Effectiveness of an intervention program for improving school atmosphere: some results

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Abstract

This work describes the results of the Programa de Desarrollo Social y Afectivo *[Social and Affective Development Program] (Trianes & Muñoz, 1994; Trianes, 1996), under way during four years at a public school in a disadvantaged area Malaga, earmarked for special educational resources. The intervention is meant to improve classroom and school atmosphere as an avenue to preventing school violence. We describe the intervention approach used, as well as program materials and results obtained in relation to the context variables (classroom atmosphere). The discussion presents the opportunity of improving interpersonal relationships and social atmosphere at the school as the central axis of preventive intervention against school violence.*

Keywords*: Classroom atmosphere, Intervention and Prevention Program, Social Competence, Context variables.*

Introduction

Social competence has been established as a key area of mental health and psychological well-being in young people and adults. It has given rise to programs aimed at preventing social maladjustment problems and promoting social competence and satisfactory interpersonal relationships. Promotion of social competence has its relationship to the current conception of schooling as a social and socializing practice. The objective of this conception is to promote the pupil≞s social and personal development (Coll, 1990).

Within this approach, programs have been published to promote social competence, considered to be one of the most effective means of preventing conflict and violence at schools. The teaching of strategies and procedures for improving social relationships insures that all students acquire social skills, including those students at risk for maladjustment, who might otherwise not develop such skills, or might do so very slowly.

In the past twenty years many programs have appeared along this line of intervention, such as: "Childhood Social Skills" (Michelson, Sugai, Wood & Kazdin, 1983); "Structured Learning" (Goldstein, Sprafkin, Gershaw & Klein, 1980); "Think Aloud" (Camps & Bash, 1981); "Solving Interpersonal Problems" (Spivack & Shure, 1974); "Enseñanza de Habilidades de Interacción Social" [Program for Teaching Social Interaction Skills] (Monjas Casares, 1993); "Programa para Favorecer el Desarrollo de la Tolerancia en Contextos Etnicamente Heterogéneos" [Program for Encouraging Development of Tolerance in Ethnically Heterogeneous Contexts] (Díaz Aguado,1992); "Aprender a Vivir Juntos" [Learning to Live Together] (Borrego & Morales, 1991); "El Programa de Educación Social y Afectiva" [Social and Affective Education Program] (Trianes & Muñoz, 1994; Trianes, 1996); "Educar en la Competencia Social. Un Programa para la Tutoría con Adolescentes" [Educating in Social Competence. A homeroom program for adolescents] (Moraleda, 1998); "Aprender a Ser Personas y a Convivir" [Learning to Be a Person and Live with Others] (Trianes & Fernández-Figarés, 2001), "Ser Persona y Relacionarse. Habilidades Cognitivas y Sociales y Crecimiento Moral" [Being a Person and Relating to Others. Cognitive and Social

Skills and Moral Growth] (Segura, 2002).

These programs can be divided into three basic types: person-centered; situation- or context-centered (Cowen, 1985), and those centered on the person/context interaction (Felner & Felner, 1989). Person-centered programs aim to trigger or provoke direct changes in the individuals by developing individual competencies, while programs centered on the setting or environment indirectly trigger changes in the individual by modifying the environment, i.e. the intervention is aimed at the environment. The most current approach is centered on the individual-context interaction.

Programs centered on the individual-context interaction have adopted goals pertaining to improving competencies through changes in the teaching relationship or in the school=s treatment of interpersonal problems. Beginning with pioneer approaches such as that of Spivack and Shure (1974), the aim has been to train schoolchildren in interpersonal problem solving as the most popular method of preventing future problems as well as for improving social and school adjustment. Other studies from the 80s propagated materials for promoting competencies in at-risk students, thus contributing to their better adjustment and mental health.

Currently the interaction approach prevails. This approach originates in the environmental, ecological model, and assumes that risk stems from the interaction between the child and the characteristics of the context in which he or she is developing. Thus, skill deficits are not a function of the child=s inherent characteristics, but rather of his or her vulnerability within a particular context (physical and social). This type of program seeks to eliminate causes or mediating factors in maladjustment by modifying the environment. Felner and Felner (1989) consider that the objectives of such programs are to provide resources in the environment to facilitate development of skills and competencies and to produce changes and modifications in potentially dangerous conditions. At the same time, they seek to promote individual competencies in order to take advantage of the improvements in the environment. This is the transactional model, which conceives of risk

as a combination of personal and environmental conditions. This way programs can focus on both aspects of the transaction.

In the school system, this approach means analyzing how the elements of the school setting can be reorganized so as to allow for competency development. In this regard, Lemle (1976) establishes three different paths or ways to consider environmental variables in the school context.

$ Improving the school curriculum. This approach seeks to introduce changes in the form of programs into the ordinary curriculum, especially in ECE and primary school, with potential participation from families. Thus, programs have been published which seek to teach behavioral skills connected with specific situations (Michelson et al.,1983, Goldstein et al., 1980). Other programs teach general thought strategies which are not linked to concrete situations and which would insure generalization of learned behaviors (Díaz Aguado, 1990, Gesten & Weissberg, 1979, Monjas, 1993, Pelechano, 1991, Spivak & Shure, 1974; Trianes & Muñoz, 1994, and Trianes, 1996). These programs are the ones received with greatest enthusiasm by today=s educators.

$ Modifying the environment. This approach uses the school=s own resources in a systematic, organized fashion and promotes improvements such as open classrooms, cooperative classroom organization, peer tutoring, student alliances, etc.

$ Focusing on teacher training. This approach involves the teachers in program implementation and follow-up. It assumes as its premise that the teacher should be trained in skills which he or she is going to teach. This increases one=s professional capacity, providing new resources for the daily teaching relationship. Many programs assign the teacher a central role, be it as mediator, model and/or control agent. Along these lines, a number of relevant teacher personality and behavioral variables have been detected; optimizing these may lead to greater program effectiveness.

In the present study, a prevention approach based on the individual/context

interaction has been used, and more concretely, focused on teacher training. Our program seeks to teach social skills and competencies for improving the social atmosphere in the classroom. By doing so, we prevent destructive resolution of interpersonal conflicts, which may lead to escalating violence. Our results include those relative to evaluating class atmosphere, one important program objective.

Method

Participants

The sample is composed of 44 pupils (27 male and 17 female) who were evaluated during four years of compulsory schooling. These pupils belong to two public schools in a Preferential Educational Attention area in Malaga city (a classification established by the Department of Education of the Andalusian regional government).

The average age, range and standard deviation of students= age by research year is shown in Table 1.

Table 1. Age of students by research year

AGE	FIRST RESEARCH YEAR	SECOND RESEARCH YEAR	THIRD RESEARCH YEAR	FOURTH RESEARCH YEAR
MEAN	10.3	11.3	12.3	13.3
SD	0.85	0.95	0.95	0.91
RANGE	9-12	10-13	11-14	12-15

Schools which voluntarily agreed to participate during the length of the research were assigned to two groups according the criteria specified below:

a) Group under Intervention (GI), made up of pupils from a school in an area of Malaga city earmarked for additional educational resources, to whom the program was

applied (Trianes & Muñoz, 1994; Trianes, 1996) during three consecutive years, with one year of follow-up. The gender variable was distributed in this group between fifteen boys and seven girls.

b) Group Not under Intervention (GNI), like the group under intervention, was made up of pupils from a school in the same type of designated area of Malaga city, but who received no type of intervention. The distribution of subjects according to gender was twelve boys and ten girls.

Instruments and materials

The *evaluation instrument* used was the Classroom Environment Scale (Tricket & Moos, 1984) as answered by the pupils. This test was adapted to an easier application format, taking only three subscales into account:

1. *Control.* Degree to which the teacher is strict in enforcing rule observance and in penalizing violators. 20 items.

2. *Clarity.* Importance given to establishment and fulfillment of clear rules, and to pupils= perception of rule-breaking. 20 items.

3. *Innovation.* Degree to which pupils contribute to planning school activities, variety and changes introduced by the teacher with new techniques and stimuli for pupil creativity.

The intervention program used was the *Programa de Desarrollo Social y Afectivo* [Affective and Social Development Program] (Trianes & Muñoz, 1994; Trianes, 1996). It is based on the principle that promoting social competency and constructive interpersonal conflict resolution leads to prevention of school violence. Three modules and fifty-four activities comprise the program. Objectives established for each module are as follows: a) Module I, "Improving classroom atmosphere"; b) Module II, "Solving problems with others without fighting" and c) Module III, "Learning to help and to cooperate".

The main procedures used in the different activities come from a long tradition in

Educational and Developmental Psychology, specifically: reflection and discussion, active pupil participation and training in skills for solving interpersonal conflicts.

Procedure

The criterion adopted for selecting the groups was voluntary participation from homeroom teachers in Program Training and Application (GI) or non-participation of homeroom teachers in the Program Training and Application (GNI). Initially, voluntary teacher participation arose naturally, from an initial request made by one male and one female homeroom teacher in a public school from a designated area for special educational resources, regarding a solution for discipline problems that were affecting classroom life. This demand was made through a school counselor from the Counseling Team for the Palma-Palmilla area, who in turn contacted our research team to be advised regarding this objective of resolving discipline issues. After a first contact with the counselor, the research group carried out an initial analysis of the request, and made a proposal to apply the *Programa de Educación Social y Afectiva* (PESA) (Trianes & Muñoz, 1994; Trianes, 1996). After one year of program application, and having publicized the two teachers= experience with the program, there was now a request to continue with the program on the part of all the teachers who would be teaching the students who had begun program training the previous year. The intervention was supported by the SOEV personnel in the area, who participated actively in training and supporting the teachers during development of classroom activities.

The design which we implemented over the course of the four years kept a basic structure of three program intervention phases, encompassing teacher training, classroom program implementation, and five evaluation phases in which students and teachers would fill in tests. As one can see in Table 2, evaluation times and application of program modules per research year were as follows:

The first year, at the beginning of the school year, an evaluation prior to program implementation was carried out, we have called this the Pre Measurement. Later, throughout

the school year, the first phase of the intervention was developed, applying Module I. At the end of the school year an *a posteriori* evaluation was carried out, called Post Measurement 1.

In the second research year the second phase of intervention was carried out, focused again on Program Module I. The reason for repeating Module I was justified by the fact that new teachers were being incorporated into the program and they needed training in the module. After completing the school year, the corresponding *a posteriori* evaluation was carried out for Module I, identified as Post Measurement 2.

Table 2. Timing of the Intervention and Evaluation

	RESEARCH YEARS			
	1st year	**2nd year**	**3rd year**	**4th year**
EVALUATION	**PRE MEASUREMENT POST1 MEASUREMENT**	**POST2 MEASUREMT**	**POST3 MEASUREMT**	**FOLLOW-UP MEASUREMT**
PROGRAM MODULES	**MODULE I**	**MODULE I**	**MODULE II**	**NO PROGRAM APPLICATION**

In the third research year, the third intervention phase was developed, applying program Module II, and at the end of the school year its corresponding *a posteriori* evaluation was carried out, identified as Post Measurement 3.

Finally, in the fourth year the intervention follow-up was carried out, with its corresponding evaluation phase at the end of the school year, called Follow-up.

Analysis of Results

It should first be noted that, throughout our description of results, the GNI group is interpreted relative to the different times of program application, even though this is only as a reference, since the group did not receive program application.

In order to analyze the effect of program application at an inferential level,

ANCOVA and ANOVA analyses were applied using the statistical package SPSS (Version 12.0), and the *a posteriori* tests (Tendencies analysis and Fisher≤s LSD *a posteriori* test) using the program STATISTICA. The Inferential Statistical Analysis allowed us to analyze statistically significant differences (Between Groups, Intra-Groups and Interaction) in the different test factors after program application. In order to analyze the effect of program application at the different times, the following were used:

Analysis of Covariance (ANCOVA). This was to allow for adjustment of differences existing between the groups (GNI and GI) before the intervention, in this non-randomized study. In case the assumption of Regression Homogeneity was not fulfilled, and the assumptions of Homocedasticity or Sphericity were verified, we used a Repeated Measures Analysis of Variance (ANOVA) of the different scores at each evaluation time with respect to the Pre-Intervention measurement.

When the results of the above analyses so required, we applied one of the following two *a posteriori* tests:

2.1) Tendencies Analysis, in order to determine whether there was a tendency (linear, quadratic, etc.)

2.2) Fisher≤s *a posteriori* LSD, in order to determine the intervention times where there were statistically significant differences.

Results

The ANCOVA/ANOVA analysis yields three types of information. First, differences obtained from the Group factor are presented, that is, between both groups (GNI and GI), over the length of the time dimension. Second, differences obtained from the Time factor are obtained, that is, differences found over the length of program application, independently of the group. Third, differences due to the Interaction of both factors are revealed.

1) Significant differences between GNI and GI in the three factors of the test: Control

(F(1.41)=5.96, P<0.05), Clarity (F(1.41)=7.26, P<0.05) and Innovation (F(1.41)=9.55 P<0.05), specifically:
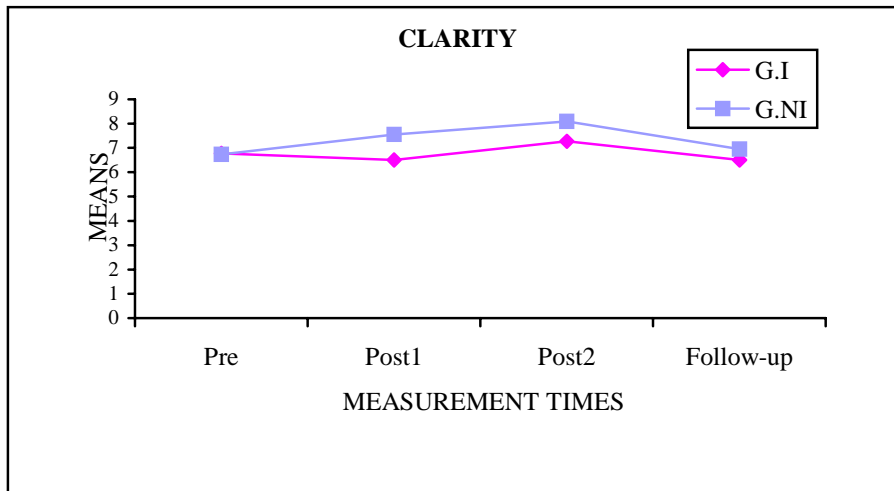
The Control factor presents significant differences at Time Post2 and at Follow-up, with GI presenting a lower Control level than GNI. (See Figure 1.)

**Figure 1. Means for factor CONTROL at the different times**
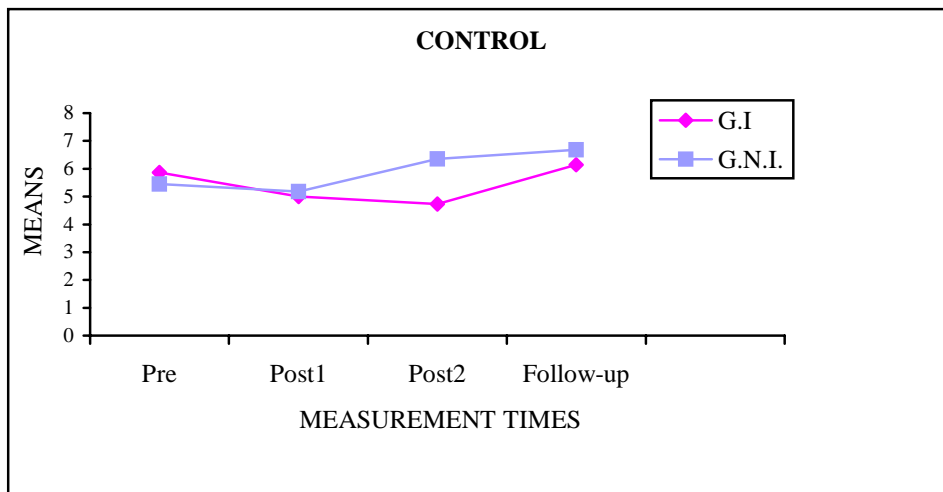
The Clarity factor presents differences at Time Post1 and Post2, with GI presenting a lower Clarity level than GNI. (See Figure 2.)

Figure 2. Means for factor CLARITY at the different times

The Innovation factor presents differences at times Post1 and Follow-up, with GI presenting a lower Innovation level than GNI. (See Figure 3)

Figure 3. Means for factor INNOVATION at the different times
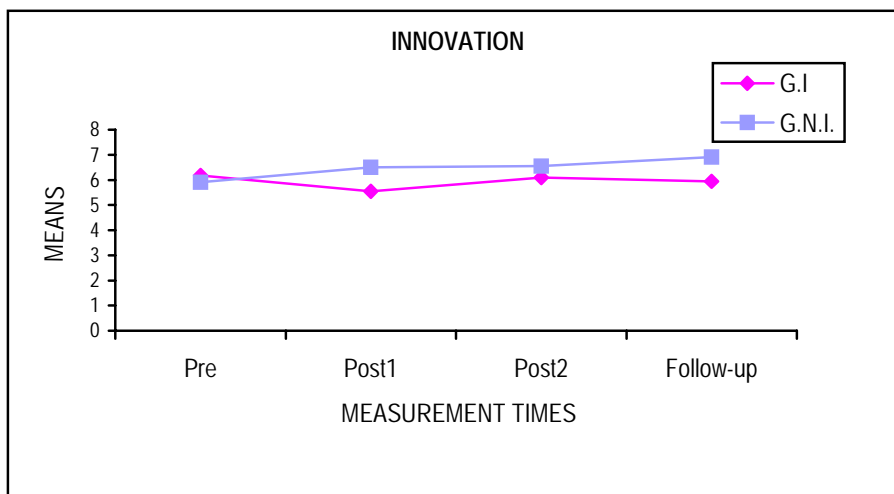
2) Differences over the length of Program Application in factors of Control ($F(2.84) =9.07$, $P<0.05$) and Clarity ($F(2.84)=5.52$, $P<0.05$). Specifically, the Control factor presents significant differences in:

- GI at Times Post2 and Follow-up and at times Post1 and Follow-up, with this group

presenting a greater level of Control at Follow-up than after applying the program the first and second year (See Figure 1).

- GNI at Times Post1 and Post2, with this group presenting a greater level of Control the second year of program application than the first. GNI also presents a greater level of Control at Follow-up than at Post1 (See Figure 1).

Regarding the Clarity factor, we find significant differences in:

- GI at Times Post1 and Post2, showing a greater level of Clarity the second year of program application than the first. GI also shows a lower level of Clarity at Follow-up than the second year of program application (See Figure 2).

2) *There are no significant differences due to the Interaction (Group_Factor)* for any test factor: Control ($F(2.84)=2.90$, $P<0.05$); Clarity ($F(2.84)=0.49$, $P<0.05$) and Innovation ($F(2.84)=0.38$ $P<0.05$).

Discussion

Results indicate that the Control factor decreases in the GI mean score, with respect to GNI, after applying the second year of the program and at follow-up. This factor presents content referring to authoritative teacher behaviors involving the imposition of rules. The result obtained can be attributed to the intervention, which equips teachers with less authoritative behaviors, and greater self-management on the students= side. The first program module, in particular, applied during the first and second year, works on students= self-management in establishing rules as a means of improving classroom atmosphere.

Regarding the Clarity variable, GI presents a lower mean score at the second and third Times, with significant differences. The general trend is toward a lower score. This variable also emphasizes teachers= authoritarianism in class as well as in establishing and enforcing rules. The program promotes another type of teaching behavior, tending to give autonomy to the class group. Teachers may adopt a strategy more of inducing rather than

directing. Therefore, we also consider this result to be an effect of the program.

The Innovation factor presents a lower mean score in GI than in GNI, at the second Time and at Follow-up. Our interpretation is along the same lines. This pattern of results, involving lower scores due to the intervention, concurs with what can be expected based on the nature of the Moos test.

These results make clear that the test being used, although it has been widely used to evaluate classroom atmosphere, actually evaluates the class=s academic atmosphere. The test was chosen in this study for its prestige in an area where few psychometric tests exist for evaluating context variables on the students= part, even though the majority of its subtests are aimed at evaluating academic atmosphere, that is, the teacher-student relationship when it comes to processing scholastic content. The study of classroom atmosphere has recently been separated into two different fields of study: academic atmosphere and social atmosphere of the classroom.

The social atmosphere of the class is a relatively new concept that is usually defined as the quality of interactions between students and teacher and between students and students (Emmons, Comer & Haynes, 1996), or also as the perception, on the part of students and teachers involved, of personal well-being and positive feelings of being accepted and valued by others in daily interaction (Trianes, 2000). The academic atmosphere, on the other hand, refers to the extent to which the learning environment stimulates effort and emphasizes cooperation (Roeser & Eccles, 1998). The present study reveals results from an intervention whose objectives include improvement of the social atmosphere of the classroom and the school. Today our group has access to a test which evaluates classroom social atmosphere (Trianes, Blanca, de la Morena, Infante & Raya, 2006); this was not available at the beginning of this study.

In conclusion, we offer the presentation of this program for improving coexistence, presenting several objectives related to the area of social competence and social relationships. The program presents positive results (Sánchez, 2005; Trianes, Cardelle-

Elawar, Blanca, & Muñoz, 2003). Trianes, Blanca, Muñoz, García, Cardelle-Elawar and Infante (2002) and Trianes, Muñoz and Sánchez (2001) endorse it as an instrument or resource for teachers, showing them a way to intervene preventively, before violence becomes severe, and to reduce tensions and improve interpersonal relations, thus contributing to teachers= ongoing professional development, and to the well-being, motivation and involvement of students in the functioning of the school.

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