Greater Differentiation of Instruction and Mastery of Learning for Student Teachers by Utilizing the True Colors™ Model

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Abstract

The purpose of this non-experimental descriptive study was to provide student teachers with the knowledge and tools to self-assess their personality and learning styles and to utilize this knowledge to differentiate instruction to match the students' learning preferences in their field classrooms. A personality self-assessment commenced with the completion of the True Colors™ questionnaire. The assessment yielded a personality color spectrum. Following this, the student teachers attended three True Colors™ training sessions. The student teachers incorporated their training into their field classrooms as a means of differentiating the instruction. The student teachers expressed that their students benefitted from the tailored instruction, which they had received. The personality self-assessment informed the student teachers of their learning and teaching preferences, and this knowledge fostered an openness in the student teachers to include teaching strategies beyond their learning preferences. The student teachers became more student-centered and supportive of their students' learning styles.

Keywords: Differentiated Instruction, Learning Styles, Personality Styles, Student-centered Instruction, Teachers' Instructional Preferences, True Colors™, Inc.

Introduction

Educators are challenged with instructing all students in diversified ways that maximize their engagement and achievement. DeJesus (2012) credited the Individuals with Disabilities Act of 1997 as an energizing factor for inclusive instruction throughout the 1990s. The act added momentum to the quest for diversification of instruction for all learners.

Yenmez and Özpinar (2017) asserted that the classroom is a social environment in which individuals perceive and interpret the world in unique ways. How an individual actively constructs schema is highly personal and based on the individual's readiness for learning, interpreting, and understanding. Implementing ineffective instructional strategies have less than optimal consequences for the learners. Heacox (2002) recognized that when students experience success in learning they break the cycle of failure. Teachers are challenged with finding the most effective means of instruction to support students' successes. Yenmez and Özpinar (2017) affirmed that applying a differentiated instructional approach matches the ideological perspective of a constructivist approach to education. A constructivist approach is well-aligned with developmentally appropriate practices and well-established theorists such as Piaget and Vygotsky. Differentiated instruction, provides opportunities to engage all learners and thwarts the problem of disengaged, poorly-motivated students (Morgan, 2013). Differentiation is most appropriate when it includes: a) varied instructional designs with students' choices, (b) relevant

and essential learning, c) flexible and responsive instruction, and d) complex and deep curriculum (Heacox, 2002).

A one-size fits all approach for educating students is deficient in addressing the diversity among students and may leave students' learning needs unmet (Tomlinson & Imbeau, 2011). Joseph, Thomas, Simonette, and Ramsook, (2013) asserted "When differentiation is based on learning profiles, students are provided with opportunities to learn in ways that are natural and efficient" (p. 29).

Historical Background

Research has indicated that different personality types and learning channels exist and these may be correlated with greater academic achievement. Several studies have specifically addressed the link between students' cognitive ability/personality traits and the same students' performance in their college studies (Dyer, 1987; Clark & Riley, 2001; and O'Brien, Bernold & Akroyd, 1998). Since the work of Carl Jung (1921), various researchers have sought to apply his four dimensions of temperaments into active classroom learning channels. Purposefully matching students' personalities/
temperaments with teaching and learning strategies seeks to improve students' academic performances. The True Colors ™ personality assessment model developed by Don Lowry (1978), offered opportunities to correlate the work of Jung, Myers and Briggs, and others to find ways of differentiating instruction in the classroom.

As the founder of the corporation, True Colors, Inc, Don Lowry (1978) believed his work possessed a strong conceptual tie with the Myers-Briggs Type Indicator (1975-77) and the work of Carl Jung (1921, 1927). Myers-Briggs utilized a questionnaire to determine 16 personality types comprised of various combinations of perception and judgment that are associated with an introverted or extroverted orientation with varying levels of sensing, feeling, intuiting, and judging ("MBTI® Basics", 2003, 2014). Lowry was influenced twentieth century psychologists such as Kiersey (1978) who recognized various attributes associated with individual personalities and made connections between Myers-Briggs and Jung. This ignited Lowry's vision of the True Colors™ Model and he drew the impetus for four personality types into a color metaphor of orange, gold, blue, and green. Lowry's conclusions resulted in the True Colors™ personality style questionnaire as a valid and reliable measure of the academic proclivities and personality styles and a tool for guiding educators in to identify various personality learning preferences. Addressing the students' personalities and preferred learning styles is a means to improve student motivation, engagement, and achievement (Bhat, 2014; Joseph et al., 2013).

Delineated within the True Colors™ Model are: (a) unique characteristics that explore the motivations and interpretations that each color attributes to the personality, and (b) interpretation and reception of instructional strategies that best complement personalities and learning preferences. Personality core values and needs are aligned with each color within the True Colors™ spectrum and these reflect learning and assessment preferences. Table 1 provides a summary of the colors aligned with these attributes.

Table 1
True Colors™ Values, Needs, Attributes and Preferred Leaning and Assessments Summary

True Colors™	Core Values, Needs, Attributes	Preferred Learning and Assessments
Orange	freedom, creativity, spontaneity	active, hands-on activities, independent projects, multiple-choice testing
Gold	duty, responsibility, planning, predictable routines, structure	rules, standards, accurate directions, lecture formats, frequent quizzes
Blue	relationships, harmony, caretaking, loyal	interactions, collaborations, non-competitive assessments, essays
Green	independence, intellectual-competence, logical, theoretical, abstract thinking	time for exploration, investigations, essay or oral examinations

Adapted from Lowry, D. (1990). *True colors teaching action & communication guide*. Santa Ana, CA: True Color, Inc. Publishing.

Design and Purpose

The purpose of this non-experimental descriptive research study was to assist student teachers in determining more definitive ways to understand their teaching and learning through self-assessment and reflection. This process was initiated by the introduction of True Colors™ Model spectrum of color for assessing personality styles. Enhanced understanding of self and others through this model aided the student teachers in identifying ways to accommodate the diversity of students in their classrooms. They were able to recognize their students' learning preferences and provide differentiated instruction that offered more opportunities to enhance success among the students.

Methodology

Sample and Procedures

A sample of 50 (N = 50) student teachers from a university in southeastern Pennsylvania participated in this study across two semesters commencing in the fall of 2014 through spring 2015. The student teachers were assigned to various student teaching assignments for 15 weeks in a variety of urban, suburban, and rural elementary schools. An integral part of the student teaching experience included a weekly university instructional seminar, which provided opportunities for the student teachers to reflect and bring educational concerns into focus. Three sections of student teachers were combined in one larger seminar for three sessions to be trained in the True Colors™ Model and the student teachers' utilization of the training became the foundation of this descriptive study.

The fifty student teachers were comprised of males and females between the ages of 20 and 22 who were in their final semester of an Early Grades Teacher Education Program. The students were placed in a variety of urban, rural, and suburban elementary schools across grades K-4.

Phase 1. The study was comprised of two phases that commenced at the beginning of a

15-week student teaching experience. This first phase of the study included the collection of demographic data and determination of a True Colors™ Model spectrum of colors for each student teacher. The colors within the spectrum are associated with: (a) personality characteristics, (b) learning preferences, (c) personal interpretations of environments, and d) preferred ways of interacting with others.

Both qualitative and quantitative data were collected in three different forms. Each participant: (a) responded to a researcher-designed questionnaire (gender, and the student teaching grade assignment, (b) completed the True Colors™ Personality Questionnaire to determine the True Colors paradigm, and (c) participated in a personal interview. The three data sources were triangulated for greater reliability and validity.

True Colors™ data resulted from the completion by the student teachers of the True Colors™ Personality Questionnaire. The student teachers were required to complete the questionnaire and to tally up points assigned to each of their responses to determine their True Colors™ color spectrum. Questions pertained to preferences for: careers, books, leisure time, and movies. Additionally, the student teachers were asked to identify personal competencies, preferred ways of learning, and favorite academic subjects. Other questions inquired about the ways that the individuals made decisions and solved problems and their tendencies toward logic, impulsivity, and emotionality. Further inquiries asked the student teachers to think about how they would describe themselves and whether they viewed rules as being flexible or inflexible, and their preferences for working with others or independently. A final consideration asked the student teachers to think of a word with which others might describe them (e.g. knowledgeable, compassionate, conservative, or active). Through this personal assessment, the student teachers were able to distinguish their personality styles as it aligned with the True Colors ™ Model.

Figure 1 illustrates the percentages of the dominant colors for the student teachers as identified by the True Colors™ assessment.

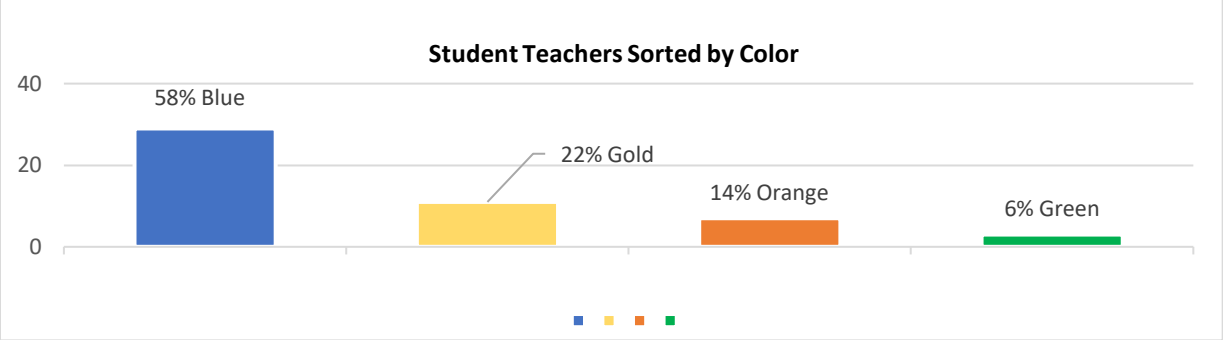

Figure 1. Student Teachers Sorted by True Colors™

The purpose for identifying the student teachers' True Colors™ was to alert them as to how their personality and preferences for perceiving and learning may be influencing the types of instructional strategies that they design and implement. Dunn and Dunn (1979) asserted that teachers tend to teach the way they learn best. It is advisable for teachers to recognize their learning preferences and diversify their teaching to meet their students' learning preferences.

The final step of the data collection in the first phase of the study was a brief personal semi-structured interview. During the interview, the student teachers described the freedom they had been given in designing lessons and the restrictions they had experienced due to scripted curricula. Additionally, the student teachers reflected on the current ways in which they

designed lessons through the lens of their revealed True Colors™ Model color spectrum.

During the data analysis, the student teachers' qualitative responses were sorted, organized, categorized, and coded using an open-coding method. Discreet bits of qualitative data gathered from the interviews and the researchers' designed questionnaire were color-coded and analyzed for commonalities and differences.

The sorting and categorizing of data provided insights into what the student teachers were experiencing and their abilities and experiences in differentiating instruction for their students.

Phase 2. In Phase 2 of the study, the student teachers attended three intense True Colors™ training sessions which assisted them in: (a) understanding and applying the knowledge concerning their True Colors™ Spectrum; (b) learning the personality and style differences among the colors; (c) recognizing the educational implications across the colors in expectations, learning modalities, communication, and motivation; (d) preparing lesson plans reflecting the needs of each color; and (e) implementing diverse instructional strategies within their classrooms. During this phase of the study, student teachers analyzed lesson plans that they had taught to identify examples of instructional strategies that complemented the True Colors™ Model. Practical suggestions were discussed during the weekly seminar sessions to assist the student teachers in customizing instruction for their students.

Before concluding the training sessions, the student teachers reviewed lessons that they had designed to identify instructional and assessment activities. The student teachers reflected on: (a) parts of their lessons which had been enriched by True Colors™ and, (b) certain learners' preferences which may have been omitted during the planning of a lesson. In addition to this exercise, the participants were directed to utilize journal prompts to share reflections related to their exposure to the True Colors™ workshops. These activities aided the student teachers to recognize how True Colors™ had impacted their daily teaching and awareness of learning differences among learners in their classrooms.

Analysis and Results

Qualitative journal responses were examined, sorted, categorized, and color-coded during an open-coding analysis, which were collapsed into six broad themes. The themes reflected the participants' reactions to the True Colors™ Model training and to their identification of their color spectrums. The student teachers' reflections were evidenced in the themes that emerged.

Results of the study indicated that the student teachers could recognize their personalities as evidenced within the True Colors™ Personality Questionnaire and could determine if they had integrated strategies representative of their students. The information garnered throughout the True Colors™ training sessions enhanced the student teachers' knowledge about: (a) differentiating instruction and assessments, (b) creating thriving learning environments, and (c) utilizing effective discipline strategies.

Themes

The emergence of several themes demonstrated that the student teachers had determined the True Colors™ training personally and professionally beneficial. Six themes emerged to reflect the value the student teachers placed on the True Colors™ training: (a) differentiation added value and made improvements in learning, motivation, and relating with others, (b) enhanced understanding of others/improved relationships in and out of classroom environments, (c) "wake-up call" found value in self-reflection for learning more about self and others, (d) influenced the classroom environment design, instruction, and discipline strategies, (e) easy to implement and to transfer to many environments (personal and academic), and (f) should be part

of all teaching-training programs. These themes are displayed with qualitative commentary in Table 2. The table provides a listing of the themes that emerged with qualitative comments made by the student teachers to support the interpretation of the themes.

Table 2
True Color Themes, Supportive Qualitative Data, and Frequencies

Themes	Supporting Qualitative Text
Differentiation added value and made improvements in learning, motivation, and relating with others	"This turned out to be a real help. … as I saw examples of the different kinds of learning needs and how they matched well for some kids but not for others it all came to together. It became easy after a while to match students and their needs and watch them succeed." "This program made my student teaching so much more fun. It was a challenge too, but I worked with my co-op and we learned together."
Enhanced understanding of others/improved relationships in and out of classroom environments	"This made me work harder than I would have. I would have taught in my color and been happy doing that. It explains discipline problems and clashes. I will be a far better teacher because of the colors." "This program teaches us to be more tolerant and understanding of others. I saw so many things that I do and don't do that could be changed for the better."
A wake-up call found value in self-reflection for learning more about self and others	"I am a green and not big on new ideas that cause me more work … I must admit it did highlight the real differences in people. I will try in the classroom with the students … I see a place for it." "This proved to be really helpful."
Influenced the classroom environment design, instruction, and discipline strategies	"This program helped my co-op and I set up our classroom for all learners. We added stations for each color and explained this to the 3rd graders … and they helped us think of other ways to include all. The students table groups were colorized as much as we could to make the physical classroom a comfort zone for each student."
True Colors Model: Easy to implement and transfer to many environments (personal and academic)	"We shared some of the background with the 4th graders. The caught on right away and we were amazed. We used it in every subject like reading characters, historical people in social studies, and famous people." "The one thing that I found amazing was how quickly I could see what the students' colors were. Their colors emerged, and they even picked up on the differences among them"
True Colors Model: Should be part of all teaching-training programs	"Why can't this be a class in the Pre-K through 4 [education] program? It is the greatest single thing I learned in four years. It's a goldmine." "This should be a requirement for every student at …" "It makes sense out of life and how people act. Always wanted to skip the orange children. I am very programmed and sometimes rigid. It helped me to let the kids move more. I had not been doing enough and was paying the price with discipline problems."

Comments shared by the student teachers True Colors™ training identified its assistance in making improvements in the classroom. One participant shared, "Good for controlling my class. I struggle with redirecting behavior of orange kids and now I know why ... I'm gold!". Another student teacher remarked, "Great tool for improved communication in faculty meetings

and such. My co-op pointed out a lot of the uses for this knowledge within the different faculty committees.". Still another participant noticed a connection to bullying among the students as expressed in this commentary,

It became evident to me that certain colors seem to be bullied more than others. Many of my green students were criticized for being nerds and the orange students for being late, getting things done, etc. A good teacher could make a fine teaching tool out of the colors and their strengths and weaknesses."

These comments reflected the practical uses of the student teachers found for using True Colors™ Model in the classroom. The results indicated an enthusiasm for incorporating what the student teachers had learned about themselves and for differentiating instruction with the insights they had gained through the True Colors™ training. Benefits were observed in engagement, motivation, and achievement. The commentary in Table 2 is anecdotal evidence to express the student teachers' perceived value of utilizing their True Colors™ training into their classrooms.

Findings/Conclusions

All participants reported significant gains in (a) their class work, (b) the academic performance of their students, and (c) in their rapport with their students. Each student teacher determined the color spectrum of their students and guided his/her teaching and assessment practices according to the training techniques and suggested strategies. Both written and oral data supported these academic gains and improved performances. The student teachers' journal entries described: (a) insights into individual student's learning struggles and even behavior problems and (b) greater awareness of shortcomings within their learning modalities (large group, small group, or individual engagement), sensory engagement (visual, auditory, tactile, or kinesthetic), assessment choices, and time-usage. The journal entries addressed meaningful goals for: (a) the grouping of individual learners, and (b) future professional development.

The True Colors™ training added to the student teachers' knowledge of ways to differentiate instruction, assessment, and classroom environments. The results indicated enthusiastic support for what had been learned through the workshops, self-assessments, and reflections about the student teachers' personality and learning styles. Algozzine and Anderson (2007) described the differentiated classroom as a place where students inform teachers about their learning and assessment preferences. Differentiating instruction is not a panacea for students to meet performance standards, but a support to help students to achieve. Algozzine and Anderson asserted, "Differentiated thinking empowers teachers to be responsive rather than reactive to the unique and individual personalities, backgrounds, and abilities found within students" (p. 52). The student teachers and many of their cooperating teachers in this descriptive study felt empowered to work with True Colors™ Model as a tool for differentiating instruction to support their students' learning. In additional to enhanced learning opportunities for the students, the student teachers described the benefits of utilizing this method for classroom and behavior management.

Recommendations

This descriptive study demonstrated that student teachers were enriched through learning about the True Colors™ Model for differentiating instruction and using the color spectrum to represent the various personalities and learning preferences. A self-report regarding the successes the student teachers experienced in the classroom indicated that they felt their students were more engaged and motivated in their learning when True Colors™ differentiation instructional and assessment strategies were implemented. Future studies should measure student achievement when students' individual learning preferences are identified and

complemented with the True Color™ strategies for instruction and assessment. Investigating students' reactions to the differentiation strategies based on the True Colors™ Model may be captured through teachers' observations and students' self-reports. Researchers should continue to investigate the benefits and limitations of differentiating instruction and the implicit value associated with the True Colors™ personality assessment.

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