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Amplifying Teacher Voice to Improve the Design of Student Engagement-Focused Professional Development

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Abstract

While the COVID-19 pandemic occurred almost four years ago, many educators continue to face challenges in supporting the needs of youth who have experienced declines in their engagement in school. Studies have found that one critical way in which teachers can be supported is through professional development. However, these studies also indicate that for such professional learning opportunities to be most impactful, they must be responsive to the current experiences of teachers. In this qualitative study, 126 teachers' perceptions regarding the long-term impact of the COVID-19 pandemic on their students were obtained and analyzed. Employing van Es and Sherin's noticing framework, findings revealed that teachers identified declines in affective, behavioral, and cognitive engagement but needed guidance and support with the development of instructional strategies aimed at fostering student engagement. The implications of the findings for designing teacher professional development programs that focus on fostering student engagement are explored.

Keywords: Student engagement, Teacher voice, Adolescent development, Professional development

1. Introduction

Studies have continued to report that declines in student engagement in school persist post-pandemic (Patall, et.al., 2024; Symonds et. al., 2024). For example, a report published by the EdWeek Research Center (2023) found that when compared to their pre-pandemic levels, students self-reported less motivation and lower morale as compared to their motivation and morale prior to the pandemic. Additionally, findings from the 2022 National Survey of Children's Health (NSCH) of 104,995 survey respondents indicate that 43.6% of children do not live in a supportive environment, 19% of children are sometimes or never engaged in school, 23% of children had difficulty making or keeping friends, and that 23% of children experienced a mental, emotional, developmental, or behavioral problem that year. Consistent with these findings are numerous studies which reported that teachers also perceived their students to be less engaged in school when compared to pre-pandemic levels (National Academies of Sciences, Engineering, and Medicine, 2023; Romm, et al., 2021).

Faced with the task of supporting the learning needs of students who demonstrate lowered levels of engagement, recent studies have reported that teachers are experiencing dramatic increases in their levels of stress and burnout (Donnelly & Patrinos, 2022; Sokal, et. al., 2021; Yoon, et al., 2022). For example, a

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study examining teacher and principal well-being published by the RAND Corporation (Steiner, et al., 2022), found that when compared to other working adults, teachers reported lower levels of well-being and that these lower levels were linked to their plans to leave the teaching profession. Encouragingly, the authors also found that lowered levels of well-being and intentions to leave the profession could be ameliorated by supportive school environments.

Several studies have found that one critical way in which teachers can be supported is through professional development (Darling-Hammond, & Hyler, 2020; Sokal, et al, 2020). However, these studies also indicate that for such professional learning opportunities to be most impactful, they must be responsive to the current experiences of teachers. For example, Darling-Hammond & Hyler (2020) reported that to support educators in meeting both the social emotional and academic needs of students, policymakers and school leaders should transform educator professional learning opportunities to match current needs.

2. Literature Review

2.1 Examining Student Engagement

Coates (2007) describes engagement as "a broad construct intended to encompass salient academic as well as certain non-academic aspects of the student experience", comprised of, 1) active and collaborative learning, 2) participation in challenging academic activities, 3) formative communication with academic staff, 4) involvement in enriching educational experiences, and 5) feeling legitimated and supported within learning communities. Research on student engagement has typically organized these academic and non-academic aspects into three categories including an emotional or affective category (reflecting interest, identification, belonging, and positive attitude about learning), a behavioral category (including positive conduct, effort, and participation), and a cognitive category (demonstrated through self-regulation, interest in specific learning goals, and investment in learning). Studies have found that students have the most comprehensive engagement and learn best when all three of these areas of engagement are met (Finn, et al., 2012; Grocia, 2018). For example, in their review of research on student engagement, Trowler (2010) noted that studies have consistently reported significant correlations between student involvement in a subset of 'educationally purposive activities', and positive outcomes of student success and development, including satisfaction, persistence, academic achievement and social engagement. Conversely, this research also finds that learning is negatively impacted when students are dispassionate, bored, or otherwise disengaged.

2.2 Influence of Teacher Professional Development on Instructional Practice

Examinations of the influence of professional development on the instructional practices of teachers reveal that effective professional development activities share common elements including a content-area focus, opportunities for teachers to engage in active learning, activities of sufficient duration to ensure intellectual and pedagogical growth, opportunities for collective participation of teachers from the same school, and content that is consistent with teachers' knowledge and beliefs (Desimone, 2009; Penuel, et al, 2007). Desimone (2009) refers to such consistency between content, knowledge, and beliefs as coherence and suggests that a lack of coherence negatively impacts the effectiveness of professional development to positively influence teacher practice.

Research by Zhang, et al., (2021) found that what teachers learn from professional development is significantly influenced by their prior knowledge, prior experiences, and beliefs. Investigations of the impact of professional development across numerous content areas reveal that teachers' prior knowledge and beliefs influence the degree to which their participation in professional development activities changes their instructional practices (Sancar, et al., 2021). As such, these studies suggest that teacher professional development can be improved through better alignment of learning opportunities to teachers' current beliefs and levels of understanding.

2.3 Teacher Voice

Over the last 30 years there has been an increased recognition of the importance of teacher voice (García, Han, & Weiss, 2022; Stewart, 2014). For example, in their examinations of factors contributing to teacher attrition, Garcia, et al., (2022) found that lack of teacher voice was one of the largest contributing factors. This line of research inquiry has also been extended to examine the factors that contribute to teachers' levels of satisfaction with the professional development opportunities they experience within their school and district (Smet, 2021; Yoon & Kim, 2022). This research has identified that soliciting input from teachers regarding their current experiences, their perceptions of their strengths as teachers, and their views on how they can best be supported are key factors in determining the efficacy of professional development offerings.

2.4 Fostering Teacher Voice Through Sensemaking and Noticing

Soliciting teacher voice is a critical component of efforts to better support teachers because teachers are required to continually make instructional decisions and adjust those decisions based on their experiences with their students in real time. As such, teachers must assess classroom situations, attempt to make sense of what they are experiencing, and then adjust their instruction accordingly. According to Weick (2005), sense-making involves the processes of noticing and categorizing information to derive meaning from ambiguity. Within the context of schools, it is informed by teacher's knowledge, beliefs, and attitudes, their social interactions (such as those with colleagues within academic departments or grade level teams), and formal and informal practices and policies that exist within their respective schools (such as those regarding student assessment or student behavior).

Several studies have demonstrated the impact of teacher noticings on teaching practice. For example, in their research examining mathematics teaching, Jacobs, et al., (2017), report that "teacher noticing is worthy of study because teachers can be responsive only to what has been noticed" (p. 192). The study of teacher noticing has been applied to examinations of student learning (König, et al., 2022), student behavior (van Es & Sherin, 2021) and with respect to student identity characteristics (Shah & Coles, 2020).

3. Method

The present study was informed by the work of van Es and Sherin (2021) who view the process of noticing as including three components: "1) identifying what is important or noteworthy about a classroom situation; 2) making connections between the specifics of classroom interactions and the broader principles of teaching and learning they represent; and 3) using what one knows about the context to reason about classroom events" (p 573). In this way, the activity of noticing serves as a tool for identifying the types of student behaviors most salient to teachers as well as a tool for unveiling teachers' current levels of understanding regarding the factors contributing to such behaviors. As a result, the present study sought to examine what teachers were currently noticing about how their students learn, how they behave in class, how they manage their emotions, and the quality of their peer relationships. Additionally, this study sought to identify the attributions teachers assigned to their noticings.

The study was based on data collected during task-based focus groups of a purposive sample of 126 high school teachers from three suburban public schools representing three school districts (which will be referred to as School A, School B, and School C) within the New York City metropolitan area. Focus groups took place between March and October 2024. All participants had five or more years of teaching experience with the majority (69.84%, n= 88) having more than 10 years of teaching experience and 30.16% (n=38) with between 5 and 10 years of experience. Among the participants 87.30% (n=110) self-identified as White, 4.76% (n=6) as Hispanic or Latino, 3.17% (n=4) as Black or African American, 1.59 (n=2) % as Asian American, and 3.17% (n=4) as Multiracial. Data obtained from the New York State Education Department for the 2023-2024 school year indicated that in each of the three schools, the majority of the students were White ranging from 55.65% in School A to 65.29% in School B, with the

percentage of Hispanic or Latino students ranging from 21.44% in School B to 29.35% in School A, and the percentage of Black or African American students ranging from 5.63% in School B to 9.20% in School C.

3.1 Procedure and Analysis

To gain an understanding of teachers' current beliefs regarding their students, teachers were asked to participate in a guided activity in which they were asked to critically reflect on their students and to compare their current students to students they taught prior to the COVID 19 pandemic. Halpern (2001) describes critical thinking as synthesizing, purposeful, reasoned, and goal-directed employing the use of cognitive skills or strategies that increase the likelihood of a desirable outcome. Working in small groups of three to four, participants were asked to critically reflect on their students' current levels of investment in their learning, quality of peer relationships, and levels of emotional regulation.

Drawing on the framework of van Es and Sherin (2021), participants were asked to use single words or brief phrases to describe 1) what they noticed regarding how their students levels of investment in learning, 2) what they noticed regarding the physical behavior of students in their classes, 3) what they noticed regarding how students interact with their peers and the quality of those peer relationships, and 4) what they noticed regarding their students' ability to manage their emotions.

During the small group activity, participants were asked to document their noticings by writing their responses on a single sheet of chart paper which was divided into 4 cells representing the four areas of focus. After documenting their noticings, participants were then asked to work individually and write down what they believed to be the reasons for why they were noticing what they reported. Upon completion of the individual portion of the activity, participants were then asked to share their attributions within their focus group. At the end of the session, the chart paper and written responses were collected by a representative from each respective school. Across all three schools, fifteen focus group sessions (6 sessions with teachers in School A, 6 with teachers in School B, and 3 with teachers in School C) were conducted.

To achieve the aims of this study, a qualitative research design utilizing document analysis and reflective thematic analysis was employed. While described by Morgan (2022) as an underutilized approach in qualitative research, Merriam & Tisdell, (2016), reported that document analysis is often used to explore latent meaning in data. To address concerns raised by Bowen (2009) regarding selection bias when employing document analysis as well as to ensure maximum variation within the sample as recommended by Marshall (1996), all artifacts developed during the professional develop sessions were included in the analysis.

3.2 Trustworthiness

Procedures employed to enhance trustworthiness included methodological triangulation (Patton, 1999) and peer debriefing (Spall, 1998). Focus group transcripts, collective responses documented on chart paper, as well as individual written responses were included in the analysis. All artifacts were then reviewed to ensure accuracy with respect to categorization and labeling.

Since there were occurrences of multiple variations of a similar noticing, in the second level of coding, semantically similar words or phrases were collapsed by the author and two researchers into a single word or phrase. For example, the phrases "less patient" and "more impatient" were collapsed and listed as "decreased patience." The frequency of occurrence of each term was then counted to identify the most common terms used to describe noticings with respect to each focus area. Further categorization of terms was then conducted to identify higher-order categories that emerged across the four focus areas.

Attributions were analyzed qualitatively using the constant comparative method (Glaser & Strauss, 1967) which is described as a process of continual comparison which generates both descriptive and explanatory

categories. Using a process described by Strauss and Corbin (1990) as selective, axial, and open coding, specific themes were then identified. Table 1 lists illustrative noticings, quotes, and themes.

Table 1

Illustrative noticings, quotes, and themes linked to focus areas

Focus Area	Sample Noticings	Illustrative Quotes	Theme
Students' investment in learning	Less interested in learning	"I've been a teacher at this school for over 15 years and I can say that I've never had so many students seem to be so disinterested. Many of my students shut down and refuse to even try to do the work no matter how explicit I make things. I encourage them to participate and I reward them for it. I also try to create an environment where they feel safe. They're all great kids, it just seems like they've changed in ways that I still struggle to understand."	Decreased motivation
Classroom behavior	Disrespectful to others	"Something that I see across all of my classes is that my students seem to be far more impulsive than in prior years. Many just call out in class and don't seem to be concerned about consequences. Not all of them, of course, but a large enough number of them that it impacts the class. I just think that they need more consequences for their behavior. They think they can get away with anything because we were way too lenient for too long a time."	Lack of accountability
Peer relationships	Impaired relationships	"Even now, I still notice that many of my students have difficulty when I ask them to work in groups. I noticed that it was particularly stressful if I changed the composition of the groups every few weeks, so I let them stay in their groups for longer than I typically have. Some of them even said that by the time they started feeling comfortable with their partners, I was mixing things up. I was trying to get them to connect with as many of their classmates as possible, but my pace was too fast for them to feel comfortable."	Decreased social emotional skills
Emotional regulation	More sensitive	"The students seem to be overly sensitive. If someone says something critical, they immediately shut down. I've personally experienced some of my stronger students shutting down after receiving negative feedback. I think that we've focused on supporting them emotionally for a long time and we did that by lowering expectations and showering praise. Now many students have a false sense of their actual abilities and they react negatively to any feedback that isn't positive."	Increased emotional sensitivity

4. Results

In the following sections, findings are presented with respect to the changes teachers noticed regarding 1) students' investment in their learning, 2) the physical behavior of their students in class, 3) how students interact with their peers and the quality of those peer relationships, and 4) their students' ability to manage their emotions. This is then followed by findings regarding teachers' attributions for their noticings with respect to each of the four areas.

4.1 Teacher Noticings

There were 101 words or phrases used to describe noticings regarding students' investment in their learning. After collapsing semantically similar words or phrases, 17 unique phrases were identified. There were 106 words or phrases used to describe noticings regarding students' physical behavior in class. After collapsing semantically similar words or phrases, 12 unique phrases were identified. There were 108 words or phrases used to describe noticings regarding how students interact with their peers and the quality of their peer relationships. After collapsing semantically similar words or phrases, 15 unique phrases were identified. Finally, there were 117 words or phrases used to describe noticings regarding students' ability to manage their emotions. After collapsing similar words or phrases, 13 unique phrases were identified. Table 2 lists noticings by focus area.

Table 2

Noticings by focus area

Investment in learning (n=15)	Behavior (n=7)	Peer relationships (n=9)	Emotional regulation (n=12)
• Decreased stamina • Less interest • Decreased attention span • Decreased critical thinking • Inefficient use of time • Less confidence • Reduced processing time • Decreased academic risk taking • Technology fatigue • Developmentally delayed • Decreased problem solving skills • Poor executive function skills	• Increased disrespect • Increased discriminatory comments • Increased restlessness • Increased defiance • Increased inappropriate touching • Increased complaining • More impulsive	• Increased bullying • Increased disrespect towards peers • Decreased social skills • Lack of boundaries • Comfortable with isolation • Uncomfortable with collaboration • Impaired interpersonal skills • Less comfortable with face-to-face interactions • Impaired conflict resolution skills	• Less resilience • Decreased patience • Emotional outbursts • Overly sensitive • Struggle to accept feedback • Requires more encouragement and validation • Reactive • Lack of empathy • Anxious • Stressed • Defensive • Fearful

- Less recall
- Lowered ability to focus
- Impaired multitasking skills

4.2 To What Did Teachers Attribute Their Noticing?

During the noticing activity, teachers listed several ways in which their current students differed from those they taught prior to the COVID-19 pandemic. Through their process of sense-making, they identified several factors to which they attributed their noticings.

4.3 Attributions Regarding Changes in Students' Investment in Their Learning

The most frequent noticing regarding changes in students' investment in their learning was that students appeared to be less invested. The analysis of attributions revealed three factors contributing to perceived declines in students' investment in their learning: 1) decreased motivation, 2) decreased levels of critical thinking, and 3) reduced attention span.

For example, a 9th grade English teacher at School A noted the following regarding their frustration with lowered levels of motivation and not knowing what to do in response:

> "I've been a teacher at this school for over 15 years and I can say that I've never had so many students seem to be so disinterested. Many of my students shut down and refuse to even try to do the work no matter how explicit I make things. I encourage them to participate and I reward them for it. I also try to create an environment where they feel safe. They're all great kids, it just seems like they've changed in ways that I still struggle to understand."

A 10th grade science teacher from School B similarly noted their challenges with trying to engage students who seemingly appeared to be disengaged and disinterested during a lesson that students from prior years seemed to enjoy.

> "This year, my biggest challenge is trying to engage students who just seem to be different. I taught a unit recently that my students in prior years really enjoyed. One of the activities is a "Shark Tank" type project where they get to work in groups on developing an idea for improving their school and then they pitch it to the administration. This year, the students weren't interested in any aspect of the project and seemed stressed and overwhelmed by the whole thing. I let them choose their partners and I even invited them to be on the panel that hears the pitches. Nothing. Even my strongest students wanted no part of it. It was really disheartening."

In describing their frustration at what was perceived to be a lack of motivation among their students, an 11th grade history teacher at School B shared the following,

> "My students just seem to be so unmotivated. No matter how exciting I try to make my lessons, they just don't seem to be interested in the lessons. Everything just seems to take so much longer to get through and so much more difficult for them to grasp. I break things down to help them understand, but it still seems like a struggle. I know that they're bright kids. I just wish they would be motivated enough to show it."

In addition to perceived declines in motivation, another factor identified as contributing to declines in students' investment in their learning was their decreased willingness to engage in critical thinking. For example, a 9th grade math teacher at School C stated,

> "One of things that's concerned me is that [my students] seem to want me to give them the answers. I don't even mean for difficult questions. We talk in class about the importance of productive struggle all of the time and I encourage them to just sit with a problem for a while and try to figure out what to do. I'm noticing that most would rather not do that type of critical thinking, and they would just rather wait for me to go over the problem."

Similarly a 12th grade English teacher at School A shared their observation of their students' decreased level of investment in learning.

> "In my class, I teach a section on media literacy and we talk about making informed decisions rather than just drawing conclusions based on limited information. What I've noticed is that many of my students don't seem to have the interest or maybe it's just the stamina to actually take the time to do that deeper dive. We focus a lot of our PD time discussing pushing students to think critically. My fear is that with things like AI, many feel like they don't really need to."

Finally, in addition to perceived declines in motivation and declines in students' investment in their learning, teachers also noticed decreased attention spans.

In describing their frustration at what was perceived to be the poor attention span of their students, a 10th grade math teacher at School C shared the following,

> "I think that social media has really harmed their attention span. They've gotten so used to instant gratification that they have a really hard time paying attention for long periods of time now. I believe that social media and constantly being on their phones has re-trained their brains in ways that make them constantly need stimulation. If I ask them to take time to just think deeply about something, I see a good number of them going off-task. It's like they just don't have the stamina for maintaining attention for longer than a few minutes."

A 10th grade math teacher at School A shared similar challenges with supporting students' with decreased attention spans.

> "I feel like my students have so many things competing for their attention. Their phones are a constant source of stimulation for them and I feel like I'm competing against phones and social media. It's really made me rethink how I've been teaching. I've tried to gamify my classes as much as possible, but part of me feels like I'm just feeding into the thing that I'm also trying to protect them from. I know that my colleagues in my department have also shared some of these challenges so I know I'm not alone. That's been validating and sad at the same time."

4.4 Attributions Regarding Student Classroom Behavior

The most frequent noticing regarding how students behave in class was that students were more disrespectful to others. The analysis of attributions with respect to changes in how students behave revealed two factors contributing to perceived changes in behavior: 1) excessive leniency with respect to academic and behavioral expectations in response to the pandemic, and 2) a lack of accountability for problematic student behavior.

For example, a 9th grade social studies teacher who began teaching at School C one year prior to the pandemic noted the following regarding the behavior of their students.

> "Something that I see across all of my classes is that my students seem to be far more impulsive than in prior years. Many just call out in class and don't seem to be concerned about consequences. Not all of them, of course, but a large enough number of them that it impacts the class. I just think that they need more consequences for their behavior. They think they can get away with anything because we were way too lenient for too long a time."

A 10th grade science teacher at School A who similarly began teaching in the year prior to the pandemic noted the following:

> "I teach a class that I know is challenging for some of them. Over the last few years, I've had a lot more outbursts in class with students getting angry about how hard it is. I've been more flexible and I really worked hard to adjust my teaching style, but I worry about my students' progress because sometimes I feel like I'm lowering my standards. Now, when I try to increase the rigor to prepare them for tests, they say that the class is too stressful and many just get angry. I really think that their behavior is a response to us [teachers] being too flexible and unintentionally spoiling them. Now I truly worry that I'm not preparing all of them for next year."

Consistent with the perception that student behavior was influenced by the practices and policies with their schools, teachers also attributed changes in student behavior to a decreased emphasis on holding students accountable either for their behavior or for their learning. For example, an 11th grade math teacher noted,

> "I've been blessed with a really great classes this year. I know that some of my colleagues are dealing with some behavior issues, but my challenge is more about holding my students accountable for their own learning. I get pressure from students, angry emails from parents, and even pressure from some administrators to pass some of my students who I shouldn't pass. It sends such a bad message. I'm also noticing that for many of my students, if it isn't something that counts on their average, they don't take it seriously and they become distractions in class. I know that the idea of learning for learning sake is probably old-school, but I think there's something there that we have to figure out how to deal with."

As such, teachers tended to attribute changes in student behavior to the actions of adults within their school and tended to view problematic student behavior as response to these actions.

4.5 Attributions Regarding Peer Relationships

The most frequent noticing regarding how students interact with their peers was impaired peer relationships. The analysis of attributions revealed two factors contributing to perceived impairments in peer relationships: 1) decreased social emotional skills, and 2) increased emotional sensitivity.

In describing their concern about how lowered levels of empathy was particularly impacting youth in their school, a 10th grade English as a New Language (ENL) teacher from School A shared,

> "I've been really surprised by how many students seem to lack empathy. Some of the things they say and do really shock me. Some students have complained about hearing discriminatory and even racist comments. It really upsets me that some of our students have to deal with that on a daily basis. They [the students] say that it happens in the hallways, the cafeteria, and the bus but rarely in class so we [teachers] don't often hear about it. All students are supposed to feel like they belong but, unfortunately, not all of them do."

In reflecting on how impairments in social and emotional competence were negatively impacting the peer relationships of some of their students, a 9th grade English teacher from School C noted,

> "Even now, I still notice that many of my students have difficulty when I ask them to work in groups. I noticed that it was particularly stressful if I changed the composition of the groups every few weeks, so I let them stay in their groups for longer than I typically have. Some of them even said that by the time they started feeling comfortable with their partners, I was mixing things up. I was trying to get them to connect with as many of their classmates as possible, but my pace was too fast for them to feel comfortable."

A 10th grade science teacher from School B noticed a similar pattern when observing their students having difficulty taking part in group-based activities.

> "One of things that I noticed is that they have a hard time working in groups. I thought that they would be craving that, but when I put them in groups they still seem to have a hard time working with students they don't already have a relationship with. Some of my students seem stressed and really uncomfortable with group work and just prefer to work alone. I even have a few students who I've had to write up [refer to school administrators for disciplinary consequences outside of the classroom] frequently because they just can't work well with others."

In describing what they viewed as a heightened level of sensitivity among students in response to receiving negative feedback, a teacher from School A reported,

> "The students seem to be overly sensitive. If someone says something critical, they immediately shut down. I've personally experienced some of my stronger students shutting down after receiving negative feedback. I think that we've focused on supporting them emotionally for a

long time and we did that by lowering expectations and showering praise. Now many students have a false sense of their actual abilities and they react negatively to any feedback that isn't positive."

5. Discussion: Linking Attributions to Student Engagement

The findings highlight several themes that collectively point to perceived decreases in the affective, behavioral, and cognitive dimensions of student engagement. For example, the findings regarding decreased social emotional skills, and increased emotional sensitivity reflect perceived changes in affective engagement as demonstrated by changes in students' interest in learning, their sense of belonging, their attitudes toward learning, and their social and emotional competence. Such competence includes the ability to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish and maintain positive relationships, and handle challenging situations effectively (CASEL, 2017).

Studies have demonstrated that social interaction is foundational to the development of social and emotional competence (Collie, 2020). Recent studies have also reported on the prolonged detrimental impact of social deprivation on adolescents as a result of the COVID-19 pandemic (Araújo, et al., 2021) and the resultant negative impact on the development of social and emotional competence and on social and emotional wellbeing among adolescents (Campione-Barr, et al., 2021; Romm et al., 2021). The findings of the present study are consistent with prior research in that teachers attributed their students decreased willingness to participate in group work to impairments in students' ability to build relationships with their peers.

Behavioral engagement reflects students' positive conduct, along with their effort and active participation in class activities. The findings of the present study indicate that teachers perceived impairments in student behavior to be demonstrated through negative conduct and decreased effort. During the pandemic, adolescents faced the reality of a threat to their health and life coupled with the experience of long-term social deprivation. Research examining the long-term impact of the stress and isolation of the pandemic on adolescents has continued to identify impairments in the ability of adolescents to successfully function in response to the demands of daily life (Bastien, et.al., 2020; Zierer, 2021). Teacher noticings and attributions regarding student behavior in the current study are consistent with numerous studies reporting that adolescents continue to experience difficulty readjusting to the demands of school including readjusting to the academic demands as well as readjusting to the demands of navigating peer relationships (Bastien, et.al., 2020; Zierer, 2021).

Cognitive engagement reflects students' self-regulation abilities, their interest in learning specific content, and their commitment to learning. Findings from the present study indicate that teachers noticed impairments in students' cognitive engagement when compared to students they taught prior to the pandemic. These impairments were demonstrated through perceived decreases in students' levels of motivation, levels of critical thinking, and attention span.

Studies continue to report that the challenges of readjustment to school in the aftermath of the COVID 19 pandemic have resulted in increased levels of stress among children and adolescents when compared to the pre-pandemic period (Mazrekaj & De Witte, 2024; Zierer, 2021). These studies have found that such long-term stress impairs self-control and increases impulsivity by impairing inhibitory control, working memory, and cognitive flexibility (collectively referred to as executive function) (Bastien, 2020). As such, the findings of these studies suggest that the attributions identified in the present study may be influenced by impairments in executive function.

6. Conclusion: Implications of Findings for Improving Professional Development

Drawing on research examining the features of impactful professional learning opportunities for teachers as well as research within the developmental sciences, the current study recommends that professional learning opportunities be structured to solicit teacher voice through activities that provide opportunities to

amplify how teachers make sense of what they observe in their students. This type of sense-making and critical reflection can then serve to identify both gaps in understanding and gaps in instructional practice that can be supported through professional development programs.

As was evident in the findings of the present study, the challenges of teaching in the post COVID era have also resulted in teachers viewing some of their students through a deficit lens where student performance levels in pre-pandemic times may be overly exaggerated and post-pandemic performance may be overly problematized. As such, professional learning opportunities for teachers must be intentional about being strength-based. This is particularly important when seeking to support the developmental needs of minoritized youth where cultural beliefs, practices, and worldviews may be misaligned with those of their teachers and school administrators.

A strength-based perspective also requires a shift from a focus on the identification and reduction of risk or harm to the identification and fostering of promotive factors that lead to positive outcomes. In this way, employing a strength-based perspective can help teachers identify promotive factors (such as helping students to feel more competent in class through the use of constructive feedback) that may help increase positive student behavior.

Student engagement-focused professional learning opportunities should also draw clear distinctions between engagement and compliance. Emphasizing concerns regarding problematic student behavior can, inevitably, result in a focus on increasing student compliance with school rules and policies. While an important focus, efforts to increase compliance often focus on discipline and consequences while efforts to increase engagement should address learning, school climate, and student well-being.

As the process of sense-making involves adjustments in thinking in response to current conditions, it is also critical that teachers and administrators establish realistic expectations regarding their goals pertaining to increasing student engagement such that these goals match current noticings. For example, frameworks such as those developed by Heick (2018) describe engagement as occurring on a continuum ranging from rebellion (characterized by disorder and opposition) to engagement (characterized by perseverance and prolonged inquiry) and may serve as an important guide for goal setting.

Given findings indicating that student engagement is most robust when affective, behavioral, and cognitive dimensions are addressed, professional development programs aimed at fostering student engagement should include an explicit focus on how each dimension is demonstrated by students and how each can be addressed in the classroom. An explicit focus on identifying indicators of student engagement can assist teachers in making more accurate assessments of students' current engagement levels and can guide teacher self-reflection.

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