

Measuring Principal and Teacher Cultural Competency: A Needs Assessment of Three Proximate PreK-5 Schools

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Abstract—Throughout the United States and within a myriad of demographic contexts, students of color experience the results of systemic inequities as an academic outcome. These disparities continue despite the increased resources provided to students and ongoing instruction-focused professional learning received by teachers. We postulated that lower levels of educator cultural competency are an underlying factor of why resource and instructional interventions are less effective than desired. Before implementing any type of intervention, however, cultural competency needed to be confirmed as a factor in schools demonstrating academic disparities between racial subgroups. A needs assessment was designed to measure levels of individual beliefs, including cultural competency, in both principals and teachers at three neighboring schools verified to have academic disparities. The resulting mixed method study utilized the Optimal Theory Applied to Identity Development (OTAID) model to measure cultural competency quantitatively, through self-identity inventory survey items, with teachers and qualitatively, through one-on-one interviews, with each school's principal. A joint display was utilized to see combined data within and across school contexts. Each school was confirmed to have misalignments between principal and teacher levels of cultural competency beliefs while also indicating that a number of participants in the self-identity inventory survey may have intentionally skipped items referencing the term oppression. Additional use of the OTAID model and self-identity inventory in future research and across contexts is needed to determine transferability and dependability as cultural competency measures.

Keywords—Cultural competency, identity development, mixed method analysis, needs assessment.

I. INTRODUCTION

WHEN a new school opens, students are typically reassigned from existing schools to alleviate overcrowding. The cultural and academic experiences of these students reflect the teachers and staff that interacted with them and thus would be transferred to any new context. In 2019 a new suburban elementary (K-5) school was scheduled to open in a large district located in the southeast United States which would gain approximately 90% of its initial student population from three proximate schools. An empirical needs assessment study [8] was developed to determine if these schools had academic disparities between racial subgroups and to potentially identify which factors impacting those disparities were most salient.

Stereotyping, segregation, and education-based fiscal policies are some of the identified factors researchers have

identified as negatively impacting achievement outcomes for students of color [1]. However, it is teachers' responses to race-based factors and students of color, and their subsequent instruction, that has a *direct* impact on student achievement [2]. These responses are often referred to as *implicit bias*, understood as the unintentional or unconscious response toward, or belief about, those different than ourselves [3]. When educators consciously seek to acknowledge their implicit biases, they can begin counteracting them and, as a result, improve their cultural competency [3]-[5]. Thus, this study operationalized cultural competence as a continuum of how one sees himself as an intersection of multiple identities; increased understanding of our own identity results in more positive responses to the differences of others [5]-[7]. This paper aims to share the isolated findings of the cultural competency construct as derived from principal interviews and staff survey data using a researcher-created interview schedule and Self-Identity Inventory (SII) items [7] based on the OTAID model of Myers et al. (1991) [9].

II. LITERATURE REVIEW

A. Cultural Competency

Cultural competence is often defined differently across professional disciplines. The healthcare focus, for example, on the understanding and temperaments of staff navigating socio-cultural factors to achieve effective communication and interactions with others is defined as cultural competence [10]. Similarly, the field of social work describes cultural competency as set of dispositions needed by professionals to understand the views of minorities [11]. Lastly, *multicultural* competence has been operationalized as the awareness of cultural characteristics including the socio-political factors impacting marginalized individuals [12].

In the field of education, various definitions and terms are used interchangeably to describe cultural competency. Some education research is primarily focused on the divisions between the teacher's and the student's respective cultures and appreciating the diversity of students is thus being *culturally competent* [13]. While an understanding of student diversity can support a positive teacher-student educational relationship, we contend that educational cultural competence does not begin and end at the classroom door. Instead, for this education-based study, cultural competence is focused on all individuals,

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regardless of their profession, and refers to how one sees oneself as an intersection of multiple identities, and how that understanding results in responses to those different than themselves [5]-[7].

B. Implicit Bias and Student Outcomes

In education, implicit or explicit negative responses to students who differ from their teachers—typically students of color—may result in biased learning environments [14] with instruction lacking in cultural relevance [4], [5]. As an unconscious belief, teachers likely do not recognize the impact of implicit biases on their teaching quality. For example, a research team conducted two studies that found White teacher’s implicit biases towards Black students resulted in instruction hindered by increased anxiety and thus lower student test performance [3]. These academic outcomes corroborate the negative, or unconscious, beliefs about students of color, held by educators with lower levels of cultural competence [5], [14], [15].

C. Optimal Theory Applied to Identity Development

The OTAID model acknowledges the development of our individual identity as a holistic process, one where we learn to embrace the simultaneous interactions of differentiated identity components [16]. This is also known as intersectionality, a term first used by Kimberle Crenshaw (1991) to describe the interactions of two or more categories of an individual’s identity [17]. This approach to identity supports seeing the multi-identified individual versus one cancelling the other out [18]. For example, a White woman and a Black woman are both *women* but likely have different conceptualizations about what it means to be one based on their race-based experiences or a specific context of day-to-day interactions. This is important as an understanding of multiple identities excludes the colloquial phrases, *I don’t see color* or *I teach all students the same*, espoused by many in education. Both educators and students experience privilege or oppression based on the myriad of identities that they hold, sometimes in conflict one with the other.

The OTAID model (see Table I) describes an individual’s understanding of intersectional identities through a continuum of levels ranging from personal to interpersonal to institutional [9]. As an individual becomes more aware of their identity, and how society responds to beliefs about identities different from oneself, oppressing some and privileging others, their awareness of those beliefs—their cultural competency—improves [6]. Stages of awareness within the OTAID model, from lower to higher, are individuation, dissonance, immersion, internalization, and integration and were the basis for a SII [7] used to measure study participants’ reported levels of cultural competency.

III. METHODOLOGY

This study utilized a convergent parallel mixed method design [19] to analyze data from concurrently collected quantitative and qualitative data from three focal schools. Mixed methodologies integrate quantitative and qualitative data

to compare/analyze as a united whole [19]. This methodology was chosen to effectively utilize multiple types of data (we collected qualitative and quantitative data along with existing quantitative) to answer the following research questions:

1. What is the overall and racial subgroup proficiency (combined math and reading of 3rd - 5th grade students) and growth from each school? Are there disparities within each focal school?
2. What are principals’ and teachers’ perceptions of their cultural competency?

TABLE I
 STAGES FROM OTAID

Stage	Description
1 - Individuation	People experience separateness but feel a connection to societal conventions and may not question how much they have been shaped by society. Consequently, they are more likely to ascribe to group stereotypes and identify with mainstream culture.
2 - Dissonance	People begin to experience a feeling of alienation from mainstream society, often as a result of vicarious or direct discrimination and exclusion.
3 - Immersion	Feelings of pride and a sense of belonging can occur when people identify with their subculture group (or part of their identity they have previously devalued and not explored). Negative feelings about the dominant culture may be present, as well as negative feelings toward other subcultures or members of their own group who do not share similar perceptions of oppression.
4 - Internalization	People positively integrate their subgroup identity into their self-concept. People are more tolerant and accepting of others, because those who are different no longer threaten their newfound sense of self and because they are starting to understand the nature of oppression more fully.
5 - Integration	People recognize that the American social structure creates and perpetuates oppression, thus people in this phase exhibit greater unconditional positive regard for themselves, others, and all of life. Differences among all people are recognized and embraced.
6 - Transformation	People encounter a transformation by experiencing spiritual-material unity and a conscious recognition of the interrelatedness of life, so self is defined even more holistically.

Data were collected without consideration of the impact of one set on the other (qualitative data were not collected to explain the quantitative, for example) and, as a result, the final mixed analysis is merged based on specific elements or themes from the quantitative and qualitative analyses; these findings are then compared through a joint display [19]. This final analysis provides a greater understanding of the focal schools’ cultural competency as described in the study’s purpose and research questions.

A. Context and Participants

Each of the three schools, (pseudonyms: School A, School B, and School C) participating in the needs assessment are located 5.4 miles or less from each other, in the same district, within a Southeastern state in the U.S. All are considered racially diverse (approximately 70%, 80%, and 60% students of color, respectively), with high to mid-socioeconomic status (SES; 8.4%, 8.6%, and 21.9% of students receive free or reduce lunch prices, respectively), and disparities in subgroup

achievement by race [20]. Qualitative data were collected from each school's principal (100% participation) and quantitative survey data from teacher volunteers representing 38.5%, 29%, and 50% of their school's certified staff (total participants numbering 27, 14, and 33, from Schools A, B, and C, respectively).

B. Instrumentation

Each construct identified within the research questions was operationalized with an identified instrument, and corresponding source (see Table II). Each measure is further described in the following subsections.

1. Existing School Proficiency and Growth Data

North Carolina end of grade, end of course proficiency and growth data are publicly available on the Department of Public Instruction's website [20]. These data are presented as school aggregates and disaggregated by various student subgroups such as race, socioeconomic status, and student identification as academically gifted, as an English language learner, or as a student with a documented disability. This needs assessment focused solely on racial subgroups to determine what, if any, academic disparities were present within each focal school

2. Principal Interviews

A qualitative interview schedule adapted from a published

principal interview protocol focused on academic optimism [21] and included items developed by the author of this paper to support an additional understanding of each principal's perception of their school's cultural competency. Example items used to glean principal's cultural competency beliefs included, *Do you ever discuss issues of race, class, and/or diversity with the teachers, parents, students, and/or community members? Why/why not? How?* and *Describe the ways your school is working to meet the needs of diverse learners.* Cognitive interviews were conducted with the researcher's advisor and two colleagues where each engaged in verbal processing of researcher-drafted questions, providing validity to the intended meaning of each question [22].

3. Teacher Survey (OTAID)

A Qualtrics survey was utilized to gather demographic information and measure teacher beliefs from each of the three participant schools. Cultural competency items reflected an abbreviated form of the Self-Identity Inventory [7] developed using OTAID model of Myers et al. (1991) [9]. The resulting SII was developed to measure individual's views of the world along with their "multicultural identity development" [7, p.177] and validated against other measures such as the belief system analysis scale [7].

TABLE II
OPERATIONALIZATION OF CONSTRUCTS

Construct	Conceptual Definition	Instrument	Citation	Measure Operationalization
Race/ Ethnicity	Identification by a person to a specific group noted by physical features or geographic heritage	2017-18 School assessment and other indicator data [Data file]	[20]	Indicators of race/ethnicity
Proficiency	Performance on NC end of grade (EOG) assessments	2017-18 School assessment and other indicator data [Data file]	[20]	Scores on NC end of grade (EOG) assessments by achievement level and proficiency standard (Level 3 and above)
Academic Growth	Increasing knowledge by one year as indicated by the Education Value-Added Assessment System (EVAAS)	2017-18 School assessment and other indicator data [Data file]	[20]	Value-added growth index divided into the following categories: > 2.00 = Exceeded 1.99 to -2.00 = Met < -2.00 = Not Met
Cultural Competency	An individual's understanding of their identity and subsequent belief in and response to the differences of others including an awareness of the systemic oppression towards those outside the institutional majority	SII (survey – selection of 3 items from each of 5 subscales) Principal Interview Schedule	[7] [21]	Five subscale composite means consisting of three items per subscale Interview transcripts analyzed through In Vivo coding of a priori themes

C. Data Collection and Analysis

Cultural competency data collection consisted of three principal interviews and the SII survey items sent to 186 certified teachers across the three focal schools. Existing data for each school were downloaded from the state instruction website. The following sections detail specific collection and analysis procedures.

1. Quantitative Data

Existing, publicly available, quantitative data provided student achievement and growth percentages to describe any academic disparities that may exist at each focal school. Student outcomes were described through analysis of the State Department of Public Instruction (2018) end of grade test proficiency, disaggregated by racial subgroup [20]. These data

were used to confirm that the problem of academic disparities by racial subgroups were present at each of the focal schools.

Through Qualtrics, 15 cultural competency-related items, derived from the SII [7], were provided to in-service teachers at each of the focal schools as part of a larger, 56-item survey spanning six different constructs (see Table III). The instrument used a six-point Likert scale ranging from strongly disagree to strongly agree. Survey items were transferred into Qualtrics, an online survey platform, in a random order to prevent respondents from answering in a similar manner based on familiarity with any one construct.

The certified teaching staff at each of the three focal schools (n = 186) were contacted by email with an offer to voluntarily participate in a linked survey supporting an understanding of

teacher beliefs. The survey was resent two additional times over two weeks and 114, or 61% submitted the survey. Participants received an informed consent notification when they accessed the survey link. Evidence of their consent to participate occurred as teachers selected *yes*, *begin* or *no*, *end* after reading the following statement before accessing the survey: “By completing this survey or questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time.”

TABLE III
 SII SURVEY ITEMS

Item	Question (level)
CC 1	I am who I am, so I don't think much about my identity. (1)
CC 2	Sometimes I get tired of people complaining about racism. (1)
CC 3	I believe there is justice for all in the United States of America. (1)
CC 4	I am starting to feel angry about discrimination in this country. (2)
CC 5	I am just beginning to see that society doesn't value people who are "different." (2)
CC 6	I understand that everyone is expected to follow the same rules even if they don't seem to be right for everyone (2)
CC 7	My identity as a member of my group is the most important part of who I am. (3)
CC 8	Being with people from my group helps me feel better about myself. (3)
CC 9	I focus most of my time and efforts on issues facing my group. (3)
CC 10	I recently realized that I don't have to like every person in my group. (4)
CC 11	My oppressed identity does not primarily define who I am as it did in the past. (4)
CC 12	I have <i>recently</i> seen the depth to which oppression affects many groups. (4)
CC 13	People in the U.S.A. have been socialized to be oppressive. (5)
CC 14	I would be happy if a member of my family were openly gay/lesbian/bisexual, regardless of my sexual orientation. (5)
CC 15	I would have as a life partner a person of a different race. (5)

Upon completion of the survey window, data were transferred from Qualtrics to Statistical Package for the Social Sciences (SPSS) software for analysis where each item was labeled with the variable name and responses were converted from text to numeric (e.g., *slightly disagree* to 3). Cultural competency survey items were indicative of five subscales representing the five levels of the SII: Individuation, Dissonance, Immersion, Internalization, and Integration [7]. Level-specific items were aggregated to create composite variables using the *transform* function within SPSS software [23]. Variables relevant to the research question were interval (each subscale composite; dependent) and nominal (school; independent); descriptive statistics of these variables were run to capture the composite mean scores by school.

Reviewing the data within SPSS, a total of 40 respondents were omitted from analysis due to incomplete data resulting in a final 40% (74 respondents) completion rate. School A had a final, 38.5% response rate, School B, 29%, and School C 50% (27, 14, and 33, respectively). Analyzing the omitted data, all three schools had participants who skipped the cultural competency items (3%, 12%, and 6% of respondents by school) that outnumbered the other five constructs present in the full needs assessment. This may be indicative of cultural competency items somehow being troubling to the respondents and thus the final survey results being potentially biased

through this non-response [24]. Other possibilities for participants skipping survey items include survey fatigue, where respondents may have been asked multiple times throughout the year to complete questionnaires [25]. While the teacher beliefs survey for this study was completed at the end of the school year, with potential survey fatigue, this does not account missing the construct-specific, cultural competency, items. As the survey questions were purposefully randomized, respondents would need to intentionally *skip* a cultural competency item to continue answering those aligned to other constructs.

2. Qualitative Data

Each principal was contacted via email with an overview of the interview purpose and invitation to participate. All three principals (100%) agreed to a one-on-one interview. A convenient time was decided between the researcher and each principal. At the start of each interview, the institution review board consent form was presented in full, with an additional opportunity for the principal to opt out. Each principal signed the consent form and was offered a copy for their records along with a reminder that they could stop the interview at any time. To protect their identities, each principal was randomly assigned a gender and other demographic information was omitted.

Principal B's interview occurred first. The interview occurred in his office and lasted 48 minutes with the interview questions in sight as the interview was conducted. Principal C was the second to interview. The interview lasted 26 minutes and, due to a conflict, needed to be continued 6 days later for an additional 13 minutes. The final interview with Principal A lasted 35 minutes. All qualitative data were securely recorded, transcribed, and analyzed to identify themes within each construct.

Analyses of data from the three interview transcripts began with the researcher carefully reading the transcripts using *In Vivo* coding to capture participants description of cultural competency themes [26] followed by a second, affective coding, read to identify each principal's OTAIID level [9] regarding their belief and/or the state of identity-development within their respective schools. Each principal's perceptions of their school's cultural competency (theme) used the following a priori deductive codes: a) *personal*, b) *interpersonal*, and, c) *institutional* [6]. A matrix was developed to visually support the researcher's analysis of each principal's description within each theme [26]. Quotes identified from the *In Vivo* and affective coded readings were pasted into the matrix under the respective theme column. Using the matrix, a second cycle of coding ensued looking for patterns within the identified quotes [26]. Descriptive codes were developed and noted in bold-faced parentheses to support analysis of each principal's described perception of their, or their school's cultural competency.

Credibility was further established through member checking used to clarify principal responses to specific questions as an initial measure to assure reliability of the findings. Post interview, audio transcripts of each principal's responses were provided to the individual respondent to provide feedback and

clarification. We reviewed the final transcripts multiple times during the coding process to ensure increased objectivity through reflection of personal biases, while also using field notes to support as accurate an understanding as possible of the respondents' meaning. Finally, existing achievement data were used to determine confirmatory information and triangulate principal perceptions of how cultural competence did or did not impact student outcomes.

3. Mixed Method Analysis

A mixed-theme joint display [19] was developed to compare, analyze, and better describe each school's combined (teacher and principal) perception of cultural competency.

IV. FINDINGS

Research Question One

To explore academic disparities between racial subgroups within each focal school, we compared percentages of racial subgroup proficiency and growth data (see Table IV). A school is noted to have met growth in a subject or subgroup with an index of -2.0 to 2.0. Scores above 2.0 are said to have exceeded growth whereas scores lower than -2.0 are noted as not met [20]. The data represent the overall composite score (combined math and reading of 3rd, 4th, and 5th grade students) to answer the research question for each school. All three schools' proficiency data indicate that Black and Hispanic students performed at lower levels, on average, than their White and Asian peers. School B had the largest disparity of 50.4% between Asian and Hispanic students and School C had the smallest disparity of 25.5% between Asian and Hispanic students [8].

TABLE IV
 FOCAL SCHOOLS' PROFICIENCY AND GROWTH BY RACIAL SUBGROUP

School	Racial Subgroup	Content	Proficiency	Growth
School A	All Students	All Subjects	79.60	3.09
	Asian	All Subjects	90.50	3.59
	Black	All Subjects	54.00	-2.69
	Hispanic	All Subjects	52.90	0.80
	Two or More Races	All Subjects	86.70	n/a
	White	All Subjects	84.30	1.83
School B	All Students	All Subjects	75.20	-1.37
	Asian	All Subjects	86.90	-0.11
	Black	All Subjects	60.90	0.08
	Hispanic	All Subjects	36.50	0.73
	Two or More Races	All Subjects	92.30	-0.65
	White	All Subjects	80.80	-1.75
School C	All Students	All Subjects	83.60	-1.62
	Asian	All Subjects	89.30	-0.54
	Black	All Subjects	71.40	-1.19
	Hispanic	All Subjects	63.80	0.33
	Two or More Races	All Subjects	79.60	-2.35
	White	All Subjects	78.70	-0.67

School A

The 2017-18 proficiency and growth data indicate School A's Black and Hispanic students with lower proficiency, on average, (at least 30 points) and growth compared to their

White, Asian, and Two or More Races peers. The negative growth index for Black students is particularly disparate from the other subgroups and the only racial subgroup to not meet growth (see Table IV).

School B

School B's 2017-18 proficiency data (see Table IV) indicate that Black and Hispanic students underperformed, on average, compared to their White, Asian, and Two or More Races peers with disparities ranging from 43.3 to 50.4 points. Hispanic students are highly disparate compared with all other racial subgroups. However, the growth index indicates the opposite results for the same student groups with White students representing the group with the lowest growth index.

School C

This school's 2017-18 proficiency data indicate that Black and Hispanic students had lower percent proficient scores, on average, compared to their White, Asian, and Two or More Races peers; however, the academic disparity between these subgroups is much narrower than in School A or B. The Two or More Races subgroup received the lowest performance indicator on the growth index (see Table IV).

Research Question Two

This convergent parallel mixed method question is answered through separate findings from quantitative (beliefs survey) and qualitative (principal interviews) cultural competency data before being integrated into a joint display [19].

Quantitative

Aggregated means of each cultural competency subscale (Table V; refer to SII/OTAID stages 1-5, see Table I) from the teacher beliefs survey indicate that teachers at all three schools reported the highest composite averages within the Integration (stage 5) subscale with results in the *slightly agree* (4.00-4.99) range of the 6-point Likert scale. Additionally, all three schools' lowest mean scores are within the Individuation level (stage 1) ranging from *disagree* (2.83; School A) to *slightly disagree* (3.40 and 3.33; School B and C, respectively).

The remaining subscales: Dissonance, Immersion, and Internalization, represent the transition from personal through interpersonal levels of cultural competency [6], [7]. Immersion (stage 3 and the first interpersonal level [6]) as the lowest score, *disagree* to *slightly disagree*, for all three schools. School A's averaged belief scores for Dissonance and Internalization were in the slightly agree range of the 6-point Likert scale (4.16 and 4.20, respectively). School B had a slightly higher Internalization average than School A (4.23) and a slightly lower Dissonance (4.09). School C's scores in both Dissonance and Internalization were lower than Schools A and B, in the *slightly disagree* range (3.85 and 3.62, respectively). As noted in the methods section, the cultural competency subscales within the teacher beliefs survey had the most skipped items, and School B the highest percentage skipped based on the number of respondents between schools.

TABLE V
 CULTURAL COMPETENCY SUBSCALE AGGREGATE MEANS BY SCHOOL

	Means	Standard Deviation	N
	School A		27
Individuation	2.83	1.12	
Dissonance	4.16	0.85	
Immersion	2.72	1.00	
Internalization	4.20	0.74	
Integration	4.64	0.72	
	School B		14
Individuation	3.40	1.05	
Dissonance	4.09	0.75	
Immersion	3.16	1.20	
Internalization	4.23	0.90	
Integration	4.38	0.79	
	School C		33
Individuation	3.33	1.13	
Dissonance	3.85	0.75	
Immersion	3.15	0.89	
Internalization	3.62	0.83	
Integration	4.04	1.11	

Qualitative

Cultural competency was described through the lens of meeting the needs of diverse learners and discussing issues of race/equity/diversity with teachers. This theme is in line with literature focused on cultural competency to conceptualize this construct as how one sees their identity and responds to those different than themselves with the acknowledgement of oppression that can be experienced personally, interpersonally, or institutionally [5]-[7], [9]. Each principal captured different levels of perceived teacher cultural competence, or how they see school staff responding to student diversity, through their responses.

School A

Principal A presented a very pragmatic, or practical, belief structure around ideas of equity and diversity based current and recent historical data: “our achievement data ... and to some degree our discipline data reflects that we do not provide equity of opportunity at our school.” Principal A described his intentional understanding of these disparities and an active plan to discuss equity and implicit bias at School A to, “prevent the predictability of achievement among students of color.” Principal A discussed that part of his plan is to ensure that, “instruction, the first time, is aligned to the standards and accessible for *all* kids including how we build scaffolds ... to increase flexibility and supports ... in the classroom.” Standards alignment is Principal A’s sensible first step to ensure *every* student is receiving clear instruction, understanding why that instruction is important, and receiving differentiated activities as appropriate. Additionally, it was clear that Principal A’s articulated vision is one focused on increasing cultural competence through an anti-racism focus as he described goals for his school community: “Social justice will eliminate the predictability of achievement on the basis of race and economics and other factors ...” This description, and the similar quotation noted above by Principal A, is an excerpt from the districts’ strategic plan and represents the aligned

pragmatism, on an OTAID *interpersonal* level [6], [7], Principal A hopes to bring to School A’s focus on equitable outcomes.

School B

Principal B’s cultural competency responses centered around his desire to have a diverse staff to mirror student demographics, “I wish my teaching staff was as diverse as my student population” and ensuring that students are treated equally:

We don't think of them in these little boxes and in these little containers [referring to demographics], we just think of them as [mascot]. We just take them all where they are, wanting to move them to that next level.

This description from Principal B appears couched in the *personal* level of the OTAID model, specifically the idea of seeing all students the same without recognizing individual cultures [6], [7]. Additionally, Principal B’s interview also acknowledged times where discussing diversity and equity for all students was not an easy conversation: “There is an angst that comes along with [speaking about issues of diversity] because if you don’t do it well you are going to offend people.” This, in tandem with comments such as, “that these kids [historically marginalized] are only going to achieve what you feel like they can” highlight Principal B’s conflicting beliefs in equity work. Principal B’s description of supporting his staff with difficult discussions, with parents and each other, appear to reference teaching efficacy concerns intermingled with lower levels of cultural competence at School B.

School C

The interview with Principal C provided the most passionate responses as she described a clear vision towards, and focus on, educational equity and narrowing disparities between subgroups, “So our school wide goal at School C is by 2021 we'll eliminate the opportunity gaps between our highest performing group in our building and the rest of the groups in our building.” Principal C purposefully chose to use the term opportunity instead of achievement as she discussed the academic disparities at School C. *Opportunity* was selected to indicate that disparate outcomes are not a result of the student, but in their afforded opportunities. Principal C works towards the goal of narrowing gaps with intentional decisions and teacher expectations; she articulated an active desire to hire teachers that mirror the student body, “So [I am] trying to really make sure as much as I can that my teaching staff reflects the diversity”. Additionally, Principal C discussed her expectation that all teachers are working towards individualized instruction, “making sure that [teachers] know their learners, [they] cannot teach the content without understanding the student!” Principal C made it clear that if teachers cannot provide equity to every child, School C is not the setting for their career.

Mixed Method – Joint Display

Mixing quantitative and qualitative cultural competency data, we created a joint display (see Table VI) that included each focal school’s mean agreement for the five quantitative cultural competency (CC) composite variables and the overall

percentage of missed CC survey items by school [8]. The qualitative selections focused on principal descriptions of their school or teachers differentiated by culturally competent characteristics in practice versus those desired or part of the principal's vision for their specific school community. Combined, the resulting theme identified as *focal school's CC perceptions* integrated teacher and principal views of this construct (see Table VI).

Reviewing the joint display (Table VI), inconsistencies are apparent within each school's mixed CC data, and when comparing the data to the other focal schools. For example, School B has the second highest aggregate mean (4.38) within the *Integration* stage (level 5, institutional awareness of oppression) and the highest mean (4.23) within the *Internalization* stage (level 4, interpersonal awareness of oppression). However, School B also exhibited the largest percentage of items that did not receive a response on the CC subscales (see Table VI). Additionally, Principal B's qualitative data appear to ascribe to lower stages of the OTAID model (refer to Table I), specifically stages within the personal level with descriptions of staff experiencing *angst* when engaging in conversations about diversity. Comparing this to the amount of CC items skipped by School B on the beliefs survey (see Table VI), staff uncomfortable with the topic may have been those who skipped CC items and were not included in the study's analyses creating nonresponse bias [24].

Reviewing School A's and School C's qualitative data, both appear to be approaching or within the *interpersonal* level of the OTAID model with reported desires to effect change within their schools. Quotes around *creating a more equitable society* (School A) and eliminating opportunity gaps (School C) support these principal's focus on valuing other cultures and seeking to understand oppression [6], [7]. However, where School A's teacher reported beliefs trend towards the *slightly agree* range with the most culturally aware stages (*Internalization* and *Integration*; 4.20 and 4.64, respectively), School C's teacher perceptions are in the *slightly disagree* and

just over the *slightly agree* levels (3.62 and 4.04, respectively). School A's collective data appear to indicate cohesion in the faculty's CC while School C's may suggest disconnects between Principal C's strong equity focus and the identity development of the School C faculty. Finally, like School B, the aggregated means of School A's and C's CC subscale composites are impacted by non-respondents (3% and 6% of questions skipped, respectively).

The following item represents *Internalization* (stage 4) on the SII: *I have recently seen the depth to which oppression affects many groups* [7]. Indicative of the interpersonal level of the OTAID [6], this item sums up the disconnects between principal and teacher perceptions of CCs at each school. School A, for example, had the highest percentage of teachers responding *strongly agree* with the *Internalization* item (22%) on the 6-point Likert scale. However, Principal A discussed carefully choosing when to speak to staff about equity issues, "I don't think that in our context we are especially successful if folk are uncomfortable ..." While Principal A also eloquently discussed interpersonal levels of CC as described above, teachers at School A may be more *ready* for those *Internalization* and *Integration* stage conversations than Principal A believes.

Considering the same *Internalization* item (*I have recently seen the depth to which oppression affects many groups*), School B had one teacher (7% of respondents) answer *strongly agree* despite having the highest overall mean score for the *Internalization* stage items across schools (4.23). As noted above, Principal B provided perceptions within the personal level (stages 1, *Individuation*, or 2, *Dissonance*) of the OTAID model. The high teacher belief survey mean score for *Internalization* occurred despite the single *strongly agree* response for the indicated item, meaning other *Internalization* items received higher responses. Thus, the collective data for School B indicate perceptions that are not aligned between principal and staff, and, perhaps, also a lack of alignment between teacher respondents.

TABLE VI
 JOINT DISPLAY OF FOCAL SCHOOL'S CC PERCEPTIONS

	Quantitative		Examples of CC in practice	Qualitative
	Subscales Composite means	% CC items skipped		Examples of desired CC
School A		3%	I talk about it (racial equity) openly in individual conversation	I don't think that in our context we are especially successful if folk are uncomfortable...talking to them about it in a whole group
Individuation	2.83			[We] will create a community in a world that we would all want to live in because we've got folk who have limitless opportunity to do whatever it is that they want.
Dissonance	4.16		My [Principal A's] belief that we live in a racially unjust society and that our schools are the greatest... agents of change to touch every child and, through a social justice approach to teaching and learning, create a more equitable society.	I wish my teaching staff was as diverse as my student population
Immersion	2.72			There is an angst that comes along with [speaking about issues of diversity] because if you don't do it well you are going to offend people
Internalization	4.20			
Integration	4.64			
School B		12%	[I] try to reach out to places like [university] that we're going to have a job and try to find diverse candidates.	
Individuation	3.40			
Dissonance	4.09			
Immersion	3.16		...these kids [historically marginalized] are only going to achieve what you feel like they can. If you treat them like they can't, they won't.	
Internalization	4.23			
Integration	4.38			
School C		6%	[I'm] trying to really make sure as much as I can that my teaching staff reflects the diversity.	I have not mandated [staff take equity/implicit bias training] because my philosophy of belief is if you don't feel a need, you don't see the need, I don't want to mandate that right now. Not right now.
Individuation	3.33			It's even opening your eyes and having a lens, how are we providing these equitable opportunities for kids?
Dissonance	3.85		Our school wide goal at School C is by 2021 we'll eliminate the opportunity gaps between our highest performing group in our building and the rest of the groups in our building.	
Immersion	3.15			
Internalization	3.62			
Integration	4.04			

School C had the highest completed response rate (50%) of the three schools and the lowest Internalization mean score was 3.62 agree. Of the three principals, Principal C responded more in the interpersonal range of the OTAID [6], [7] with an understanding of the systemic inequities impacting student outcomes, “We’ll eliminate the opportunity gaps between our highest performing group in our building and the rest of the groups in our building.” The disconnect between Principal C’s perceptions and those indicated on School C teacher responses to the SII are reflected in the following Principal C statements: “I have not mandated [equity training] ... I don’t want to mandate that right now. Not right now” and, “They [teachers] are a lot more aware this year than they’ve ever been in terms of understanding what those inequities look like even beyond the classroom.” Both of these statements were made about the teaching community as a whole by Principal C, however, if equity PD is optional then those with more awareness would be those that have opted to engage in that training. More overt opportunities for School C’s teachers to engage in the equity work Principal C demonstrates at a high level may bring School C’s perceptions into alignment.

V. DISCUSSION

The presented CC analyses within this needs assessment study provided a nuanced understanding of each of the three focal schools, including some disconnects between principal descriptions of their schools when compared to reported teacher beliefs. Of particular interest were the mixed method CC findings and the high number of skipped items within that construct. Reviewing the number of teacher respondents that skipped specific survey items, questions 11 and 13 were highest across all three schools (see Table VII). Interestingly, both items focus on *oppression*. It may be that respondents were uncomfortable with the idea of oppression, did not understand how question 11 related to them, or did not want to answer question 13 honestly [24]. Alternative reasons for non-response include a lack of participant understanding of the individual questions or the term oppression. Reviewing the joint display, however, the confluence of data suggests that respondents simply wanted to avoid the subject. Understanding the personal, interpersonal, and institutional impacts of oppression are necessary to move along a continuum of identity development [6], [7], the intentional skipping of oppression-focused items within the survey may indicate the need for identity-focused CC professional learning at all three focal schools.

VI. CONCLUSION

For the 2019 new school opening, this needs assessment provided an excellent understanding of the three school’s CC that informed its baseline community. This research also confirmed that CC can be measured multiple ways and is a factor impacting the perceptions of teachers and school leaders. For example, although each school illustrated academic disparities between racial subgroups, some aspect of CC was unaligned to the insights of their school leader. Moreover, when looking at the stages of self-identity development within the

OTAID model [7], [9] across each school, the intentional skipping of survey questions by respondents should bring additional scrutiny to the subscale aggregated means of each school; specifically, that teacher beliefs may be at levels *lower* than indicated in the cleaned data analyses.

TABLE VII
 NUMBER OF SKIPPED CC ITEMS BY SCHOOL

SII [7] Question (Level)	# respondents skipped		
	School A	School B	School C
1. I am who I am, so I don’t think much about my identity. (1)	1	1	2
2. Sometimes I get tired of people complaining about racism. (1)	1	0	2
3. I believe there is justice for all in the United States of America. (1)	1	2	1
4. I am starting to feel angry about discrimination in this country. (2)	1	1	1
5. I am just beginning to see that society doesn’t value people who are “different.” (2)	0	2	3
6. I understand that everyone is expected to follow the same rules even if they don’t seem to be right for everyone (2)	0	2	3
7. My identity as a member of my group is the most important part of who I am. (3)	0	2	3
8. Being with people from my group helps me feel better about myself. (3)	1	2	2
9. I focus most of my time and efforts on issues facing my group. (3)	1	2	4
10. I recently realized that I don’t have to like every person in my group. (4)	0	2	3
11. My oppressed identity does not primarily define who I am as it did in the past. (4)	4	5	9
12. I have <i>recently</i> seen the depth to which oppression affects many groups. (4)	1	3	1
13. People in the U.S.A. have been socialized to be oppressive. (5)	1	4	4
14. I would be happy if a member of my family were openly gay/lesbian/bisexual, regardless of my sexual orientation. (5)	2	3	3
15. I would have as a life partner a person of a different race. (5)	1	4	3

Other limitations were present throughout this study. As a principal within the same district area as the focal schools, the researcher had relationship with colleagues that may have inadvertently pressured their consent to participate. Additionally, as a result of the researcher’s collegiality with those same principals, it is possible that there could be subjectivity and bias within the analyses and conclusions of this study. These potential biases were consistently checked through the described validity protocols and triangulation including member checking, copious field notes taken within the recorded interview, and documented coding processes.

As a result of this needs assessment, proactive, *ongoing*, professional learning is recommended across schools to reduce implicit bias and thus improve instructional practices. To support this work, a confirmatory study using the SII and qualitative interview schedule is needed to determine generalizability and transferability of these CC measures. It is through accurate, ongoing, understanding of how schools’ current teacher beliefs compare to their principal’s perceptions that will support the nuanced selection of professional learning materials needed to increase cultural competence throughout the school community.

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