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EFFECTS OF PRACTICE AND INCLUSION STYLES ON PERCEIVED ATHLETIC COMPETENCE OF GREEK PRIMARY SCHOOL CHILDREN

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Key words: physical education, teaching styles, self-perception, athletic competence.

ABSTRACT

The effects of Mosston and Ashworth's Practice style (B) and Inclusion style (E) on perceived athletic competence of 111 Greek fifth-grade students were examined using competence motivation theory. Teaching styles were systematically applied for eight weeks. Harter's Self Perception Profile for Children was used to measure perceived athletic competence prior to and after the instructional intervention. Analysis of covariance on the posttest scores showed that the students in style E demonstrated significantly higher perceived athletic competence than students in style B. Also, both groups did significantly better than the control group. The above result indicates that teaching behaviors associated with style E, which allow students to practice at different levels of difficulty, may be more effective in promoting learners' perceptions of their athletic competence.

INTRODUCTION

A major goal for physical education (PE) teachers is to motivate students to participate in physical activities on a regular basis and encourage them to adopt physically active lifestyles. The National Standards for Physical Education [23] as well as the Greek PE curriculum [13] reflect this goal. Perceptions of competence are said to be a primary factor that affects students' motivation [16, 17, 25] and these perceptions are also associated with choice and degree of students' involvement in activity and sport [7]. A setting that has the potential to impact children's self-perceptions of physical competence and, in turn, motivation is physical education. Here information about a learner's physical competence is constantly present as the result of interaction with the teacher, the content, and the peers. Therefore, PE teachers can foster enhanced perceived competence by selecting appropriate instructional strategies.

Self-Perceptions of Competence

Harter's [15] Competence Motivation Theory is a specific theory about enhancing competence. Perceived competence is a central construct in Harter's model. Harter [15, 16] argues that perceived competence refers to one's domain-specific self-esteem as it relates to the competence dimension of self-esteem and is an indicator of students' sense of what they can do and how good they are at different tasks. Harter [18] views children's (6-12 years old) perceived competence as distinct in different domains including scholastic competence, athletic competence, social competence, physical appearance, and behavioral conduct.

According to Harter's [15, 16] model, two factors that influence perceived competence are performance outcomes and optimal challenges. Successful performance outcomes in a task are thought to result in positive affect and positive self-regard, whereas failure leads to negative self-perceptions. The other factor – optimal challenges – refers to situations where an activity is changed or modified to better suit a child's abilities.

The Spectrum of Teaching Styles

A conceptual framework, commonly used in conducting research and delivering instruction in schools, is the *Spectrum of Teaching Styles* [3]. According to Mosston and Ashworth [22], the Spectrum consists of a continuum of eleven styles, each of which emerges as decisions shift between teacher and learner. Styles A, B, C, D, and E represent the teaching options that foster reproduction of past knowledge, whereas styles F, G, H, I, J, and K represent options that invite production of new knowledge.

The focus of this study is on two teaching styles, the Practice style (B) and the Inclusion style (E). In relation to style B this is the first style in the Spectrum that involves the student in the decision making process [22]. Here, nine decisions of the impact set are shifted to the student. The impact set includes decisions made during the actual teaching-learning transaction that define the action. These decisions include posture, location, order of tasks, starting time per task, pace and rhythm, stopping time per task, interval, attire and appearance, and initiating questions for clarifications. The teacher observes student performance, offers individual and private feedback to each student and is available to answer students' questions [22].

In style E, along with the nine impact decisions outlined for style B, students have to make two additional decisions: (a) select a level of difficulty (an entry point) which is appropriate for them; and (b) check their own work against criteria prepared by the teacher [22]. In this style, the teacher does not give feedback about performance of a task. This is the responsibility of the student. The role of the teacher is to prepare the tasks and the levels of difficulty within each task, observe students' performance, answer students' questions, and respond to the students' role in decision making. That is, to communicate with students about the accuracy of self-checking task performance and the appropriateness of their selection of level of difficulty [22].

A basic difference between styles B and E lies within the conditions for learning [22]. In style B the teacher provides a single level of difficulty within a given task and all students perform at that level of difficulty. In style E the teacher designs the tasks in such a way that the learners choose among several levels of difficulty and then enter the activity at the level of their choice.

Self Perceptions and the Spectrum

Goldberger [11] has suggested that the strategy for Inclusion can improve learners' emotional development. Based on the notion of successful outcomes and optimal challenges [16], the Inclusion style should hold potential in promoting self-perceptions because students can modify the level of task difficulty (i.e., make the task easier or harder) and, thus, create optimal degrees of challenge for themselves. Weiss [36] has also suggested that ordering skills from simple to complex or making intra-skill modifications is a way of providing optimal challenges and thus increasing perceived competence. Several theorists recommend that style E should lead to students' success in task performance, which then should lead to improved feelings about oneself, that is, self-esteem, self concept, or self confidence [9, 21, 22, 27].

Although the development of self-esteem is one of the most important outcomes of teaching PE [13, 23], few Spectrum studies have investigated constructs concerning

the “self”. Specifically, Chamberlain [4] examined the effects of style B and E on self-concept of fifth-grade students and found no significant differences between the styles. Harrison, Fellingham, Buck, and Pellett, [14] studied the effects of styles A and B on self-efficacy of 58 university students. They found that self-efficacy increased for all students with no significant difference in style. Similar results were found in another study of self-efficacy [28]. The elementary aged students (N=240) in this study showed no difference in self-efficacy when taught within the Command and the Guided Discovery styles.

Perhaps most relevant to the present study, Chatoupis and Emmanuel [5] looked at the effects of style B and E on 111 fifth-grade students’ perceived athletic competence. Using Harter’s perceived athletic competence subscale to measure perceived competence, they found that there were no differences between the two teaching style groups in perceived athletic competence. Goudas, Biddle, Fox, and Underwood [12] examined the motivational effects of style B and style E in track and field. Twenty-four girls, 12 to 13 years of age, were divided into two groups based on the implemented teaching styles. Results indicated that girls in the Inclusion style group had higher perceptions of competence in track and field activities than their counterparts in the Practice style group. In other similar studies the researchers used approaches that shared characteristics similar to those of style E to manipulate the motivational climate in the class [31, 35]. They found that students in task-involved conditions demonstrated higher perceptions of competence than their counterparts in the control classes.

Purpose and Significance of Study

Presently, little is known about the effects of teacher behaviors that support practices specific to the Inclusion style of teaching on primary school children’s perceptions of athletic competence in PE settings. Given this lack of empirical evidence, it seems important that this area of investigation receive further attention from researchers.

The primary purpose of this study was to examine the effects of styles B and E on fifth-grade students’ perceived athletic competence. The question addressed in this study was: Will the conditions of styles B and E make a difference in students’ perceived athletic competence?

METHODS

Participants and Setting

A total of 111 fifth-grade students from three public schools located in one of the eastern municipalities of Athens, Greece, participated in this study. There were two fifth-grade classes in each school. All three schools were representative of the schools of that area in terms of indoor facilities, sport equipment, and the PE curriculum taught. Each of the six intact classes (there were two in each school) was randomly assigned to the three groups (treatment groups and control group). A total of 37 students participated in the style B classes, 34 in style E classes, and 40 in the control classes. It should be noted that the students did not know whether they were in the treatment or the control groups. The students, who were approximately 10 years old

(mean age=10.11; SD=0.39), came from middle-class socio-economic families. None of them belonged to ethnic or religious minority groups.

The study lasted eight weeks. PE was taught twice a week, 45-minutes per session. The students participated in the study for a total of 16 sessions. Teaching took place in the gymnasium of each school used by the students during their regularly scheduled PE classes.

All students were taught by the same male PE teacher who had eight-years teaching experience in elementary PE settings (third to sixth grade level). The instructor was new to all of the students participating in the study. Having one teacher provide all instruction helped to control unplanned variability in the teaching behavior. The selection of that teacher was based on three criteria: (a) he had a thorough understanding of Mosston and Ashworth's Spectrum of teaching styles having completed graduate level courses on teaching methods in physical education; (b) he had taught numerous episodes in styles B and E with small groups of children in supervised (i.e. received feedback from trainer experienced in the Spectrum) workshops; and (c) he had presented numerous episodes of Spectrum teaching styles (including styles B and E) to elementary school children in his most recent year of teaching physical education. The student participants received an orientation to the teaching style (B or E) specific to their condition. However, they did not know that they were participating in a research project. The parents were asked to sign a consent form for their child's participation.

The Subject Matter

The subject matter taught included sport skills suggested by the national analytical program of PE for the fifth grade [13]. This was done to retain the ecological validity of the findings and be consistent with the national curriculum. Therefore, during the eight week study the following skills were taught: volleyball (set, underhand serve, forearm pass); basketball (one hand set shot, jump shot); and soccer (throw in, forward pass, kick). The teacher spent two hours (two sessions) teaching each sport skill which gives a total of 16 hours, that is eight weeks. In every second session, apart from learning a particular skill, the students also did the teacher's assessment task described in the *Skill Outcome Measures* section. None of the students had received formal instruction in these skills prior to the study. All the sport skills were presented by the teacher in such a way as to resemble sport-like and game-like situations. So, there was a match between the subject matter taught and the perceived athletic competence questionnaire. The subject matter for the style groups (treatment groups) and the control group was the same.

Treatments/Teaching Styles

The treatments for this study involved sessions on sport skills that were presented by the teacher in either style B or E. In style B there was one, single level of difficulty determined by the teacher, whereas in style E the teacher provided multiple levels of difficulty within each task [22]. In the present study the factors that determined the levels of difficulty in style E were the size and the weight of the balls (small, medium, large), the size of the baskets (small or large), the size of the area on the volleyball court (large or small), the height of the net and the basket, the width of the goal, and

the distance (close, in between, far) from a given target (the basket, the goal, or the area on the volleyball court). These factors were not manipulated in style B.

To ensure that in style E children selected the appropriate difficulty level^[4] to practice the skills, the teacher urged students to survey different levels within each task, select an initial level of performance, perform the task, assess performance against the criteria on the task sheets, and decide whether to change the level of difficulty in accordance with the criteria for correct performance [22] and accuracy. If the students could not perform the task correctly and accurately, then they were encouraged to choose a lower level of difficulty. If the students were successful, then they were instructed to try a more difficult level to challenge themselves. When students were unsure of their ability level and experiencing difficulty in selecting the level of task difficulty, the teacher encouraged them to select the least difficult level. After completing several attempts at the lowest level and experiencing success, the students were told to make a decision about a new level of difficulty [3].

Following the suggestions of Mosston and Ashworth [22], in both teaching styles student to student communication was kept to a minimum and comparing performance between students was discouraged since styles B and E were designed for individual and private practice. In both teaching styles knowledge of performance was the salient form of feedback. Task sheets were used in both teaching styles to assist the students in remembering the tasks and cutting down on repeated explanations by the teacher [22]. For style B lessons the task sheets included verbal and pictorial information about what to do and how to do it (criteria for the correct performance). For style E lessons the task sheets included the same verbal and pictorial information as well as information about the factors affecting the degree of difficulty and the different levels of difficulty within each task.

Control Group

Students in the control group were involved in PE as well. They received the same amount of physical education as the students in the treatment groups. However, the teacher made attempts not to exhibit behaviors that could be specific to style B or style E because according to Gall, Borg, and Gall [8] a study can be more valuable to the extent that the control and the experimental groups are similar except that the control group receives no treatment or an alternate treatment to that given to the experimental group. Thus, the teacher consistently utilized a conventional approach that included verbal presentation of the task, demonstration, practice, and closure.

The employment of a control group, like the one described above, served two purposes. First, research designs which include a control treatment group or a false treatment group are less susceptible to the Hawthorne effect and the John Henry effect, as well as to compensatory equalization and resentful demoralization than those which do not [8, 30, 32]. Therefore, attempts were made to minimize the influence of those psychological factors. Second, at the same time students of the control group were not deprived of the opportunity to be involved in PE lessons and, thus, to learn during the eight weeks.

Instrumentation

The Athletic Competence Subscale of Harter's [18] *Self Perception Profile for Children* was used to measure perceived athletic competence. According to Harter [19] this subscale measures how competent children believe they are in sports and games requiring physical skill and athletic ability and is designed for children aged 8 to 15. The subscale consists of six items organized on a forced-choice scale. Each item of the subscale is given scores ranging between 1 and 4. A score of 1 indicates the lowest perceived athletic competence and a score of 4 indicates the highest perceived athletic competence [18]. The scaling of the instrument is such that the child should choose first between "more like child A" or "more like child B", then he/she chooses the degree within child A or child B. The subscale has been used in PE contexts [20, 24] and its validity and reliability have been demonstrated by Harter [18] and several other studies [37]. Apart from the Athletic Competence Subscale, the questionnaire included personal data such as the name of the students (the initials), the school, the class, sex, and age.

Skill Outcome Measures

Learner skill outcomes were assessed using the teacher's assessment tasks. In particular, the teacher asked students to try to hit a predetermined target (i.e. the basket, the goal, or area on the volleyball court) with a ball each time they practiced a sport skill. For the basketball skills the students had to get the ball through the basket. For the volleyball skills they had to send the ball over the net to an area on the volleyball court. For the football skills they either had to shoot the ball in the goal (forward pass and kick) or get the ball through a basket (throw in). The above assessment tasks were selected because (a) they were listed in the PE curriculum [13], (b) the number of successful trials could be counted easily, and (c) correct technique was necessary for making successful trials. During assessment, a learner had 20 trials. One point was awarded for each successful trial. A trial was successful if the student hit the target with the ball. In each session the students of styles B and E were asked to record the number of successful trials on the task sheets. The total number of successful trials in a given skill represented the students' skill outcome scores. These scores served as an indicator to inform students about their competence in a given sport skill. The outcome scores were not communicated to students in public.

It should be stressed that because success is a key component of the multidimensional model of competence motivation [15] which can affect perceptions of competence, we decided to use the outcome scores (an outcome score represents student's total number of successful trials) to determine which of the two style groups was more successful in each sport skill^[2]. We felt justified in using these particular scores since, according to Pellet & Harrison [26], performance trials are a strong measure for determining success as every learner's trial can be counted and considered to be successful or unsuccessful.

Pilot Study

Prior to the main study a pilot study was conducted to check the reliability of the measures and record the decision making process. One hundred and ninety four fifth-grade students were used to estimate the reliability of the athletic competence subscale. Cronbach's alpha was computed to assess the internal consistency of the subscale and was found to be satisfactory ($\alpha = 0.78$). Another eight students with basketball, volleyball and football playing abilities were asked to perform 20 trials in each task. The split half method was applied to test the internal consistency and then the Spearman-Brown Prophecy formula was used to estimate the reliability. The corrected reliability was 0.84 (one hand set shot), 0.86 (jump shot), 0.89 (underhand serve), 0.78 (set), 0.71 (forearm pass), 0.78 (kick), 0.89 (throw in), and 0.85 (forward pass). It should be noted that the students of the pilot study had similar characteristics to those who participated in the main study and did not participate in the main study.

Data Collection

The questionnaire was administered to the students one day before the treatment instruction started and then one day after the instruction was completed. Instructions for correctly completing the questionnaire, as specified in Harter's [18] manual, were given to the students during each data collection session. Each session took about 40 minutes. To avoid socially desirable responses students were asked, first, to write only the initial letter of their first and last name. Second, they were told that there were no right or wrong answers and their physical education teacher would not be shown the answers they gave. Third, it was stressed to students that the questionnaire related specifically to their PE lessons and to the tasks taught during the study and not to sports and games that they might be involved outside school.

Style Analysis Checklists

Fidelity between the teacher's instructional behavior and the style specific behaviors was ascertained using the Style Analysis Checklists for style B and E [29]. The checklist for a style requires an observer to determine whether the behavior in each statement was exhibited by the teacher (T) or the learner (L) by circling the appropriate indicator on the style analysis checklist. The checklists for style B and E were included in the Appendix. The style B checklist contains 28 possible behaviors and the style E checklist contains 37. In both styles, 26 of the possible behaviors are identified as behaviors that should be exhibited by the teacher for pure style implementation. The remaining behaviors should be exhibited by the learner [1]. Behaviors that are not exhibited or exhibited by the incorrect party (teacher or student) are not circled [6].

Observation Coding Procedures and Observers' Training

Lessons taught to both treatment groups were audio-videotaped every other week, enabling teacher behavior to be analyzed. The control group lessons were audio-videotaped every other week as well to verify that the teacher was not exhibiting behaviors specific to style B or E. Observer reliability was checked every four weeks to ensure that the observer was using the checklists accurately. The video camera was

located in a discreet place, so as to reduce students' reactivity to it, and included all students and the teacher in the picture.

Two observers were trained by the lead author to use the Practice and the Inclusion style checklists. Training lasted approximately 10 hours. Within these 10 hours the two observers learned the behavior definitions for styles B and E and then practiced coding sample episodes. Practice continued until inter- and intra- observer agreement, estimated with Scotts' coefficient, exceeded 0.75

Data Analysis

A student's ratings on the six items of the perceptions of athletic competence questionnaire were averaged to provide a profile score for the student. A preliminary ANOVA on the pretest scores yielded significant differences among the group means, $F(2, 108) = 2.253, p = 0.018$. Thus, ANCOVA was run on the dependent variable scores. The covariate was the pretest scores on the athletic competence questionnaire. As a posthoc test the Bryant Paulson generalization of Tukey's HSD procedure was used [2]. A 0.05 level of significance was employed for the above analysis. Also, ANOVAs were used to examine the differences in the task performance outcome scores between the two style groups. To avoid a possible inflation in the alpha, the 0.001 level of significance was employed for the ANOVAs.

RESULTS

Fidelity of Teaching Style Implementation

Sherman's checklists were used to verify fidelity of teaching style implementation. Sherman established scores of 21 (80%) and above to verify style implementation [1]. In this study scores between 24 (91%) and 26 (99%) were obtained from one of the two trained observers. Fidelity between the teacher's instructional behaviors and the style specific behaviors was ascertained. To calculate intra- and inter-observer reliability, Scott's Pi coefficient of reliability was used [33]. The inter- and intra-observer reliability was between 0.70 and 0.95, exceeding the threshold of 0.60 (Gelfland & Hartmann, 1975, cited in [33]).

Perceived Athletic Competence Subscale

After adjustment by the covariate there was a significant main effect of the treatments, $F(2, 107) = 23.874, p = 0.0001$. Posthoc analysis revealed that there was a significant difference between the two treatment groups, with style E outperforming style B. In addition, the students in both treatment groups scored significantly higher than the students in the control group (see Table 1).

Table 1. Pretest and adjusted posttest means for perceived competence by treatment groups

	Pretest Mean \pm SD	Posttest Mean \pm SD
Style B	3.38 \pm 0.46	3.54 \pm 0.050
Style F	3.38 \pm 0.46	3.54 \pm 0.050
Control	3.49 \pm 0.55	3.22 \pm 0.049

Students Outcome Scores

ANOVAs revealed that the mean outcome scores for the students in the two treatment groups were significantly different ($p < 0.001$). The students in style E treatment yielded higher scores for each sport skill (see Table 2).

Table 2. Mean outcome scores for sport skills by treatment groups

Sport Skills	Style B		Style E		F
	Mean	SD	Mean	SD	
Volleyball					
Set	12.05	2.02	18.20	0.94	260.737*
Underhand serve	11.97	3.32	17.91	1.89	83.288*
Forearm pass	10.29	1.28	17.85	1.72	441.746*
Basketball					
One hand set shot	11.54	1.64	18	1.25	341.921*
Jump shot	11.43	2.06	16.88	2.08	122.424*
Football					
Throw in	10.27	3.68	16.67	2.64	69.614*
Forward pass	11.16	1.97	17.55	2.32	156.614*
Kick	10.56	3.27	17.79	1.93	125.031*

* Significant differences between the mean scores ($p < 0.001$).

DISCUSSION

The disparate teaching styles implemented in the two treatment groups had distinctively different effects on students' perceptions of athletic competence as seen in Table 1. In particular, our analyses revealed that style E had a greater impact on students' perceived athletic competence than style B. This pattern of results supports those reported by Goudas et al. [12] as well as the tenets of competence motivation theory [15] in that optimal challenges together with successful performance outcomes were associated with maximized self-perceptions. Indeed, the notion of optimal challenges and successful outcomes may have been at work in the present study in that students in style E experienced consistent success on sport skills that were optimally challenging (see Table 2).

When using style E, teachers provide different levels of difficulty within each task by making intra-skill and equipment modifications [22]. By designing activities in this manner the teacher provides students with optimal degrees of challenge [36]. Therefore, this study provides evidence to support three claims: (a) in style E success in performance is more frequent and, thus, the feeling about oneself is more positive [22]; (b) in general, successful performance outcomes are predicted to produce higher perceived competence and positive self-perceptions [15, 16, 38]; (c) perceptions of competence are enhanced when children are provided with modified activities that allow for successful movement experiences and with pieces of equipment that differ in size [25, 34].

In conclusion, within the limitations of this study (i.e. 111 Greek fifth graders, one teacher, and curriculum suggested by the Greek Ministry of Education), students who received instruction in style E had higher perceptions of their athletic competence than students who received instruction in style B. This empirical evidence is important to teachers who value the development of a student's affective behaviors in PE classes. Considering that self-esteem development is an important goal of the PE curriculum [13, 23] and that children who perceive themselves to be competent at a skill will maintain interest in mastering the skill and being involved in it [15, 25], choosing the Inclusion style of teaching makes good sense. Teachers should have in mind that instructional strategies that allow for task or equipment modifications can be effective in impacting students' beliefs about athletic competence [25]. Further research conducted in different school settings and with different age groups and sport skills is necessary to better understand the relationship between style E and perceived athletic competence. In addition, it would be interesting to examine the relationship between selecting more or less difficult levels of a task and perceptions of competence.

REFERENCES

1. Beckett, K.D., The effects of two teaching styles on college student's achievement of selected physical education outcomes, "Journal of Teaching in Physical Education", 1990, 10, pp. 153-169.
2. Bryman, A., Cramer, D., Quantitative data analysis with SPSS for Windows, London, Routledge 1999.
3. Byra, M., Jenkins, J., Matching instructional tasks with learner ability: Teaching style E, "Journal of Physical Education, Recreation and Dance", 2000, 71(3), pp. 26-30.
4. Chamberlain, J. R., The effects of Mosston's "Practice style" and "Individual programme-teacher design" on motor skill acquisition and self concept of fifth grade learners, (Doctoral dissertation), Philadelphia: Temple University. Dissertation Abstracts International 40, 1979, pp. 2540 – A.
5. Chatoupis, C., Emmanuel, C., The effects of two disparate instructional approaches on student self-perceptions in elementary physical education, "European Journal of Sport Science", 2003, 3(1).
6. Ernst, M., Byra, M., Pairing learners in the reciprocal style of teaching: Influence on student skill, knowledge and socialization, "The Physical Educator", 1998, 55(1), pp. 24-37.
7. Fox, K.R., Corbin, C.B., The physical self-perception profile: Development and preliminary validation, "Journal of Sport and Exercise Psychology", 1989, 11, pp. 408-430.
8. Gall, M. D., Borg, W. R., Gall, J. P., Educational Research: An introduction (6th ed.), White Plains, NY: Longman 1996.
9. Goldberger, M., Effective learning through a Spectrum of Teaching Styles, "Journal of Physical Education Recreation and Dance", 1984, 55(8), pp. 17-21.
10. Goldberger, M., The Spectrum of teaching styles: A perspective for research on teaching physical education, "Journal of Physical Education, Recreation and Dance", 1992, 63(1), pp. 42-46.
11. Goldberger, M., Research on the Spectrum of teaching styles. (in:) R. Lidor, E. Eldar, and I. Harari, eds., Bridging the gaps between disciplines curriculum and instruction, windows to the future, Israel, Wingate Institute: AIESEP 1995, pp. 429-435.
12. Goudas, M., Biddle, S., Fox, K., Underwood, M., It ain't what you do, it's the way you do it! Teaching style affects children's motivation in track and field lessons, "The Sport Psychologist", 1995, 9, pp. 254-264.
13. Greek Ministry of Education, Η Φυσική Αγωγή στο Δημοτικό Σχολείο. Βιβλίο για τον Διδάσκοντα (Elementary Physical Education – Book for the PE teacher), Athens, Greek Ministry of Education, Pedagogical Institute 1997.
14. Harrison, J.M., Fellingham, G.W., Buck, M.M., Pellett, T.L., Effects of Practice and Command styles on rate of change in volleyball performance and self-efficacy of high-, medium-, and low-skilled learners, "Journal of Teaching in Physical Education", 1995, 14, pp. 328-339.
15. Harter, S., Effectance motivation reconsidered. Toward a developmental model, "Human Development", 1978, 21, pp. 34-64.
16. Harter, S., A model of intrinsic mastery motivation in children: Individual differences and developmental change, (in:) W.A. Collins, ed., Minnesota

- Symposium on Child Psychology, Vol. 14, Hillsdale, NJ, Erlbaum 1981, pp. 215-255.
17. Harter, S., Development perspectives on the self-system, (in:) E. Hetherington, ed., *Socialization, personality, and social development*, New York, Wiley 1983, pp. 275-385.
 18. Harter, S., *Manual for the Self-Perception Profile for children*, Denver, CO, University of Denver 1985.
 19. Harter, S., Developmental processes in the construction of the self, (in:) T.D. Yawkey and J.E. Johnson, eds., *Integrative processes and socialization in early to middle childhood*, Hillsdale, NJ, Erlbaum 1988, pp. 45-78.
 20. McKiddie, B., Maynard, I.W., Perceived competence of school children in physical education, "*Journal of Teaching in Physical Education*", 1997, 16, pp. 324-339.
 21. Mellor, W., *An overview of Mosston's Spectrum of teaching styles*, Kingston, Ontario, Queens University 1990.
 22. Mosston, M., Ashworth, S., *Teaching Physical Education* (5th ed.), CA, B. Cummings, San Francisco, 2002.
 23. NASPE, *Moving into the future – National physical education standards: A guide to content and assessment*, Reston, VA, National Association for Sport and Physical Education 1995.
 24. Papaioannou, A., Perceptions of motivational climate, perceived competence and motivation of students of varying age and sport experience, "*Perceptual and Motor Skills*", 1997, 85, pp. 419-430.
 25. Papaioannou, A., Theodorakis, Y., Goudas, M., *Για μια καλλίτερη Φυσική Αγωγή* (Improving the practice of physical education), Christodoulidis Publications, Thessaloniki, GR 2003.
 26. Pellet, T.L., Harrison, J.M. The effects of refinement of beginning female junior high school volleyball players' practice success and achievement, "*Journal of Teaching in Physical Education*", 1994, 15, pp. 1-12.
 27. Robinson, B.A., Turkington, H.D., Individualized instruction... What, why and how??... in *Physical Education*, "*Runner*", 1992, 30(4), pp. 29-32.
 28. Salter, W.B., Graham, G., The effects of three disparate instructional approaches on skill attempts and student learning in an experimental teaching unit, "*Journal of Teaching in Physical Education*", 1985, 4(3), pp. 212-218.
 29. Sherman, M.A., *Style analysis checklists for Mosston's spectrum of teaching styles*, Unpublished manuscript, University of Pittsburgh 1985.
 30. Slavin, R.E., Leavey, M.B., Madden, N. A., Combining cooperative learning and individualized instruction: Effects on student mathematics achievement, attitudes and behaviours, "*The Elementary School Journal*", 1984, 84(4), pp. 409-422.
 31. Theeboom, M., De Knop, P., Weiss, M.R., Motivational climate, psychological responses, and motor skill development in children's sport: a field-based intervention study, "*Journal of Sport and Exercise Psychology*", 1995, 17, pp. 294-311.
 32. Thomas, J.R., Nelson, J.K., *Research methods in physical activity* (3rd ed.), Human Kinetics, Champaign, IL, 1996.
 33. Van der Mars, H., Observer reliability: Issues and procedures, (in:) P.W. Darst, D.B. Zakrajsek, and V.H. Mancini, eds., *Analyzing Physical Education and sport instruction*, Human Kinetics, Champaign IL, 1989, pp. 53-80.

34. Weiller, K.H., The social-emotional component of physical education for children, "Journal of Physical Education, Recreation and Dance", 1992, 63(6), pp. 50-53.
35. Weigand, D.A., Burton, S., Manipulating achievement motivation in physical education by manipulating the motivational climate. "European Journal of Sport Science", 2002, 2(1).
36. Weiss, M.R., Self-Esteem and achievement in children's sport and physical activity, (in:) D. Gould, M.R. Weiss, eds., Advances in pediatric sport sciences, Vol. 2, Human Kinetics, Champaign IL, 1987, pp. 87-119.
37. Weiss, M.R., Chaumeton, N., Motivational orientations in sport, (in:) T.S. Horn, ed., Advances in sport psychology, Human Kinetics, Champaign IL, 1992, pp. 61-99.
38. Whitehead, J.R., Enhancing fitness and activity motivation in children, (in:) R.R. Pate and R.C. Horn, eds., Health and Fitness through PE, Human Kinetics, Champaign IL, 1994, pp. 81-90.

Date.....	Time.....	Class size.....
PHASE ONE: SETTING THE SCENE/ROLE IDENTIFICATION		
T L	1.	Locates and positions learners.
T L	2.	Names the teaching style.
T L	3.	States the objectives of the teaching style.
T L	4.	Describes the learner's role, the "shift" in nine decisions.
T L	5.	Shift posture decision to learners.
T L	6.	Repositions learners.
T L	7.	Describes the teacher's role.
T L	8.	Asks questions for role clarification.
T L	9.	Answers questions for role clarification.
PHASE TWO: SETTING THE SCENE/SUBJECT MATTER IDENTIFICATION		
T L	10.	Announces the general subject matter.
T L	11.	Announces the specific task(s).
T L	12.	Delivers the task(s) to the learners ("show and tell").
T L	13.	Establishes quantity and quality of task performance.
T L	14.	Establishes order of task performance if not random.
T L	15.	Establishes parameters and logistics for the nine decisions.
T L	16.	Solicits and answers questions for task clarification.
T L	17.	Shifts starting time decision to learners – "You may begin when you are ready".
PHASE THREE: PERFORMANCE OF THE TASK		
T L	18.	Performs the task(s).
T L	19.	Makes the nine impact decisions, within designated parameters: posture, location, order, starting time, pace and rhythm, stopping time, interval, attire and appearance, and questions for clarification.
PHASE FOUR: EVALUATION AND FEEDBACK		
T L	20.	Moves around classroom, monitors task and role performance of individual learners.
T L	21.	Evaluates learners, offers individual and private feedback to learners about task and roles.
T L	22.	When deemed necessary, adjusts episode at critical moments.
PHASE FIVE: END-OF-LESSON CEREMONY ("CLOSURE")		
T L	23.	Locates learners.
T L	24.	Summarizes main points of lesson.
T L	25.	Offers feedback to learners for role performance.
T L	26.	Answers learner-initiated questions for clarification.
T L	27.	Announces coming events.
T L	28.	Closes the episode (i.e., collects equipment and materials, rearranges classroom, bids farewell to learners, dismisses the class).

Figure 1. Practice Style Analysis Checklist

Date.....	Time.....	Class size.....
PHASE ONE: SETTING THE SCENE/ROLE IDENTIFICATION		
T L 1. Locates and positions learners.		
T L 2. Names the teaching style.		
T L 3. Explains the concept of inclusion (the "slanty rope" principle).		
T L 4. States the objective of the style.		
T L 5. Describes the role of the learner, emphasizing the privacy of selecting an entry point (the "plugin" decision).		
T L 6. Describes the role of the teacher.		
PHASE TWO: SETTING THE SCENE/SUBJECT MATTER IDENTIFICATION		
T L 7. Announces the general subject matter (and why selected).		
T L 8. Announces the specific task(s) (and why selected).		
T L 9. Delivers the task description (individual program) to the learners.		
T L 10. Describes the factor determining degree of difficulty and the various levels specified in the individual program		
T L 11. Describes the quality, quantity and order of tasks.		
T L 12. Delivers the criteria; explains it and how to use it.		
T L 13. Establishes task-appropriate parameters and logistics.		
T L 14. Answers learner-initiated questions for clarification.		
T L 15. Announces: "You may begin when you are ready."		
PHASE THREE: PERFORMANCE OF THE TASK		
T L 16. Acquires equipment and materials (i.e. individual program and criteria).		
T L 17. Conducts self-assessment and selects an entry level for task(s).		
T L 18. Performs the task(s)		
T L 19. Makes the nine impact decisions within designated parameters.		
T L 20. Initiates questions for clarification.		
PHASE FOUR: EVALUATION AND FEEDBACK/LEARNERS ROLES		
T L 21. Has the criteria for evaluating task performance.		
T L 22. Monitors task performance.		
T L 23. Compares and contrasts task performance against criteria intrinsic to the task.		
T L 24. Draws conclusions about task performance.		
T L 25. Offers task-related feedback.		
T L 26. Decides whether to continue or change entry point placement.		
PHASE FIVE: EVALUATION AND FEEDBACK/TEACHER ROLES		
T L 27. Has the criteria for evaluating role performance.		
T L 28. Monitors role performance.		
T L 29. Compares and contrasts role performance against criteria.		
T L 30. Draws conclusion about role performance.		
T L 31. Offers role-related feedback after the learner has made entry point and self-check decisions.		
T L 32. Answers learner-initiated questions for clarification.		
T L 33. When deemed necessary, adjusts episode at critical moments.		
PHASE SIX: END-OF-LESSON CEREMONY ("CLOSURE")		
T L 34. Locates and positions learners.		
T L 35. Summarizes main points of lesson; announces coming events.		
T L 36. Offers role-related feedback based on objectives of style E.		
T L 37. Closes the episode (i.e., collects equipment and materials, rearranges classroom).		

Figure 2. Inclusion Style Analysis Checklist

[1] In this context "appropriate level" refers to that level which is either difficult enough or is not too difficult for a given student to perform a skill successfully and hit the target.

[2] Students' success on the sport skills will not be discussed because the focal point of this study is perceived athletic competence. However, the findings on success will help us to discuss the results on perceived athletic competence.