PLANNING FOR DIFFERENTIATION: UNDERSTANDING MARYLAND TEACHERS' DESIRED AND ACTUAL USE OF DIFFERENTIATED INSTRUCTION

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ABSTRACT

This study examines Maryland teachers' views on their actual and desired use of differentiated instruction and the implications for professional development planning. Overall, the Maryland teachers who participated in this study desire to use various student-centered differentiated instructional strategies and currently employ some of these. However, our analysis of survey statements showed that the statements that had the greatest difference between Maryland teachers' desired and actual practices referred to practices associated with individualized planning, self-directed learning, and student autonomy. Teachers want to use these constructivist, student-centered approaches more consistently than they currently do. The findings from this study can inform short-term and long-term planning for professional development focusing on differentiated instruction. The gap between teachers' desired and actual use of differentiated instruction can provide a space for professional development planners and educational leaders to engage in individual or group professional inquiry.

INTRODUCTION

The changing cultural and linguistic landscape of today's classrooms in the United States coincides with reform initiatives that have set ambitious student learning goals (Borko, 2004; Darling-Hammond & Oakes, 2019). While multiple factors may contribute to the achievement of these goals, transforming classroom practice relies on teachers (Darling-Hammond & Bransford, 2005). Thus, scholars and educational reformers have called for paying greater attention to the quality of professional development opportunities available to teachers (Burko, 2004; Darling-Hammond & Cook-Harvey, 2018; Milner, 2015). Professional development planners must engage teachers as stakeholders rather than as passive targets of professional development (Burko, 2004). Indeed, Putnum and Borko (2000) view teachers as active learners who are engaged in multiple communities of practice. Understanding how teachers are addressing learners' multifaceted needs while fostering deeper learning outcomes is critically important to transforming classroom practices. Focusing on Maryland teachers, this article contributes to a greater understanding of teachers' use of differentiated instruction.

Similar to their peers in other states, Maryland teachers have been exposed to a variety of pedagogical models, programs, strategies, techniques, and activities designed to facilitate constructivist student-centered teaching and learning, such as differentiated instruction, to meet the learning needs of their students (Johnson, Collins, Duperes, & Johansen, 1991; Tomlinson & Jarvis, 2009; Polka, 2002). Multiple studies have investigated the desired and actual practices of teaching–learning behaviors in teachers in other U.S. states (Eller, Polka, & Mete, 2019; Peace, Polka, & Mete, 2017; Polka, 2010; Polka, VanHusen, Young, & Minervino, 2016). The present study focused on the desired and actual practices of Maryland teachers' teaching–learning behaviors.

Located on the U.S. East Coast, Maryland has a rapidly diversifying and growing population that is estimated to be 6 million, with 56.80% White, 30.9% African American, 10.4% Hispanic, and 6.7% Asian (U.S. Census Bureau, 2019). This diversity is reflected in the school-age population, where students of color are the fastest growing segment (Maryland State Department of Education [MSDE], 2019.). At the same time, the teaching force in the state of Maryland reflects national trends, which have remained mostly homogenous: White, middle class, and monolingual speakers of English (Banks et al., 2005; Darling-Hammond & Cook-Harvey, 2018). Given the changing demographics, it is imperative to reframe the work of teachers as profoundly grounded in democratic ideals, including a commitment to meet the needs of all learners and to engage in reflective practices (Cochran-Smith, 2003; Hersi, 2019; Leonard, Moore, & Brooks, 2014).

CONCEPTUAL FRAMEWORK AND RELEVANT RESEARCH

The constructivist perspective on learning serves as a useful framework for understanding learning and the assumptions that inform how teachers approach learning. The constructivist perspective views knowledge construction as an engaged meaning-making process in which learners construct their knowledge rather than receive it passively (Allard & Santoro, 2006; Brewer & Daane, 2002; Driscoll, 2018; Wilson, 2018). Central to constructivism is the view that learning is active, includes problem-solving, and is collaborative (Driscoll, 2018; Wilson, 2018). Learning is profoundly learner-centered in the constructivist perspective (Gay, 2010). In learner-centered classrooms, teachers build on students' existing knowledge and encourage problem-solving, collaboration, and a sense of autonomy (Clements & Battista, 1990).

Teachers grounded in constructivist perspectives are reflective and analytical about their practices and can adapt their instruction to meet the needs of their students (Darling-Hammond & Bransford, 2005). Adapting and differentiating instruction is a common approach for meeting the needs of diverse learners (Tomlinson, 2014). Although teachers may be familiar with the concept of differentiating instruction, their practices may be misaligned or they may believe that they have little freedom to implement these approaches (Eller et al., 2019). Polka (2002) and others have observed that differentiating instruction from a constructivist perspective can take many shapes and forms, including instruction based on students' interests and prior knowledge, inquiry and project-based learning, collaboration, formative assessments, and small group instruction (Eller et al., 2019; Peace et al., 2017; Polka, 2010; Polka et al., 2016).

Two poles and nine teaching–learning practices have emerged from student-centered differentiated instruction (see Figure 1; Polka, 2002). The left side of the image includes the teacher-centered practices, while the right side includes the learner-centered practices. The two poles—a teacher-centered pole and a student-centered pole—are supported by the nine teaching–learning behavior categories: teacher objectives, teaching planning and preparation, teacher communication and messages, teacher behavior, student objectives, student planning and preparation, classroom expectations of students, student communication and messages, and student evaluations (Eller et al., 2019; Polka, 2010; Polka et al., 2016). Polka (2002, 2010) investigated these nine teaching–learning behavior categories and determined that teachers typically balance teacher-centered and student-centered practices.

RESEARCH QUESTIONS

For this article, we examined teachers' self-reported actual and desired use of differentiated instruction through the lens of planning and preparation. Specifically, we examined the following research questions:

1. Is there a significant difference between Maryland teachers' self-reported desired and actual classroom practices?
2. Where do specific practices fall along the spectrum from the greatest to the smallest difference between desired and actual classroom practices?

SIGNIFICANCE OF THE STUDY

As noted above, meeting individual students' needs has been an important consideration for teachers and the teaching profession (Council of Chief State School Officers, 2011). We believe that encouraging practicing teachers to reflect on their desired as well as their actual teaching–learning behaviors is an important first step toward helping teachers develop a more in-depth understanding of differentiated instruction. Given the increasing diversity in Maryland schools (U.S. Census Bureau, 2019) and the previous research on desired and actual practices of student-centered differentiated instruction in other U.S. states (Eller et al., 2019; Peace et al., 2017; Polka, 2010; Polka et al., 2016), we conducted survey research with a large list of Maryland teachers for this study to better understand Maryland teachers' actual and desired use of student-centered differentiated instruction in K–12 classrooms.

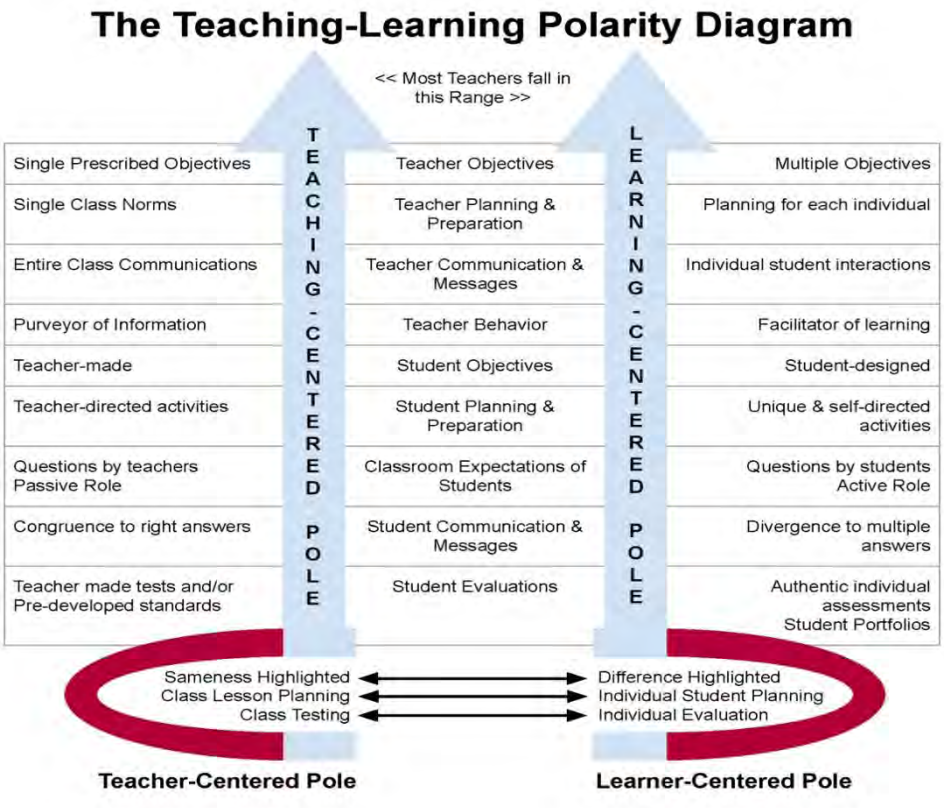

Figure 1. The Teaching-Learning Polarity Diagram. Reprinted from "Facilitating the Transition from Teacher-Centered to Student-Centered Instruction at the University Level via Constructivist Principles and Customized Learning Plans," by W. Polka, 2002, *Educational Planning*, *13*(3), p. 55-61.

METHOD

Research Instrument

The Desired and Current Use of Constructivist Activities and Techniques survey (Polka, 2010) was utilized for this quantitative case study. The survey captures teachers' desired and actual use of learner-centered, constructivist strategies in classrooms and has been used in multiple studies in the U.S. (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016). The survey includes three sections: demographics, desired and actual instructional strategies, and open responses.

Survey demographics

The Desired and Current Use of Constructivist Activities and Techniques survey includes seven demographic questions. We added ten more demographic questions for the present study, such as age, gender, ethnicity, education level, employment, and certification. We included these

to further understand the backgrounds and needs of Maryland teachers and for comparison with specific demographics collected by the Maryland State Department of Education (MSDE, 2016, 2017).

Desired and actual instructional strategies

The desired and actual instructional strategies section of the survey includes 25 statements that require a desired and actual rating, resulting in 50 individual responses per participant. Each statement is rated on a 5-point Likert scale ranging from *5-Always* to *1-Never.*

Open response

The open response section includes two questions, similar to Polka (2010), that focus on changes that are needed to increase the use of student-centered differentiated practices in the classroom. However, the present article focuses on the demographics and desired and actual instructional strategy sections of the survey, so we do not include the responses to these questions.

Survey reliability and validity

The reliability of the Desired and Current Use of Constructivist Activities and Techniques survey used in this study was tested with a Cronbach's alpha reliability test (Leedy & Ormrod, 2016). The 25 statements focusing on the desired practice had a reliability of $\alpha = 0.935$, and the 25 statements focusing on the actual practice had a reliability of $\alpha = 0.93$, yielding high reliability for both the desired and actual practice responses.

The 25 statements (both desired and actual practice) are further divided into the nine teaching–learning behavior categories (Eller et al., 2019). These nine teaching–learning behavior constructs and the 25 survey statements have been utilized in various studies investigating the desired and actual practices of teachers (Eller et al., 2019; Peace et al., 2017; Polka, 2010; Polka et al., 2016). These previous studies and an analysis of these constructs and survey statements (Polka et al., 2016) support the validity of the survey instrument and the findings of the present study.

Research Participants

The participants in this study were Maryland teachers who taught during the 2018–2019 school year. We purchased a list of Pre-K through 12th-grade teachers in both public and private schools in the state of Maryland. The list contained information for 14,332 different teachers, representing 23.88% of the teacher population in Maryland, including the teachers' names, professional email addresses, schools of employment, school cities, and school zip codes. We used the professional email addresses to distribute the survey. From the original list of Maryland teachers (N = 14,332), 672 (4.69%) of the professional emails bounced back, leaving a total of 13,660 email distributions of the survey to Maryland teachers.

Data Collection and Analysis

The survey was distributed in the Spring of 2020. Originally, we planned to send reminders every eight days to support a higher completion rate, but the first day the survey was sent out was also the first day of Maryland's school closure due to COVID-19. We received multiple responses from potential participants reporting high stress levels and anxiety regarding the closure and pandemic, so we suspended the reminder emails for a few weeks, but kept the survey open to allow teachers to complete it at their convenience. We eventually sent two follow-up reminders about completing the survey in an attempt to increase the completion rate. The first of these was sent three weeks after

the initial distribution, and the second was sent four weeks after the initial distribution. The survey was open for a total of six weeks and was completed online by 742 (5.43%) participants. Of these, 187 (1.37%) were omitted because they were only partially completed, leaving 555 (4.06%) usable surveys for our analysis.

For this article, we analyzed only two sections of the Desired and Current Use of Constructivist Activities and Techniques survey: the demographics section and the desired and actual instructional strategies section. The demographics were analyzed through two lenses: first, to showcase a diverse group of Maryland teachers, and second, to make comparisons between the study sample (N = 555) and all Maryland teachers (N = approximately 60,000; MSDE, 2016, 2017). The responses for the desired and actual instructional strategies were analyzed in several ways to address the two research questions. For research question 1, regarding whether there is a significant difference between Maryland teachers' self-reported desired and actual classroom practices, we compared the desired and actual responses using two paired *t*-tests, one between the overall desired and actual practice responses for all statements, and the second comparing the desired and actual practice responses per statement. For research question 2, regarding where specific practices fall along the spectrum from the greatest to the smallest difference between desired and actual classroom practices, we sorted the mean differences between the desired and actual responses for each statement and placed them into quartiles following Polka et al. (2016), thus highlighting the greatest to the smallest differences between what Maryland teachers are actually doing in their classrooms and what they desire to do in their classrooms.

RESULTS

The results of data analysis for the demographics and the research questions are presented in the following subsections.

Demographics

The participants (N = 555) represented a diverse group of Maryland teachers. Most of the participants were female (77.5%), had a master's degree (83.6%), and were Maryland-certified teachers (90.6%). The participants also came mostly from suburban schools (77.5%) and public school systems (85.6%), but they had a wide range of ages, teaching experience, grade levels, and class sizes (see Table 1).

Table 1
Demographics of Participants

Characteristic	Percentage
Age	
20–29	8.1%
30–39	25.6%
40–49	23.6%
50–59	28.8%
60+	13.9%

Grade level	
Pre-K–grade 5	42.3%
Grade 6–8	23.1%
Grade 9–12	34.6%
Number of students in school	
499 or less	20.9%
500–999	42.7%
1000–1499	17.8%
1500–1999	8.3%
2000–2499	7.0%
Over 2500	3.3%
Number of students in classroom	
10 or less	8.3%
11–15	9.7%
16–20	17.5%
21–25	24.3%
26–30	28.7%
Over 30	11.5%

Note. $N = 555$.

This study is focused on Maryland teachers from the original purchased list of Maryland teacher emails (N = 14,332) representing local school districts (81.2%) and private and charter schools (18.8%) throughout Maryland. While previous studies have focused on specific school districts (Peace et al., 2017) or rural schools throughout a state (Eller et al., 2019), we did not collect specific school or district information from the respondents and instead focused on statewide teachers' desired and actual student-centered differentiated instructional practices.

The respondents in this study are representative of the racial and gender makeup of Maryland teachers. Maryland has approximately 60,000 teachers, with 73.5% identifying as White and 78.14% identifying as female (MSDE, 2016, 2017). In 2016, almost half of all Maryland teachers had taught for fewer than 10 years (47.02%), whereas most of the participants in our study were at least in their eleventh year or more of teaching (74.6%; see Table 2).

Research Question 1: Desired and Actual Instructional Strategies

To answer research question 1, regarding whether there was a significant difference between Maryland teachers' self-reported desired and actual classroom practices, the desired and actual responses were compared. This question was approached in two ways, through a comparison of the overall desired and actual practice responses and through a comparison of the desired and actual practice responses for each statement.

Table 2
Comparison of the Demographics for this Study and for Maryland Teachers Overall

Category	Sample percentage [a]	Maryland percentage
Gender		
Female	77.5%	78.14%
Male	22%	21.86%
Other	0.5%	n/a
Race		
White or Caucasian	79.6% [b]	73.5%
Black or African American	13% [b]	17.7%
Other	9% [bc]	8.8%
Total teaching experience		
Less than one year	n/a [d]	5.94%
1–4 years	4.7%	23.35%
5–10 years	20.7%	23.67%
11–15 years	18.7%	18.29%
16–21 years	22%	12.53%
Over 21 years	33.9% [e]	16.2%[e]

Note. The Maryland percentages come from Maryland State Department of Education reports (MSDE, 2016, 2017).

[a] $N = 555$.

[b] Participants in the sample were able to select multiple races, and 1.6% of the sample chose more than one race identification.

[c] Six race categories were included in the survey: White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, and Other, but to match the MSDE (2016, 2017) categories, we combined the latter four categories as "Other."

[d] The MSDE (2016, 2017) categories included less than one year, but this study did not include this category because the participant sample list was curated from a Fall 2018 Maryland teacher list and so, for the 2019–2020 school year, none of these teachers had less than one year's experience.

[e] The MSDE (2016, 2017) categories for total teaching experience ranged over 1–5 years, 6–10 years, 11–15 years, 16–20 years, 21–25 years, 26–30 years, and more than 30 years. The Desired and Current Use of Constructivist Activities and Techniques survey (Polka et al., 2016) included the categories indicated in Table 2, so the MSDE categories 21–25 years, 26–30 years, and more than 30 years were combined for the comparison.

Comparison of the overall desired and actual practices.

We conducted a paired sample *t*-test between the overall means for the desired and actual practices in order to determine whether the desired and actual practice scores were different from each other. The means of the desired and actual responses were statistically different from one

another at the 0.05 alpha level with a large effect size of 4.39, $t(24) = 22.3$, $p < 0.001$, $d = 4.39$, 95% CI [0.72, 0.89], meaning that there are more than four standard deviations between the mean desired and actual practice scores (see Table 3). These results indicate a significant difference between Maryland teachers' overall self-reported desired and actual classroom practices.

In the Desired and Current Use of Constructivist Activities and Techniques survey, each statement includes two responses, a desired practice response and an actual practice response. The desired practice response was a self-reported rating for each statement regarding what teachers wanted to do in their classroom on a 5-point Likert scale. The actual practice response was a different self-reported rating for each statement regarding what teachers actually do in their classroom on the same 5-point Likert scale. We conducted paired sample *t*-tests for each statement to compare the scores for the desired and actual practice. For all statements, the means between the desired and actual practice responses were statistically different from one another (see Table 4), suggesting a statistically significant difference between self-reported desired and actual practice scores. An effect size was also calculated for each statement, and a large effect size was found for all statements. Effect sizes greater than 1, statements 4 and 6, means that there is more than one standard deviation between the mean desired and actual practice scores. These results further indicate a significant difference between Maryland teachers' self-reported desired and actual classroom practices for each statement.

Table 3
Overall Desired and Actual Practice Paired t-Test

						95% CI for the Difference		
Response Focus	*M*	*SD*	*SEM*	*t*(24)	*p*	*LL*	*UL*	*d*
Desired	4.17	0.29	0.06	73.22	0.000	4.06	4.29	
Actual	3.38	0.39	0.08	43.59	0.000	3.22	3.54	
Desired–Actual	0.79	0.18	0.04	22.30	0.000	0.72	0.89	4.39

Table 4
Per Statement Desired and Actual Practice Paired t-Test

						95% CI for the Difference		
Statement #	*M*	*SD*	*SEM*	*t*(554)	*p*	*LL*	*UL*	*d*
1	0.65	0.67	0.03	22.48	0.000	0.59	0.70	0.95
2	0.67	0.75	0.03	21.09	0.000	0.61	0.73	0.90
3	0.55	0.81	0.04	15.90	0.000	0.48	0.62	0.68
4	1.07	0.98	0.04	25.78	0.000	0.99	1.15	1.09
5	0.82	0.91	0.04	21.23	0.000	0.74	0.89	0.90
6	1.14	1.08	0.05	24.84	0.000	1.05	1.23	1.05
7	0.93	1.02	0.04	21.40	0.000	0.84	1.01	0.91

8	0.86	0.90	0.04	22.39	0.000	0.78	0.94	0.95
9	1.01	1.26	0.05	18.94	0.000	0.91	1.12	0.80
10	0.87	1.02	0.04	20.20	0.000	0.79	0.96	0.86
11	0.80	0.86	0.04	21.92	0.000	0.73	0.87	0.93
12	1.09	1.18	0.05	21.75	0.000	0.99	1.18	0.92
13	0.81	0.96	0.04	19.87	0.000	0.73	0.89	0.84
14	0.50	0.73	0.03	16.00	0.000	0.44	0.56	0.68
15	0.78	0.85	0.04	21.53	0.000	0.71	0.85	0.91
16	0.75	0.90	0.04	19.68	0.000	0.68	0.82	0.84
17	0.67	0.94	0.04	16.86	0.000	0.59	0.75	0.72
18	0.94	1.10	0.05	20.01	0.000	0.84	1.03	0.85
19	0.86	0.94	0.04	21.55	0.000	0.78	0.94	0.91
20	0.52	0.76	0.03	16.24	0.000	0.46	0.59	0.69
21	0.63	0.78	0.03	19.03	0.000	0.56	0.69	0.81
22	0.89	0.97	0.04	21.50	0.000	0.80	0.97	0.91
23	0.83	0.90	0.04	21.92	0.000	0.76	0.91	0.93
24	0.60	0.81	0.03	17.46	0.000	0.53	0.67	0.74
25	0.63	0.76	0.03	19.57	0.000	0.56	0.69	0.83

Research Question 2: Greatest to Smallest Mean Differences

To answer research question 2, regarding where specific practices fall along the spectrum from the greatest to the smallest least difference between desired and actual classroom practices, the mean differences for each of the 25 statements were sorted from the greatest difference to the smallest difference and divided into quartiles.

Mean difference quartiles.

The means of the desired and actual responses ($N = 555$) for each statement were calculated and compared to determine the differences between the desired and actual use of learner-centered, constructivist strategies in Maryland classrooms. Four equal-size categories were calculated based on the mean differences and used to determine the degrees of difference between the desired and actual practice means: greater than 0.9, between 0.8 and 0.899, between 0.63 and 0.799, and less than 0.63 (Polka et al., 2016). Mean differences greater than 0.9 (see Table 5) are considered to have the greatest degree of difference between what Maryland teachers are actually doing and what they desire to do in their classrooms (Polka et al., 2016). These statements, with a mean difference range of 0.926–1.139, indicate the greatest difference between Maryland teachers' self-reported desired and actual classroom practices for each statement.

Table 5
Mean Desired and Actual Practice Differences Greater than 0.9

Teaching–learning behavior category	Survey statement number	Survey statement	Mean difference
Student evaluations	6	Students are evaluated individually and move on to another task once they have mastered the objectives on a unit.	1.139
Teacher objectives	12	The time that students have to complete or master a given concept or skill varies based on individual differences.	1.085
Student communication and messages	4	Sufficient time is allocated for students to think, play with ideas, manipulate objects, and experiment in learning.	1.067
Student evaluations	9	Student evaluations are based on individual learning growth instead of fixed standards all are expected to learn.	1.011
Teacher planning and preparation	18	Lesson planning is done for individual students rather than for the entire class.	0.935
Classroom expectations of students	7	Students conduct a major part of their learning on a self-directed basis.	0.926

Mean differences between 0.8 and 0.899 (see Table 6) are considered to have a high degree of difference between what Maryland teachers desire to do and what they are actually doing in their classrooms (Polka et al., 2016). These statements, with a mean difference range of 0.805–0.885, indicate a large difference between Maryland teachers' self-reported desired and actual classroom practices for each statement.

Table 6
Mean Desired and Actual Practice Differences Between 0.8 and 0.899

Teaching–learning behavior category	Survey statement number	Survey statement	Mean difference
Student planning and preparation	22	Students play an active role of contributing to the direction or content of the lessons in their learning experiences.	0.885
Teacher objectives	10	Knowledge of each student, including life outside of school, is used to plan instructional activities.	0.870
Teacher communication and messages	8	The teacher's role is that of a facilitator of learning or resource partner, "guide on the side".	0.859
Student objectives	19	Pretests and other similar diagnostic instruments are used to determine the parts of a unit that individual students need.	0.859

Teacher planning and preparation	23	A variety of diverse learning assignments are designed to meet individual student interests and needs.	0.832
Teacher objectives	5	Different students, when working on a unit of instruction, use different materials, resources, and equipment.	0.818
Student evaluations	13	Divergent ideas are encouraged by the teacher in evaluating student work, as opposed to expecting convergence in exams and other assessments.	0.805

Mean differences between 0.63 and 0.799 (see Table 7) are considered to have a moderate degree of difference between what Maryland teachers desire to do and what they are actually doing in their classrooms (Polka et al., 2016). These statements, with a mean difference range of 0.645–0.796, indicate a moderate difference between Maryland teachers' self-reported desired and actual classroom practices for each statement.

Mean differences less than 0.63 (see Table 8) are considered to have the smallest degree of difference between what Maryland teachers desire to do and what they are actually doing in their classrooms (Polka et al., 2016). These statements, with a mean difference range of 0.495–0.627, indicate the smallest difference between Maryland teachers' self-reported desired and actual classroom practices for each statement.

Table 7
Mean Desired and Actual Practice Differences Between 0.63 and 0.799

Teaching–learning behavior category	Survey statement number	Survey statement	Mean difference
Teacher behaviors	11	The students and teacher respect the diverse opinions of others and come to agreements in a collegial fashion.	0.796
Student communication and messages	15	Information is presented in a manner that promotes authentic inquiry and students are encouraged to consider questions for which a "right" answer may not exist.	0.778
Student evaluations	16	Formal evaluation and marking are based on authentic assessment principles.	0.750
Teacher planning and preparation	17	Diagnostic elements, such as I.Q., reading level, and math ability, are used to plan individual student activities.	0.672
Teacher objectives	2	Classroom objectives focus on cultivating and facilitating social skills, cooperation, idea exchange and shared problem-solving.	0.667
Student communication and messages	1	The teacher practices the use of open-ended questioning rather than focusing on a "right" answer syndrome.	0.645

Table 8
Mean Desired and Actual Practice Differences Less Than 0.63

Teaching–learning behavior category	Survey statement number	Survey statement	Mean difference
Teacher planning and preparation	25	The teacher varies the type and degree of difficulty of their questions to assure that each student understands.	0.627
Teacher behaviors	21	Different instructional techniques are used with different students.	0.627
Student planning and preparation	24	Students are offered instructional assistance and guidance individually rather than in a large group setting.	0.600
Classroom expectations of students	3	Cooperative learning experiences are used so that students often receive instructional assistance from one another.	0.550
Teacher communication and messages	20	The teacher communicates individually with students or in small groups, as opposed to "total" class discussions.	0.523
Teacher communication and messages	14	The personal problems or learning handicaps of students are accepted with consideration, understanding, and empathy.	0.495

DISCUSSION AND IMPLICATIONS

Two research questions were investigated in this study: Is there a significant difference between Maryland teachers' self-reported desired and actual classroom practices, and where do specific practices fall along the spectrum from the greatest to the smallest difference between desired and actual classroom practices? The results indicate significant differences in both the overall self-reported desired and actual classroom practices and the self-reported desired and actual classroom practices per statement. The classification of practices, sorted by the greatest to the smallest differences, with the highest difference being 1.39 points and the lowest difference being 0.495 points on a 5-point Likert scale, indicates that certain statements have a greater disparity between desired and actual practice than others, and the focus for professional development should be considered for the practices indicated by these statements.

We compared the Maryland findings with previous studies utilizing the Desired and Current Use of Constructivist Activities and Techniques survey (Polka, 2010). Polka et al. (2016) collected responses from teachers in Georgia and New York, Peace et al. (2017) gathered responses from teachers in one county in Indiana as a case study, and Eller et al. (2019) collected responses from teachers in small school districts in rural Idaho. Our Maryland study included teachers across the state and did not limit the focus to one county, school district, or town.

Previous studies have focused on the smallest degree of difference as a starting point for teachers and professional development planners (Peace et al., 2017; Polka et al., 2016). The recommendations in the present study differ, focusing instead on the greatest degree of difference as a starting point for teachers to engage in reflective inquiry into the problems of practice (Dana & Yendol-Hoppey, 2020). Moving toward greater use of differentiated practice can be facilitated for teachers by having them ask questions and reflect on their practice. We concur with Hubbard and Power's (2003, p. 25) observation about the potential of teacher research and reflective practice:

> Often, the best [teacher] research questions are located in a taut space between two points. We sometimes walk a tightrope between who we are as teachers and learners and who [we] want to be. Once you find a gap that needs to be traversed—between what you think will be learned and what is learned, you have found the territory in your classroom that is ripe for question.

Thus, we begin the discussion of our findings' implications for professional development planning with the greatest degree of difference (see Table 5), as all of the mean differences between the self-reported desired and actual classroom practices are statistically significant, and the statements with the largest mean difference indicate the greatest need for teacher growth.

The mean desired and actual differences greater than 0.9 (see Table 5) indicate the largest disparity between what Maryland teachers want (desire) to practice and what they currently practice in their classrooms. The statements refer to practices such as evaluating students as individuals, providing time for individuals to progress through learning concepts, and providing time to think and play with ideas. These practices should be prioritized when developing student-centered, differentiated instruction professional learning for Maryland teachers. The six statements in Table 5, which have the greatest degree of difference between teachers' desired and actual practice, align with findings in other states (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016). Two statements that fell into the greatest degree of difference category in this study, numbers 6 and 12, were also identified as having the largest disparity in Georgia/New York, Indiana, and Idaho (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016), which suggests potential areas for further research and analysis of national trends.

The mean desired and actual practice differences between 0.8 and 0.899 (see Table 6) indicate a high degree of disparity between what Maryland teachers want (desire) to practice and what they currently practice in their classrooms. In the ranking of needs for Maryland teachers, these statements should be considered second, after the statements with the greatest degree of difference, when developing student-centered, differentiated instruction professional learning for Maryland teachers. The rankings for six of these seven statements align with findings in other states (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016), while in contrast, Statement 5, which was found to have a high degree of disparity between Maryland teachers' desired and actual practice, was not classified at this level in the other states. Polka et al. (2016) and Eller et al. (2019) identified this statement as having a moderate degree of difference in Georgia/New York and Idaho, and Peace et al. (2017) identified this statement as having the greatest degree of difference in Indiana. In the United States, educational policies and funding vary across state and district boundaries, resulting in variations in the availability of district materials, resources, and equipment available to teachers (Darling-Hammond & Cook-Harvey, 2018). While lying beyond the scope of the present study, further research is needed to examine the impact that district and state policies have on teachers' desired and actual use of differentiated resources.

The mean desired and actual practice differences between 0.63 and 0.799 (see Table 7) indicate a moderate degree of disparity between what Maryland teachers want (desire) to practice and what they currently practice in their classrooms. These statements, although important, are reported to be more similar regarding desired and actual practice and should be considered after the statements having the greatest and high degrees of difference when developing student-centered, differentiated instruction professional learning for Maryland teachers. These six statements in the

moderate degree of disparity appear to align the least with the other states (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016). This could in part reflect how the studies were designed and analyzed. For example, in this study, the differences between the desired and actual data were divided into equal-sized quartiles, and the categories were identified utilizing terminology similar to Polka et al. (2016) and Peace et al. (2017), while different methods were utilized in Eller et al. (2019). While the results for these statements in the relevant research were the most diverse, two of these statements still aligned with the other state data: statement 15 was also identified as having a moderate degree of difference in Georgia/New York and Idaho (Eller et al., 2019; Polka et al., 2016), and statement 2 was also identified as having a moderate degree of disparity in Georgia/New York and Indiana (Peace et al., 2017; Polka et al., 2016). Further analysis of the created categories, cutoff points, and identification of a moderate degree of difference are needed to better understand the differences between these states.

The mean desired and actual practice differences that were less than 0.63 (see Table 8) had the smallest degree of disparity between what Maryland teachers want (desire) to practice and what they currently practice in their classrooms. Statements having the smallest degree of difference between Maryland teachers' desired and actual practices reflected practices that are associated with effective teaching, such as small group instruction, use of differentiated strategies, and cooperative learning. These six statements align with findings for other states (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016). In particular, statement 14 was also identified as having the smallest degree of disparity in Georgia/New York, Indiana, and Idaho (Eller et al., 2019; Peace et al., 2017; Polka et al., 2016). Further analysis of other data across the studies is needed to better understand the differences between states.

CONCLUSIONS

In today's diverse classrooms, meeting the needs of all students requires providing access to deeper learning and transforming classroom practices through greater implementation of differentiated instruction (Darling-Hammond & Oakes, 2019; Hersi, 2019). Understanding teacher practice is an important factor in national efforts to improve learning outcomes for all students. This study contributes insights into Maryland teachers' self-reported desired and actual practices. Maryland teachers generally reported actual practices that are consistent with constructivist approaches to teaching (Wilson, 2018). The findings affirm Maryland teachers' desire to use various student-centered differentiated instructional strategies and their current employment of these; however, an analysis of the survey statements focusing on the greatest degree of difference between Maryland teachers' desired and actual practices indicated that the practices indicated by these statements are associated with individualized planning, self-directed learning, and student autonomy. This suggests that Maryland teachers desire to use these constructivist, student-centered approaches more consistently than they currently do.

The results of this study have the potential to inform short- and long-term planning for professional development focused on differentiated instruction. For professional development planners and educational leaders, the gap between teachers' desired and actual use of differentiated instruction can provide a space for engaging in individual or group professional inquiry. Moreover, at the district, school, grade, or team level, professional development using reflective inquiry can focus on contextual factors that help or hinder greater implementation of differentiated instruction (Dana & Yendol-Hoppey, 2020). Finally, this study's findings and analysis highlight the need for more research focusing on data from multiple states to better understand the impact that state- and

district-level policies, resources, and evaluation practices have on teachers' desired and actual use of differentiated instruction.

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