the course of the project while giving classroom teachers two experiences in each art form.

Current Grade	Spring 2001	Fall 2001	Spring 2002	Fall 2002
1 – ADMT	Art			
2 – DMTA	Dance	Dance	Music	
3 – MTAD	Music	Music	Theater	Theater
4 – TADM	Theater	Theater	Art	Art
5		Art	Dance	Dance
6				Music

Sample

All students in the participating grade levels including those in self-contained special education classes participated in the D/M/T TAP. Data for 709 students were collected. Fewer students were assessed in visual arts primarily due to changes and health problems among the art teachers which affected the administration schedule for the Clark's test and the students' ability to complete their portfolios for assessment.

Total Numbers of Students Assessed in Each Art Form Dance = 670 / Music = 666 / Theater = 654 / Visual = 396											
4 art forms	3 art forms	2 art forms						1 art form			
DMTV	DMT	MD	MT	TD	VT	VD	VM	D	M	T	V
362	172	36	30	23	8	14	3	63	63	59	9

D=Dance/M=Music/T=Theater/V=Visual Art (combined Clark's and portfolio scores)

Research Questions

1. Are the result of the process reliable? (i.e., Do the assessors agree with each other?Are assessors' observations stable between sessions? Do classroom teachers agree with the arts experts?)
2. Is the process equitable and independent of other measured variables? (i.e., Do students

identified through the process reflect the school population in terms of gender and ethnicity? To what extent are scores from D/M/T TAP and the portfolio and drawing test correlated with other measures of school performance and affective variables?)

3. Are students selected through the process successful in an advanced instructional program?

4. To what extent is artistic talent in the four art forms related? Is talent a generalized construct or art form specific?

Psychometric evaluation

Research question one (reliability) was investigated through intraclass correlation analysis among the three assessors in each D/M/T TAP process and alpha reliability estimates for all raters. Fourth session overall score results were used for analysis. Stability estimates were obtained for each session-to-session pair. Teacher interviews and pre-assessment surveys were used to gauge teacher awareness of talent before and after the process. Research question two (equity and representation) was investigated through chi square analysis of selected and non-selected groups. Research question three (predictive validity) was analyzed using end-of-year individual student evaluations completed by the arts instructors and correlated with initial assessment scores through linear regression analysis. Research question four was investigated through correlational analysis and confirmatory factor analysis.

Overview of Results

Objective 1. Train facilitators and teacher observers to effectively conduct the assessment process and reliably and accurately identify potential arts talent in their students.

- training was conducted for 45 artists recruited from around the state.
- a recruitment and screening process for potential trainees was developed.

- artists were recruited from two regions of the state through local arts organizations and the Ohio Arts Council.
- the 4-day training process was developed and implemented with artists in two regions of the state.
- training materials for artists and teachers were created and distributed.
- 18 artists successfully implemented D/M/T TAP assessments in schools
- 12 artists participated in visual art portfolio assessment

Objective 2. Implement twice-yearly artistic talent assessments for all students in grades 2-5 including those in self-contained special education classrooms. Create a model for talent identification and development for use in non arts-magnet schools with limited arts resources.

- schools were able to organize and schedule assessments for 4 grade levels each semester.
- all students in the target grades, including special education students from mixed grade classrooms, participated in the assessment processes twice each year.
- assessment instruments, forms, and data spreadsheets, were managed and completed at the schools for analysis.
- the process was fine-tuned and improved after the first year to simplify reporting, decrease paperwork and provide more better oversight on scoring and testing procedures.
- complete data for four art forms was collected for four cohorts of students

Objective 3. Obtain empirical data on the identification processes to improve the identification of gifted students and to provide schools with the research needed support the inclusion of the arts in gifted and talented programs.

Research Question 1: Are the result of the process reliable? (i.e., Do the assessors agree with each other?Are assessors' observations stable between sessions? Do classroom teachers agree with the arts experts?)

Highlights:

- Interrater reliability estimates obtained for dance, music and theater assessments through D/M/T TAP, were high (>.8), especially for a multi-person observational assessment process in a complex area such as the arts
- Reliability estimates provide evidence of the teachers' ability to assess artistic talent as the art professionals do. Improved correlations between teachers and artists observations over the four administrations demonstrates learning on the part of classroom teachers about the art forms and the behaviors indicative of talent in their students.
- Increases in interrater estimates over the four administrations reflects improvement in the assessment curriculum and facilitation on the part the artist facilitators and validates the effectiveness of the training and evaluation program for D/M/T TAP administration.

Average 4th Session Alpha Reliability Estimates

	Fall 01	Spring 02	Fall 02
Dance			
JDR	.801	.752	.847
CLE	.847	.919	.828
Theater			
JDR	.885	.910	.892
CLE	.876	.851	.844
Music			
JDR	.724	.934	.873
CLE	.760	.765	.937

Interrater Reliability Results Cleveland Elementary – Fall 01

	Music (*n*=52)			Dance (*n*=49)			Theater (*n*=66)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.647	—		.588	—		.780	---	
C-Teacher	.459	.427	---	.679	.688	—	.679	.660	---

4th session overall rating

Interrater Reliability Results John D. Rockefeller Elementary – Fall 01

	Music (*n*=84)			Dance (*n=78*)			Theater (*n*=63)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.589	—		.516	—		.683	---	
C-Teacher	.393	.410	---	.621	.627	—	.796	.693	---

4th session overall rating

Interrater Reliability Results Cleveland Elementary – Spring 02

	Music (*n*=47)			Dance (*n*=41)			Theater (*n=51*)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.423	—		.778	—		.570	---	
C-Teacher	.631	.509	---	.765	.836	—	.769	.627	---

4th session overall rating

Interrater Reliability Results John D. Rockefeller Elementary – Spring 02

	Music (*n*=78)			Dance (*n=57*)			Theater (*n*=52)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.859	—		.605	—		.800	---	
C-Teacher	.769	.851	---	.536	.375	—	.782	.752	---

4th session overall rating

Interrater Reliability Results Cleveland Elementary – Fall 02

	Music (*n*=44)			Dance (*n=55*)			Theater (*n=52*)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.667	—		.743	—		.684	---	
C-Teacher	.602	.574	---	.670	.598	—	.563	.694	---

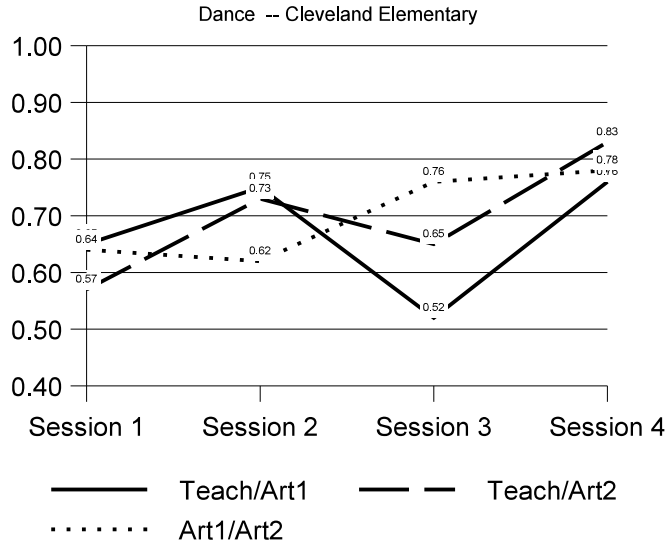
4th session overall rating

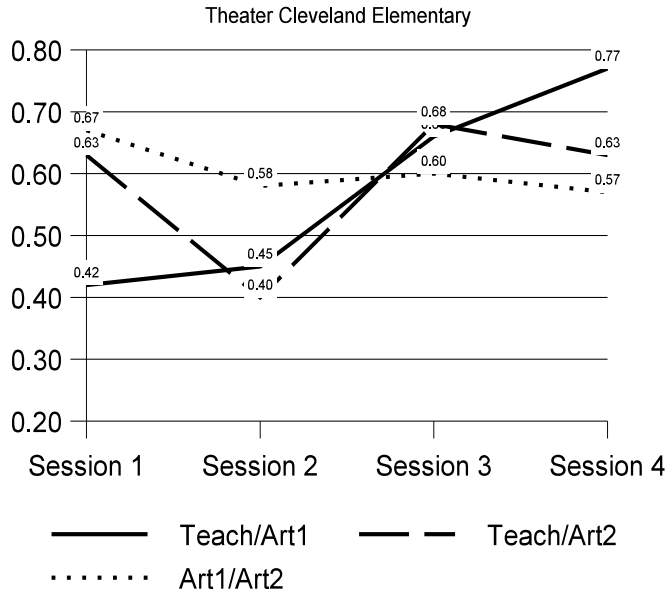
Interrater Reliability Results John D. Rockefeller Elementary – Fall 02

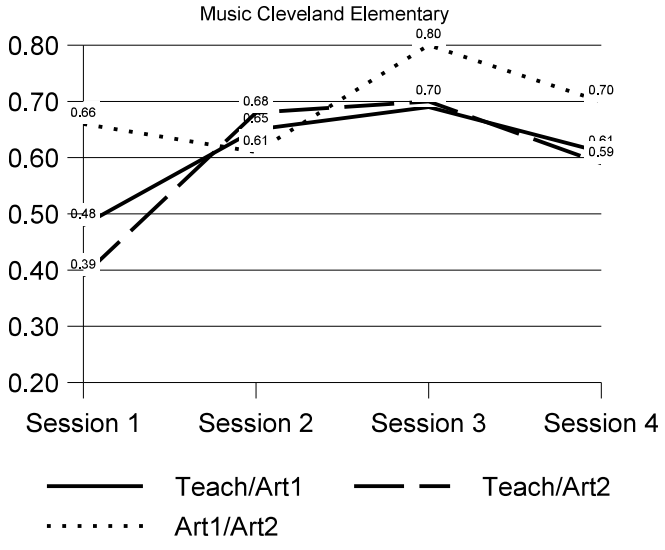
	Music (*n*=40)			Dance (*n=57*)			Theater (*n*=72)		
RATER	*A*	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
A-Artist	---			---			---		
B-Artist	.886	—		.737	—		.848	---	
C-Teacher	.636	.554	---	.586	.633	—	.658	.723	---

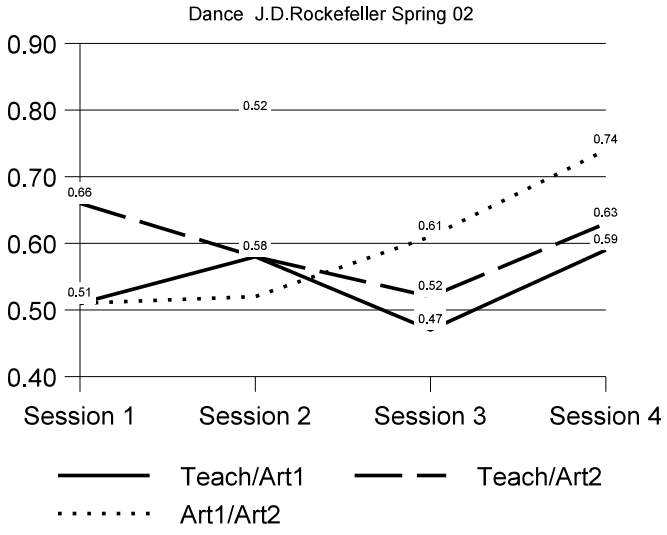
4th session overall rating

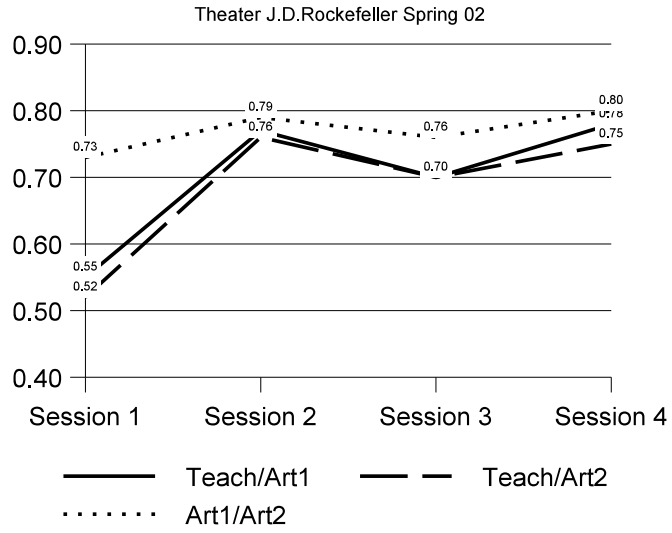
Interrater Reliability Results Fall 02

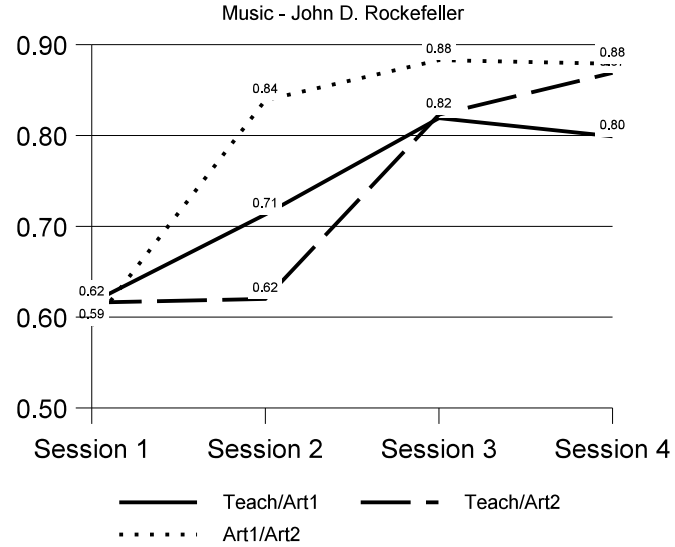







Dance J.D.Rockefeller Spring 02
0.90
0.80
0.70
0.60
0.50
0.40
0.52
0.74
0.66
0.61
0.63
0.58
0.59
0.51
0.52
0.47
Session 1
Session 2
Session 3
Session 4
Teach/Art1
Teach/Art2
Art1/Art2


Theater J.D.Rockefeller Spring 02
0.90
0.80
0.70
0.60
0.50
0.40
0.79
0.80
0.76
0.76
0.73
0.70
0.75
0.55
0.52
Session 1
Session 2
Session 3
Session 4
Teach/Art1
Teach/Art2
Art1/Art2


Music - John D. Rockefeller
0.90
0.80
0.70
0.60
0.50
0.88
0.88
0.84
0.82
0.80
0.71
0.62
0.62
0.59
Session 1
Session 2
Session 3
Session 4
Teach/Art1
Teach/Art2
Art1/Art2

Stability. Stability estimates for the process were calculated over three separate intervals and session-to-session estimates ranged from .35 to .68.

Stability Results for Fall 02 administration

	Music	Dance	Theater
Session 1-2	.539	.663	.480
Session 2-3	.579	.653	.352
Session 3-4	.561	.688	.550

Objective 4. Increase demographic diversity in gifted and talented programs**.**

Research Question 2: Is the process equitable and independent of other measured variables? (i.e., Do students identified through the process reflect the school population in terms of gender and ethnicity? To what extent are scores from D/M/T TAP and the portfolio and drawing test correlated with other measures of school performance and affective variables?)

Summary of Results

Cleveland Elementary – overall for all art forms

Summary	Percent selected vs school population	Chi Sq.	p
A slightly higher percentage of females were identified than the school population	54% females identified 46% in the school	9.14	0.00
The ethnic distribution of the identified group is not statistically different from the school population	83% white 17% African American and Hispanic selected[1] 86.8% white 13.2 African American and Hispanic in the school	2.34	0.13
SES level of the identified group, as indicated through Free or Reduced lunch status, is not statistically different from the school population	30.9% Free and Reduced lunch in selected group 28.9% in the school	0.59	0.52

A higher percentage of identified students attained passing 2003 reading proficiency scores than their grademates as a whole	74% passing in selected group 58.6 in passing tested grades	13.10	0.01
A higher percentage of identified students attained passing 2002 reading proficiency scores than their grademates as a whole	78% passing in selected group 68.1 in passing tested grades	13.70	0.01
A higher percentage of identified students attained passing 2003 math proficiency scores than their grademates as a whole	65.3% passing in selected group 49.7% passing in tested grades	14.80	0.01
There was no statistical difference in the percentages of students attained passing math proficiency scores in 2002 between identified students and their grademates as a whole	62.6% passing in selected group 58.9% passing in tested grades	1.68	0.20

[1] –(groups combined due to low numbers)

John D. Rockefeller Elementary – overall for all art forms

Summary	Percent selected vs school population	Chi Sq.	p
The numbers of boys and girls identified reflected the school population as a whole	48.5% females identified 52.3% in the school	2.31	0.14
The ethnic distribution of the identified group is not statistically different from the school population	School is 99% African American so no statistical comparison can be made	**	**
A higher percentage of students in low SES levels were identified, as indicated through Free or Reduced lunch status, as opposed to the school population[1]	48.8% Free and Reduced lunch in selected group 29.2% in the school	74.32	0.01
A slightly higher percentage of identified students attained passing reading proficiency scores in 2003 than their grademates as a whole	29% passing in selected group 23.5% in passing tested grades	5.80	0.16
There was no statistical difference in the percentages of students attained passing reading proficiency scores in 2002 between identified students and their grademates as a whole	9.8% passing in selected group 8.1% passing in tested grades	0.47	0.49

Summary	Percent selected vs school population	Chi Sq.	p
There was no statistical difference in the percentages of students attained passing math proficiency scores in 2003 between identified students and their grademates as a whole	8.1% passing in selected group 6.1% passing in tested grades	2.20	0.14
There was no statistical difference in the percentages of students attained passing math proficiency scores in 2002 between identified students and their grademates as a whole	4.9% passing in selected group 3.2% passing in tested grades	1.00	0.30

[1] –this result appears to be an anomaly due to reporting or registration errors. Overall low SES level based on informal reporting of parents on public assistance, the location of the school in a HUD empowerment zone and other factors suggest higher overall percentages of students eligible for free or reduced lunch

- It is not surprising that the identified group would contain a higher percentage of students reading above grade level than their grademates. This finding confirms previous studies and supports the relationship of artistic talent to other areas of academic performance. Most importantly, in terms of fairness of the assessment, and increased diversity in gifted and talented programs, students from all academic levels in the school were represented in the identified group.
- Academic test score comparisons in this study are inconclusive due to changes in tests over the grant period, and the inconsistencies involved in comparing scores from pass/fair proficiency tests.

Objective 5: Follow potentially talented students over time in a rigorous, advanced instructional program to study the impact of the program on students and gather evidence on the predictive validity of the process.

Research Question 3: Are students selected through the process successful in an advanced instructional program?

Of the students evaluated, a high percentage received good to excellent reports (77.1% in 2002 and 80.5% in 2003) and were recommended to continue in advanced instruction. Results of the analysis of this question are incomplete, however, due to the high number of initially selected students who did not complete a full year in the advanced instructional program and thus were not assessed. Reasons for missing evaluation data included:

- an unusually high number of students leaving the school during the course of the year (particularly at JDR).
- difficulty in maintaining attendance due to competing school programs, testing, inconsistent school attendance and other factors out of the students' control.
- Missing evaluations by teaching artists for JDR Theater 2002.

End of Year Student Evaluation Scores Completed by Teaching Artists SP 02

	Frequency	Percent	Cumulative Percent
unacceptable	9	6.4	6.4
below average	22	15.6	22.0
good progress	44	31.2	53.2
excellent progress	34	24.1	77.3
superior	32	22.7	100
Total	141	100	

End of Year Student Evaluation Scores Completed by Teaching Artists SP 02

	Frequency	Percent	Cumulative Percent
		4.9	1.2
unacceptable	8	4.9	4.9
below average	22	13.6	18.5
good progress	30	18.5	37
excellent progress	57	35.2	72.2
superior	45	27.8	100
Total	162	100	

Results of the linear regression analysis using initial talent assessment scores to predict performance in the advanced instructional program were inconclusive. Out of the six assessments (dance, music, theater in 2002 and 2003) only two showed significant correlations between TAP scores and evaluations. Dance 2002 ($F = 6.50$, $p = .013$) and Theater 2003 ($F = 4.92$ $p = .03$) were the only significant analyses. Further research will be needed to investigate the issue of predictive validity.

Objective 6. Investigate the relationship between artistic gifts and talents in the various art forms to help inform instructional strategies and plan appropriate talent development opportunities both in and outside of the classroom.

Research Question 4: To what extent is artistic talent in the four art forms related? Is talent a generalized construct or art form specific?

- There is a significant correlation among talent in the four major art forms
    - The most correlated art forms are dance and music (.488) with theater and music (.431) and dance and theater (.381) also significantly correlated.
    - Visual arts is less correlated with the performing arts, with only visual and theater showing a signification correlation (.160).

Correlations between Art Form Scores

		Theater Score	Music Score	Dance Score	Visual Arts score combined
Theater Score	Pearson Correlation	1	.431(**)	.381(**)	.160(*)
	Sig. (2-tailed)	.	.000	.000	.015
	N	516	408	382	232
Music Score	Pearson Correlation	.431(**)	1	.488(**)	.033
	Sig. (2-tailed)	.000	.	.000	.625
	N	408	512	379	215
Dance Score	Pearson Correlation	.381(**)	.488(**)	1	.126
	Sig. (2-tailed)	.000	.000	.	.069
	N	382	379	497	207
Visual Arts score	Pearson Correlation	.160(*)	.033	.126	1
	Sig. (2-tailed)	.015	.625	.069	.
	N	232	215	207	264

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

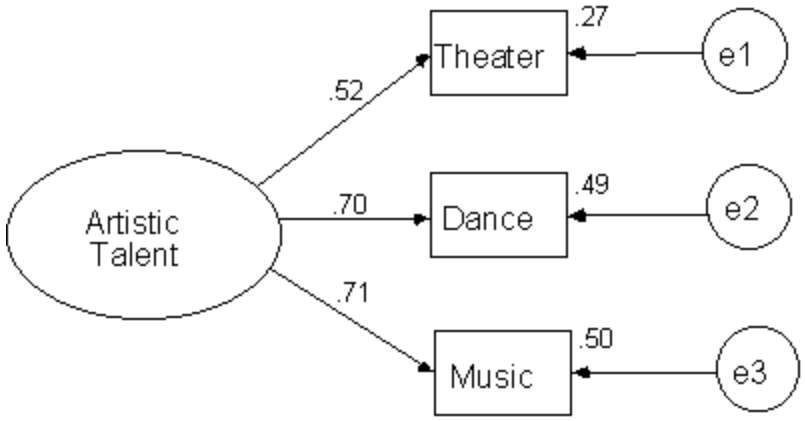
These findings are born out by the large percentage of students selected for advanced instruction in more than one art form

	Dance	**Theater**	**Music**	**Visual Art**
2001-02	75	79	90	25
2002-03	54	66	81	93
Total	129	145	171	118
Identified in multiple art forms	34	48	52	29
% multiple	26	33	30	24

- Overall, performing arts talent forms a very strong single factor in confirmatory factor analysis which looks at the relationship between the individual art forms and a larger construct called artistic talent.

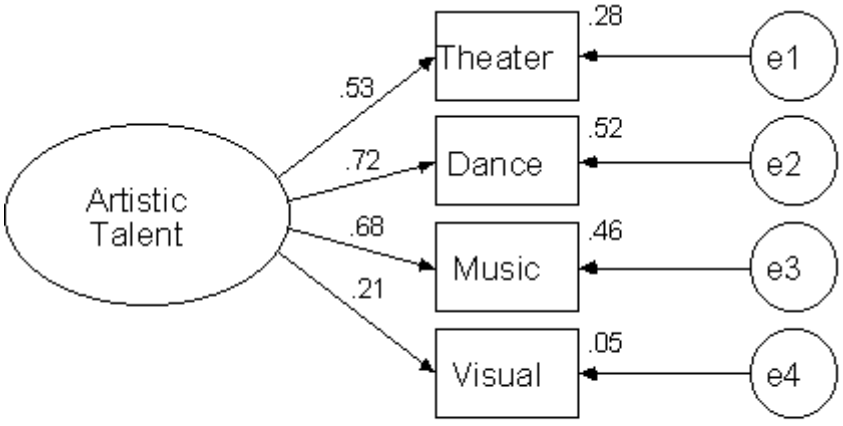
- These results show that the three performing arts form a highly correlated single construct while visual art, though related, is less correlated.

Confirmatory Factor Analysis – Final Model with 3 Talent Indicators



CFI = 1.00, RMSEA = .00

Confirmatory Factor Analysis – Final Model with 4 Talent Indicators



CFI = .97, RMSEA = .062

These findings suggests that artistic abilities form a composite made up of general creative and artistic characteristics and have significant implications for both the identification of talent and classroom instruction.

- For talent identification we can suggest that if a school does not have the resources to assess students in all four art forms they will get significant benefit from doing any of the assessments. We gain unique and valuable information about the students from each separate assessment, but any of the performing arts will foster and make observable a range of general artistic and creative characteristic. While a number of students will be identified in just one art form, the overlap among forms suggests that a) many students are multi-talented and b) the arts forms themselves have a great deal in common.
- For classroom instruction these results support the concept that students can benefit from teachers' inclusion of artistic methods and activities in the curriculum regular curriculum in any art form, regardless of the specific art form in which the students are talented. Potentially talented drama students, for example, are likely to respond positively and be able demonstrate their strengths in movement or music activities in the classroom. This is important in the design and evaluation of arts-infused curricula.

References

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