# EFFECTS OF A DEVELOPMENTAL GUIDANCE PROGRAM ON THE AFFECTIVE-SOCIAL DEVELOPMENT OF THIRD AND FOURTH GRADERS

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In the broadest sense education can be involved in three skill areas--academic, affective, and career. The three areas have not always shared a place on the podia of our educational systems. For too long we chose to emphasize the academic area. The elitest attitudes that became associated with college prep versus "others" and vocational education have been well-documented and endure in many minds today. Nearly a decade ago a thoughtful Commissioner of Education pointed out the error of our ways and provided support to expand and upgrade holistic career education. Recently, we have not had a person in a high place say, "Schools must have affective education programs. We must go beyond the basic relationship skills, go beyond the organization of an affective domain, and beyond developing isolated curricular packages and evaluation models. Indeed, affective education in its most holistic dimensions must be explored, developed implemented, evaluated, and disseminated as a fully-compatable and integrated system within the broadest-sense educational undertaking. Furthermore, we are going to fund this undertaking". Should such an announcement ever occur, then affective, career, and academic education will share a place on the podia of our educational systems.

For the present we shall have to apply our "phantom commissioner's" advice and urging in pilot programs, in state-sponsored demonstration projects, and in unique, forward thinking school districts. We can do much of our "commissioner's"

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urgings in highly motivated schools or uniquely committed districts or educational regions. The developmental guidance program in the Stuttgart elementary schools is a great leap forward for affective-social education.

The purpose of this paper is to present a report on the effects of the Stuttgart School District's developmental guidance services. The report will describe the children, the measurements, and the results. Later we shall attempt to integrate these findings with developments in affective-social education.

## METHOD

Students. More than 238 boys and girls provided data for this report. Many of these students were present for the May, 1975, assessment and subsequently "gone" for the May, 1976 data collection. Other students were enrolled elsewhere in May, 1975, but were "new" for the May, 1976 assessment. Still other students who were enrolled for both assessments (May, 1975, and May, 1976) managed to be absent. As a result of this normal gain and loss situation we used data from second graders who became third graders and from third graders who became fourth graders. Of the 238 complete sets, 58 boys and 47 girls were enrolled in the developmental experimental school (Buerkle) and 74 boys and 59 girls were enrolled in the traditional school (Julia Shannon).

Measurement. The pre and post program affective education data were collected in May, 1975, and in May, 1976. The primary affective measure was the Barclay Classroom Climate Inventory (BCCI).

The BCCI is a multi-trait, multi-source instrument which consists of three major subsections: (1) self-report, (2) peer-nominations, and (3) teacher-ratings. The Inventory is appropriate for grades three through six and

requires about 75 minutes for an entire class administration. In the self-report section the student responds with "yes" or "no" to 24 questions about self-competency (e.g., "I can run fast" and "I like to read books"), 16 items on attitude toward school (e.g., "I like to study at home" and "I like to study science"), 72 items which relate to Holland's theory of vocational development, and 52 questions about potential reinforcers (e.g., "I like to watch drag races" and "I like to spend the night with my friend"). For the peer nomination section each student in the classroom responds to 28 items (e.g., "who uses big words" and "who is good in music?"). No questions are stated in the negative. The teacher completed for each child a 63-adjective rating form on which only the appropriate adjectives are checked. These data provide 36 scale scores and six factor scores. Of these 42 scores only 15 (overall self-competency, seven group interaction, four career development, two teacher ratings, and one attitude toward school) scale scores were used for this analysis.

Data from these three sources--self, peers, and teacher--were scored and merged by a computer for the BCCI report. Each child was described in a narrative highlighting strengths and weaknesses in each of the three areas, located on a self-competency versus peer-nomination grid, and assessed for "suggested problem areas".

The reliability and validity of the BCCI scales have been reported elsewhere for more than 7,000 cases (Barclay, Barclay & Stilwell, 1972). Recently new internal consistency scores have been reported for the BCCI scales (Barclay, 1975). Cronbach's alpha was computed for five self-competency (.35 to .69), nine career awareness (.55 to .93), and 12 teacher ratings (.65 to .93) scales (Specht, 1975). Test-retest reliability for the group nominations is in the

.60 to .70 range (Barclay, Barclay & Stilwell, 1972). Validation studies have been reported (e.g., Tapp & Barclay, 1974). More recently the six factor scores are being reported in terms of two meta-factors (Barclay, 1976).

Evaluation Questions. The design of the program in Stuttgart allowed us to ask some questions about the two schools at the beginning of the program and at the end of the 1975-76 school year. Earlier we reported that the 12-week pilot program appeared to have had significant and meaningful effects upon the students and teachers as the developmental guidance program school (Stilwell & Barclay, 1977). For this present report we have asked:

1) To what degree were the schools similar in May, 1975? For this analysis we used data from children who had been in the two schools for the full 1975-76 school year. Children from the six program classrooms and the eight traditional classrooms were considered in this analysis.

2) To what degree were the two schools similar in May, 1976? In this regard did the students make appropriate changes on their BCCI scale scores? Did the in-service teacher training influence teacher judgements of their students? Were the students in the two schools different in their attitudes toward school?

3) To what degree were students who participated only in part of the program similar to the students who participated in the full year's program?

A number of techniques can be used to analyze the BCCI data from this developmental guidance program. Earlier we tabulated the changes for individual students (e.g., disruptive or reticent boys and girls), plotted means for classroom units (i.e., suggesting priorities for interventions),

and compared scores by analyses of covariance. For this report we have used analysis of variance and of covariance as well as chi square.

## RESULTS

The results presentation will follow the outline suggested by the three evaluation questions (May, 1975 differences; May 1976 overall differences; and, special groups).

### Differences between the two schools in May 1975.

An appropriate concern for this report is to what degree were the children enrolled in the developmental guidance school, Buerkle, different from the children enrolled at the traditional school, Julia Shannon. The results from the one-way analysis of variance are reported in Table 1.

On most of the 15 selected BCCI scale scores the boys and girls at the two schools were extremely similar in May 1975. Significant differences were obtained on only three scales. The girls at the traditional school appeared to be more interested in realistic-masculine career activities (REAL) than did their friends at Buerkle. The more interesting difference was found in the comparison of the girls' attitudes toward school (CCI). The experimental school's girls were more positive toward school than were the girls enrolled at the traditional school. This difference might be a consequence of the 12-week pilot program. The more dramatic difference reveals that the Buerkle teachers on the May, 1975 assessment were much less negative, less harsh in their judgements of both boys and girls than were their traditional school colleagues. We would like to think that the 12-week pre-program in-service training program contributed to this difference. In summary, we found that the two schools were, except for the three measures, very similar.

One year later differences between schools.

The crucial question for this evaluation is to what degree were the children and their teachers in these two schools different in May, 1976? For this comparison we used an analysis of covariance in which the May, 1975 scores served as the covariate for the May, 1976 scores. The differences for nine BCCI scales are presented in Table 2. Since the year long program was developmental, we should anticipate main effect differences between girls and boys and between grade levels as well as interactions among these factors.

Boys versus Girls. Boys were found to have become more realistic-masculine (GRM), more enterprising (GE), and more disruptive (GD) in the eyes of their classmates than girls in the third and fourth grades at both schools. Over the year the boys became more aware of realistic-masculine career activities (REAL) than girls in these grade levels. Meanwhile the girls were becoming more aware of socially oriented career activities (SOC) and of overall career awareness (VTOT) and developing more positive attitudes toward school (CCI) than their male counterparts at the two schools. The gist of these two patterns of differences is boys will become boys and girls will become girls!

Third versus Fourth Grade Levels. The boys and girls in the fourth grade level classrooms at the two schools seemed to earn more positive teacher ratings (TR+) than did their third grade level schoolmates. This difference was unanticipated. We would expect, based upon Barclay's major study of 143 classrooms (1974) that the third grade level boys and girls would obtain a higher positive teacher rating than fourth grade level children. The Barclay data showed that teachers appear to become less positive and more negative in their ratings of older children.

Developmental Guidance School versus Traditional School.

In the comparison of the experimental and traditional children we found significant differences in three important areas: overall self-competency (STOT), positive teacher ratings (TR+), and attitude toward school (CCI). On each BCCI variable for which we did find a difference between schools, the children at the developmental guidance school (Buerkle) scored hihger than their counterparts at the traditional school. An interpretation is that the developmental guidance program worked effectively to raise overall self-competency (15.99 versus 15.10) and dramatically to increase positive teacher ratings (19.92 vs 14.39) and to improve students' attitudes toward school (9.86 vs 8.44). It is probably also meaningful that we no longer found a difference between the schools in terms of the negative teacher ratings (TR-) of children. These findings are important for affective educators because the findings suggest that well-planned, well-trained, and well-implemented affective curricula can have extremely desirable effects upon both elementary students and their teachers.

Patterns of Significant Interactions.

A number of significant interactions were found among the three main factors--schools, gender, and grade levels. The results of analyzing these interactions are presented in Table 3.

Gender X Grade Level. On four BCCI variables (STOT, GAI, GTOT and VTOT) we found significant interactions. The plots of these means reveal that third grade level boys typically scored higher than fourth grade level boys, but that the girls' scores developed different patterns (e.g.; either stable or fourth higher). This kind of pattern might be a socialization effect, but further data would have to be collected to support that observation.

Gender X School. The one interaction (CCI involving gender and school suggested that both boys and girls at the experimental school benefitted from

their experiences with "The Circle" while the students at the control school appeared to develop differently (i.e., girls appeared to be similar to their experimental friends, but boys seemed to like school less).

Grade X School. Table 3 data appears to argue for the in-service teacher training program. On the negative teacher ratings we would anticipate that teachers would judge older students more harshly (Barclay, 1974). This pattern was found at the traditional school. However, the unanticipated pattern was found at the affective program school: the fourth grade level teachers were much less negative than their counterparts at the traditional school. Indeed, the experimental teachers appeared to have become more positive faster than did their control colleagues!

Special Groups.

Throughout these analyses we were frequently impressed by the incomplete data sets. Rather than loosing the potential information from these children, we identified two special groups, "goners" and "newcomers". For these analyses a "goner" was a student who had left their school after the May, 1975 administration of the BCCI. These children might have departed their host school at the end of the 1975-76 year or any time prior to May, 1976. A "newcomer" was a student who was present for the May, 1976 administration of the BCCI. These children entered their school sometime after May, 1975, probably, September, 1976. The question was to what degree were these two groups of children different from those who had participated in the devleopmental guidance program for the full year?

The data for this comparison was limited to the "suggested problem area" display from the BCCI printout. We developed a separate "classroom unit" of goners or newcomers and prepared a chi square analysis (Siegel, 1956, formula

6.4) for each area by sex. We would anticipate that children who leave school might become "drop-outs" and therefore would be "different". Further, we would anticipate that the newcomers might have to struggle to become socialized within the host classroom. The analysis produced some unanticipated results.

Children who left the schools. During the reporting period 14 boys and girls left the affective program school while 17 boys and 12 girls left the traditional school. We are unaware of the several reasons why these children left the schools. Instead we were simply interested in determining whether these children were different from the students who remained in the school for the 1975-76 year. The results are presented in Table 4.

Using the traditional levels ($p<.05$), we found only one area in which the "goners" were different. A disporportionately large number of girls who left the affective program school appeared to dislike school. Other differences were observed, but none reached the traditional "point 05 level".

Children who were newcomers. During the reporting period 12 boys and 8 girls enrolled at the affective program school after the May, 1975 assessment, while 15 boys and 5 girls entered the traditional school after the May assessment. The chi square results are presented in Table 5.

Using the traditional significance level we found the newcomers were different from the "stayers" in three problem areas" program girls' verbal skills appeared to be less well developed than their hosts (remember please that these girls were involved in "The Circle"); the traditional-school newcomer girls appeared to have a disproportionately low number of cognitive-motivation problems in contrast with their hosts; and, thirdly, a significant, but meaningless difference (0 vs 1) was found on the career development problem

area. A number of other differences were observed, but again these did not reach the traditional significance level.

The results from these analyses of special groups is interesting because of the lack of consistent differences among the groups. Neither the "goners" nor the "newcomers" appeared to be dramatically different from the children who had been enrolled at the two schools for the full academic year. At best we can say the newcomers at the traditional school appear to be better able to cope with affective-social problems than do their hosts, but that is based upon "stretching" the interpretation of the chi square.

## SUMMARY

The developmental guidance program at Stuttgart School District's two elementary schools is a giant step forward for a broader and more comprehensive affective-social education system. At this point no unifying theory or model exists for affective-social education; diversity seems to characterize the contributions (e.g., Read & Simon, 1975; Rubin, 1973). To this degree we have a unique opportunity to take from "the best", integrate them into a taxonomy (Barclay, 1976), and design a coordinated, holistic system so that affective activities for students, in-service training for teachers, and education groups for parents occur in a complementary manner. In John Kennedy's words, "All the boats will rise with the tide" (so will all the participants in a Comprehensive Affective-Social Education System).

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Table 1

Comparison of May 1975 BCCI Scores for Buerkle and Shannon Third and Fourth Graders Enrolled for the Fall May 1975 to May 1976 Period

| Sex/Variable | Buerkle | Shannon | Overall | S.D. | F | P |
|---|---|---|---|---|---|---|
| Boys | | | | | | |
| N | 58 | 74 | | | | |
| TR- | 6.4655 | 9.3649 | 8.0909 | 8.4007 | 3.961 | .046 |
| Girls | | | | | | |
| N | 47 | 59 | | | | |
| REAL | 2.7021 | 3.8644 | 3.3491 | 2.8687 | 4.435 | .036 |
| TR- | 3.0426 | 5.9661 | 4.6698 | 6.1034 | 6.306 | .013 |
| CCI | 10.0213 | 8.7119 | 9.2925 | 2.8883 | 5.613 | .019 |

Table 2

Analysis of Covariance Results (Main Effects)

by Gender, Grade Level and School for

Selected May 1976 BCCI Variables

| BCCI SCALE | Gender | | Grade Level | | School | | | |
|---|---|---|---|---|---|---|---|---|
| Score | Male | Female | 3rd | 4th | Buerkle | Shannon | F | P |
| STOT | | | | | 15.99 | 15.10 | 3.979 | .045 |
| GRM | 4.55 | 3.27 | | | | | 6.411 | .012 |
| GE | 6.51 | 5.01 | | | | | 4.899 | .026 |
| GD | 3.27 | 2.10 | | | | | 6.394 | .012 |
| REAL | 5.33 | 3.82 | | | | | 15.702 | .001 |
| SOC | 5.54 | 7.76 | | | | | 34.636 | .001 |
| VTOT | 35.26 | 39.09 | | | | | 11.163 | .001 |
| TR+ | | | 14.94 | 18.62 | | | 8.395 | .004 |
| | | | | | 19.92 | 14.39 | 18.990 | .001 |
| CCI | 8.61 | 9.65 | | | | | 9.871 | .002 |
| | | | | | 9.86 | 8.44 | 18.296 | .001 |
| N | 132 | 106 | 116 | 122 | 105 | 133 | | |

Table 3

Analysis of Covariance Results (Interaction by Gender, Grade Level and School for Selected May 1976 BCCI Variables

| Variable Name | Gender X Grade Level | | Gender X School |
|---|---|---|---|
| | | 3rd | 4th |
| STOT | Boys | 16.459 | 14.718 |
| | S.D. | 3.952 | 3.610 |
| | Girls | 15.000 | 15.941 |
| | S.D. | 3.243 | 3.524 |
| GAI | Boys | 4.295 | 2.433 |
| | S.D. | 5.909 | 2.648 |
| | Girls | 3.855 | 6.647 |
| | S.D. | 3.918 | 8.515 |
| GTOT | Boys | 23.951 | 17.732 |
| | S.D. | 20.943 | 15.508 |
| | Girls | 15.782 | 22.569 |
| | S.D. | 9.122 | 25.035 |

| Grade X School | | |
|---|---|---|
| Buerkle Shannon | F | P |
| | 11.067 | .001 |
| | 6.883 | .009 |
| | 2.798 | .092 |

Table 3 con't

| Variable | Gender X Grade Level | | Gender X School |
|---|---|---|---|
| Name | 3rd | 4th | |
| REAL | | | |
| VTOT | Boys 37.377 | 33.845 | |
| | S.D. 9.928 | 10.854 | |
| | Girls 38.964 | 38.686 | |
| | S.D. 8.865 | 9.545 | |
| TR+ | | | |
| TR- | | | |

| Grade X School | | | | |
|---|---|---|---|---|
| | Buerkle | Shannon | F | P |
| 3rd | 4.018 | 5.400 | 4.433 | .034 |
| S.D. | 2.973 | 3.445 | | |
| 4th | 5.000 | 4.301 | | |
| | 3.594 | 2.890 | | |
| | | | 2.986 | .081 |
| 3rd | 18.536 | 11.433 | 6.076 | .014 |
| S.D. | 11.985 | 9.491 | | |
| 4th | 21.163 | 17.055 | | |
| S.D. | 9.584 | 10.706 | | |
| 3rd | 8.036 | 5.483 | 8.379 | .004 |
| S.D. | 9.354 | 6.570 | | |
| 4th | 5.918 | 8.356 | | |
| S.D. | 6.271 | 7.765 | | |

Table 3 con't

| Variable | Gender X Grade Level | | Gender X School | |
|---|---|---|---|---|
| Name | | | | |
| | | | Buerkle | Shannon |
| CCI | | Boys | 9.810 | 7.568 |
| | | S.D. | 2.762 | 2.896 |
| | | Girls | 10.000 | 9.475 |
| | | S.D. | 2.137 | 2.628 |

Grade X School

Buerkle Shannon F P

9.746 .002

Table 4: Comparison of Suggested Problem Areas for "Goners" and "Stayers" at Two Schools[1,2]

| | N | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|---|
| Buehkle | | | | | | | | | |
| Boys | 77 | 15 | 11 | 7 | 3 | 10 | 7 | 17 | 20 |
| "Goners" | 14 | 5 | 3 | 3 | 1 | 2 | 3 | 4 | 7 |
| "Stayers" | 63 | 10 | 8 | 4 | 2 | 8 | 4 | 13 | 13 |
| $\chi^2$ | | 1.75 | .18 | 1.59 | .01 | .08 | 1.59 | .09 | 3.72 |
| Girls | 75 | 5 | 38 | 6 | 3 | 14 | 3 | 21 | 12 |
| "Goners" | 15 | 2 | 10 | 1 | | 4 | 0 | 6 | 6 |
| "Stayers" | 60 | 3 | 28 | 5 | 3 | 10 | 3 | 15 | 6 |
| $\chi^2$ | | .34 | 1.20 | .34 | 1.48 | .27 | .34 | .70 | 5.96 |
| Shannon | | | | | | | | | |
| Boys | 101 | 20 | 20 | 11 | 4 | 12 | 10 | 16 | 17 |
| "Goners" | 17 | 3 | 6 | 3 | 1 | 3 | 0 | 2 | 2 |
| "Stayers" | 84 | 17 | 14 | 8 | 3 | 9 | 10 | 14 | 15 |
| $\chi^2$ | | .33 | 2.03 | .00 | .06 | .16 | 3.78 | .76 | .94 |
| Girls | 75 | 8 | 30 | 8 | 4 | 9 | 8 | 20 | 16 |
| "Goners" | 12 | 0 | 6 | 3 | 2 | 2 | 1 | 3 | 1 |
| "Stayers" | 63 | 8 | 24 | 5 | 2 | 7 | 7 | 17 | 15 |
| $\chi^2$ | | 3.30 | .20 | 1.55 | 1.45 | .00 | .64 | .26 | 2.51 |

$\chi^2 \geq .10 = 2.71$

$\geq .05 = 3.84$

$\leq .10 = 5.41$

1. Problem areas are I = self-competency; II = group interaction; III = self-control; IV = verbal skills; V = physical energy; VI = career development; VII = cognitive motivation; and, VIII = attitude toward school.

2. Data are derived from the May, 1975 BCCI assessment

Table 5: Comparison of Suggested Problem Areas for "Newcomers" and "Stayers" at Two Schools[1,2]

| Buerkle | N | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|---|
| Boys | 78 | 6 | 18 | 12 | 6 | 5 | 5 | 15 | 12 |
| "New" | 12 | 1 | 2 | 3 | 0 | 0 | 0 | 1 | 2 |
| "Stayers" | 66 | 5 | 16 | 9 | 6 | 5 | 5 | 14 | 10 |
| $X^2$ | | .25 | .89 | .32 | 2.81 | 2.65 | 2.65 | 2.07 | .09 |
| Girls | 63 | 5 | 18 | 7 | 6 | 7 | 2 | 13 | 3 |
| "New" | 8 | 1 | 4 | 1 | 3 | 2 | 0 | 3 | 1 |
| "Stayers" | 55 | 4 | 14 | 6 | 3 | 5 | 2 | 10 | 2 |
| $X^2$ | | .04 | 1.03 | .22 | 5.02 | .54 | 2.65 | .63 | .05 |
| Shannon | | | | | | | | | |
| Boys | 90 | 16 | 20 | 5 | 6 | 10 | 8 | 11 | 27 |
| "New" | 15 | 3 | 4 | 0 | 0 | 1 | 0 | 2 | 3 |
| "Stayers" | 75 | 13 | 16 | 5 | 6 | 9 | 8 | 9 | 24 |
| $X^2$ | | .02 | .01 | 2.71 | 3.28 | 1.10 | 3.32 | .12 | 1.52 |
| Girls | 68 | 4 | 30 | 7 | 6 | 9 | 1 | 20 | 12 |
| "New" | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| "Stayers" | 63 | 4 | 28 | 7 | 6 | 9 | 1 | 20 | 11 |
| $X^2$ | | 2.46 | .44 | 2.41 | 2.38 | 2.54 | 4.90 | 4.04 | .22 |

$X^2 \geq .10 = 2.71$

$\geq .05 = 3.84$

$\geq .02 = 5.41$

1. Suggested Problem Areas are I = self-competency; II = group interaction; III = self-control; IV = verbal skills; V = physical energy; VI = career development; VII = cognitive motivation; and, VIII = attitude toward school.

2. Data are derived from the May, 1976 BCCI assessment.