

The Spectrum of Teaching Styles and Teacher Education

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The issues confronting education are so vast and complex that one could become very cynical about the present conditions in the educational community. The problems seem insurmountable. **Pedagogical accountability** - preparing teachers who can teach - appears to be the major theme on which the majority of the problems in education hinge. How do we prepare teachers who can teach?

There are those critics, such as John Silber, the former president of Boston University, who says, "The best thing that could happen to most schools of education would be closing them" (1991). Some of our students report that their college training programs did not teach them how to teach. They say they taught themselves how to teach once they became teachers. We have all heard these critical and callous comments about the preparation of teachers. We know problems exist and that they are occasionally true. In spite of the crisis, the search for programs that will positively affect the system continues. Most of the research and programs today agree that the teacher is the most influential individual in the classroom.

Research studies state that the knowledge, behavior, skills, and talents of the individual teacher determine the level of proficiency and efficiency within the classroom. Learning is linked to good teaching! Teachers do make a difference. Educators continuously strive to restructure, streamline, and adjust teacher preparation programs so that students are prepared with adequate knowledge and classroom skills to educate children in the 21st century.

The purpose of this paper is to describe the design, process and results of one pedagogical program that has made a difference in the preparation of teachers. This program is based on The Spectrum of Teaching Styles: From Command to Discovery (Mosston, 1966; Mosston and Ashworth, 1990). The paper's intent is not to delineate the details or the decision structure of the various styles on the Spectrum. Please refer to articles which focus on the description of the Spectrum for such specific details.

First: How was the Theory of the Spectrum Proven?

The Spectrum originated in 1964. Details of the theoretical model evolved and were delineated during the next nine years by Muska Mosston at Rutgers University. In 1972, the Center on Teaching, a Title IV-C grant from the New Jersey State

Department of Education, provided the conditions for eight years of direct implementation of the Spectrum into a variety of classroom settings. The charge of the Center was to expand the repertoire of teaching techniques employed in the classroom. The Center on Teaching, directed and codirected by Mosston and Ashworth, was available to all public schools in New Jersey.

We experienced all teaching levels in the early developmental stages: kindergarten, elementary, middle, high school and college classes, gifted and remedial classes. We worked in both public and private institutions. We traveled to a variety of teaching situations from inner city to plush suburban schools, from neglected and unstructured schools to efficient and highly structured ones, from schools that were highly ranked to those which were poorly ranked. Volunteer participation ranged from two teachers in one school to a hundred teachers in a large high school. Hundreds of teachers and supervisors participated in the developmental stages.

The literature frequently repeats that "theory is opposed to practice" and that the "gap between theory and practice stubbornly remains" (Carr, 1990). "There's a lot of tension

about the fact that teacher preparation is not in tune with practice" (Olsen, 1990). The Center on Teaching was dedicated to reducing, if not eliminating, this gap between theory and practice. Designing a training program that would correspond to the theory became the Center's primary focus. During the eight year period of implementation, ninety percent of the Center's time was spent in the classroom grappling with the procedures for a smooth transition from theory to practice. It was teachers from these various settings that verified the structure of the Spectrum theory.

Those years were exhilarating! Frequently, those years were frustrating, for teachers asked questions that we could not answer. Their questions made us go beyond our original thinking!

The teachers' contributions to the refinement and implementation of the Spectrum fell into three categories: those whose successes verified what the theory predicted; those who questioned and discovered new insights and connections within the theory; and those who left the Spectrum program because their questions or statements could not be answered with satisfaction! Each of these teachers contributed to the expansion of the Spectrum theory and its

implementation procedures. The constant analysis of the teacher's interpretation of the theory refined both the details of the theory and its practical application. The Spectrum theory today and the procedures for its implementation are the cumulative efforts of all the participating teachers.

Scrutiny from the teachers served to refine the Spectrum from a philosophical theory to a workable theory about teaching. A workable theory means that the intentions of the theory could actually be practiced and visible in classrooms. Because of the continuous and intensive classroom implementation schedule, a high correlation developed between the theory of the Spectrum and the implementation by teachers. The premises on which the Spectrum stood, after years of research, could finally be translated into behavior independent of its designers. The ability of teachers to replicate the theory with fidelity gave life to the Spectrum beyond the theoretical model.

The sustained intimate relationship between theory and practice appears to be a factor that differentiates the Spectrum from other theories in education. The cycle from

theory to practice and practice to theory resulted in a system about teaching that withstood the crucible of reality! The reported gap between theory and practice described by the research literature was no longer an issue in the Spectrum training program.

Second: What Procedures Were Used in the Training Program?

What training procedures lead to a high degree of congruence between theory and practice? The following steps proved to be successful in expanding teacher's repertoire of teaching (Mosston and Ashworth, 1979):

1. Overview of the Spectrum and training procedures
2. Pre-workshop classroom visitation
3. Workshop, Part I - The Theory
4. Workshop, Part II - Micro teaching
5. Classroom follow-up visitations

Step one introduced teachers to the program. Based on their interest, teachers volunteered to study. During step two each teacher who volunteered was visited in their classroom before training sessions began.

In step three the theory of each style was presented. The following is representative of the information delivered during theory: The Spectrum is a decision making model and

each style is based on a specific decision distribution between the teacher and the learner so that a specific set of objectives can be developed and accomplished. Each style has its own unique decision structure. Example: In the Command Style - Style A the teacher makes all decisions, the learner's role is to respond at the precise cues of the teacher. The unique objectives of Style A are precision, uniformity, accuracy of performance, esprit de corp, transmission of traditions, and safety. Examples in our society of this decision relationship are folk dancing, aerobics, formal ceremonies, cheerleading, ~~choral~~ and orchestra performances, synchronized swimming, and marching bands - responding on cue at the precise moment is crucial in each of these examples. The decision structure and objectives for Guided Discovery -Style F are different. The teacher designs a series of specific questions which lead the learner to discover a relationship or principle that was previously unknown to them. Research data indicates that the process of discovery has a different effect on memory and time-on-task. Each style has its unique contribution to the overall impact of education. No one teaching style is more important than any other. During the theory, decision structure and implication details of each styles were presented.

Step four required each teacher to demonstrate behavioral competence in each of the teaching styles. In order to facilitate this learning process, Analysis Tools for each style were designed (Ashworth, 1974). These tools delineated the order of the decisions that must be made and who must make them in each style. . These tools helped teachers translate the theory into a practical guide so that they could execute the anticipated teaching style.

Achieving success is obtained when congruence exists between the style's decision structure and the episode actually taught. The Analysis Tools served as a guide: they presented the order in which decision "should" appear so that the benefits of the teaching style can be most effectively accomplished. Micro-teaching is an emotional experience. When students or teachers are asked to "teach" in front of a camera and then asked to justify or explain what they have taught, an idiosyncratic analysis generally occurs. Defending what was done occurs instead of analyzing the process according to anticipated outcomes. Since each style on the Spectrum has its own decision structure and anticipated set of objectives, teachers have less opportunity, because of the Analysis Tools, to indiscriminately justify their micro-teaching episodes. The

reliance on the analysis tools is another major difference between the Spectrum and other teacher training models. The Analysis Tools maintain the theoretical integrity of each teaching style. Initially, teachers must focus on internalizing the intrinsic decision structure of each style. Some teachers are more willing than others to accept such precision. Such a process suggests that one's idiosyncrasies serve to accommodate the intended and overall goal. The profession of teaching is not based on the personality of each individual teacher. There is a structure and base knowledge about teaching that is independent of individual personalities. Personal idiosyncrasies do emerge, but these personal expressions do not disrupt the decision structure.

Theory is independent of personal preference. For example: the overhand volleyball serve has its own specific structure. One's "personality" is independent of the mechanics of the serve. Developing a repertoire of teaching behaviors is initially independent of one's personality. If expanding the range of various teaching behaviors is a goal, students must be required to "learn about teaching" beyond their previous experiences and images of the teacher-learner relationship. The more secure teachers become in the structure of a theory the more spontaneous they can ultimately become.

The Spectrum is presently being utilized at Florida Atlantic University in a volunteer undergraduate teacher training program. Training steps three through five are used with undergraduates: after presentation of the style's theory, students are required to design a micro teaching experience (from three to seven minutes) which followed the Analysis Tools. Students practice their micro teaching experience with three other peers. After students analyzed their video teaching episodes, their tapes are viewed by the instructor. The focus of this analysis is: congruence of actual teaching to the style's decision structure. Students practice the same style for a second micro-teaching episode with four children from their public school field experience class. This procedure is repeated for each style. By the end of the second semester, students demonstrate a repertoire - a Spectrum - of teaching behaviors.

Students learn that what differentiates one teaching style from another is the decision structures and the anticipated set of objectives. They realize that each teaching style represents a different kind of experience! Identifying intentions in advance (HOW do they want the learners to experience the specific content) and analyzing whether or not the actual behavior matched the intention is the focus of

this teacher training program. There is a difference in the classrooms of the Spectrum trained students as compared to the classrooms of students who selected the traditional eclectic program.

Third: What Are the Results of the Spectrum Training Program?

Research on the Spectrum has been conducted in the following areas: student and teacher perceptions (Pichert, Anderson, Armbruster, 1976; Oxman, 1980, 1981; student academic performance (Oxman, 1979; Goldberger, 1979); time-on-task studies (Shirey, Anderson and Pichert, 1978) and comparative studies between Spectrum and non Spectrum teachers (Ashworth, 1983).

On the undergraduate level, there have also been comparative studies on field experience students (before student teaching) (Ashworth, 1988, 1989, 1991); and comparative studies on student teachers (Ashworth, 1988, 1989, 1991).

The intent is not to report the results of each study. As a generally statement each study indicated that the Spectrum training had a positive and significant impact on the teaching-learning process. Oxman's study on student academic

performance revealed that fourth grade students' Math performance on the Comprehensive Tests of Basic Skills (CTBS) jumped from a pretest 75 percentile entry level, before their teachers studied the Spectrum, to an actual posttest 99 percentile NCE ranking (National Curve Expectancy) with a raw score of 91 percentile after Spectrum training (1979). "It is highly unlikely that these results might have occurred by chance" (Oxman, 1979, p.3). The results from Anderson, Shirey, and Pichert's study on active vs. passive time on task of Spectrum and non-Spectrum students stated: "Spectrum students spent a significantly greater proportion of their time on task in an active fashion than Control students, $F(1,154) = 36.9, p < .001$. Of the total academic time, Control students averaged 30% active time on task. Spectrum students averaged 66%" (1978).

Comparison studies between classroom teachers who had studied the Spectrum and classrooms who had not studied the Spectrum, revealed a variety of differences. The Spectrum classroom: engaged the learners in more active time-on task activities, used more forms of feedback, conducted more private and individual interactions with students, gave less negative statements, varied the classroom organization, circulated more among the children, gave more expectations, and altered teaching styles more frequently (Ashworth, 1984).

During the past four years at Florida Atlantic University, several longitudinal studies have been conducted comparing student teachers' teaching skills. The student sample represented two groups: those whose prestudent teaching field experience involved Spectrum training and those whose prestudent teaching field experience focused on an eclectic program. The eclectic program involved 300 hours in the classroom, without benefit of an accompanying theory course. The conclusions from this study were almost identical to Ashworth's 1984 study which compared classroom teachers' skills. The students who had engaged in Spectrum training demonstrated more of the effective teaching characteristics identified in the literature. The students in the eclectic program remained more fixed in their teaching "image." These students, unlike the Spectrum trained students, did not show flexibility in managing the classroom variables or employing a variety of effective teaching components. Spectrum student teachers were able to demonstrate more of the effective teaching components and incorporated a variety of teaching "images". Classrooms of Spectrum student teachers engaged the learners in more active time-on task activities, gave more specific feedback statements, offered more opportunity for student interaction and student questions, used more frequently multiple modes when delivering content, used more forms of feedback, conducted more private and individual

interactions with students, varied the classroom organization, circulated more among the children, gave more expectations, and altered teaching styles more frequently (Ashworth, 1988, 89, 90).

Surprisingly, another longitudinal study comparing students perceptions and feelings of their pre student teaching field experience programs revealed no differences. In this study there were no significant differences between the two groups studied in their perceptions or feelings concerning their preparation program (Ashworth, 88, 89, 91). Pupils, in both Spectrum and eclectic experiences, perceived their program as the "best" for preparing them to student teach. The questionnaire responses on approximately thirty-eight questions were identical. Nearly identical frequency distributions occurred in their perceptions and feelings about what they learned, skill acquisition, growth, competence, satisfaction with program selection, and predictions of potential success.

When this study and the student teaching study were compared inconsistencies emerged. How is it possible that students reported they were well trained, when studies during student teaching demonstrate a portion of the students taught used ^{very} few of the competencies identified as effective teaching? How is it possible?

The conclusions from these longitudinal studies indicated that students TEACH relative to the theories of their field experience program. Students who are expected to emulate the typical classroom teacher will teach like the typical classroom teacher. Students who "talk" teaching theory, ultimately rely on their preconceived perceptions about teaching. A personal, an idiosyncratic approach to teaching is perpetuated. In such situations, Quinn's concerns about field experience appears to be accurate: "field experience becomes a matter of routinizing inadequate or inappropriate strategies" (1986). Moreover, students in the eclectic program were less versed in behavioral demonstration of the acceptable components for effective teaching. They replicated, without knowledge or awareness, teaching that had been identified as ineffective.

Most of the students who had experienced the Spectrum pre student teaching field experience demonstrated a greater variety of the competent teaching skills and indicated an awareness of certain unacceptable behaviors. They often indicated that, "although I knew that wasn't the most effective procedure, my cooperating teacher insisted that I do it her way." Berliner stated that field experiences, "retard the development of analytic skills and thus, in (its)

present form, militates against the development of the profession" (1985, p. 3). Perhaps, more precisely, it is the theory and procedures that accompanies the field experience that either develops analytic skills or serves "merely to socialize the prospective teachers into established patterns of school practice" (Ferrell and Howley, 1988).

Teacher training program can make a difference. The gap between theory and practice can be reduced. University teacher training programs are an INDISPENSABLE link in the preparation of teachers. What appears to make the difference is the theory about teaching which is presented to students. Discussion approaches, observational, or interpretative teacher training programs will not suffice as we approach the 21st century. A beginning trend in education today is to close colleges of education. This has already begun in Oregon, Texas, Massachusetts, and the Netherlands. Recently, in a school district in Florida, an alternative teaching program was proposed: recruit high school graduates, offer a long term on-site training program that culminates with a teaching position (Work, 1991). Such programs are threats to the existence of the colleges of education. The colleges of education must regain their INDISPENSABLE ^{position} in the teacher training program. A commitment to pedagogical accountability provides students with the specific action-components needed

to enter the work place adequately prepared to enhance the teaching profession. Our students must exit the university doors with the ability to finesse the classroom with competent teaching skills - skills that make a difference. Such a teacher needs a repertoire of knowledge: perhaps a Spectrum of Teaching Styles: From Command to Discovery.

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