STUDENT-INVOLVED ASSESSMENT FOR LEARNING

PROFESSIONAL DEVELOPMENT CASE STUDY

by

ERIN A. BEARD

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Student: Erin A. Beard

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This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Education degree in the Department of Educational Methodology, Policy, and Leadership by:

Dr. Julie Alonzo	Chairperson, Advisor
Dr. Shawn Irvin	Core Member
Dr. Heather McClure	Core Member
Dr. Rhonda Neese	Institutional Representative

and

Kate Mondloch	Interim Vice Provost and Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded June 2020

DISSERTATION ABSTRACT

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Prior research has established that when student-involved assessment for learning (SI AfL) processes are used effectively, student achievement outcomes improve, including outcomes for students who have been traditionally underserved. Despite the research base and established professional standards, SI AfL remains difficult to implement because not all teachers have been trained to shift their mental model of classroom assessment from a hierarchical assessment-for-grading paradigm to a contemporary SI AfL paradigm. Furthermore, SI AfL professional development (PD) currently remains separate from PD that prevents underserving students. Outdated mental models and disconnected PD result in teachers not implementing both the letter and spirit of SI AfL. This case study explored how an integrated SI AfL PD experience affected teachers' classroom assessment mindset, SI AfL knowledge, and understanding of the connections between SI AfL, equity, and trauma informed practices (TIPs). The case study sample included four teachers from a large middle school in southern Oregon. The teachers represented all middle school grade levels (6-8) and multiple subject areas (social studies, science, English, and computer skills).

Case study findings suggest that the integrated SI AfL PD experience did contribute to a shift in teachers' classroom assessment mindset, an increase SI AfL knowledge, and an increase in understanding about the connections between SI AfL,

equity, and TIPs. Patterns of evidence from written comments and verbal responses demonstrated that participants' thinking aligned to the 21st century empowerer model of classroom assessment by the end of the PD experience. Participants were able to show their increased knowledge of SI AfL as well as the connections to equity and TIPs through Likert scale survey responses, written reflection, as well as verbal responses. Furthermore, participants responded favorably to the content, pacing, and modalities of the training. Even though participants were exposed to a considerable amount of research, theory, and integrated topics in a short amount of time, participants reported feeling optimism, validation, agency, as well as motivation. Thus, the integrated SI AfL PD experience provides initial evidence of an efficacious approach to supporting busy classroom teachers in implementing both the letter and spirit of SI AfL.

CURRICULUM VITAE

NAME OF AUTHOR: Erin A. Beard

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
Willamette University, Salem

DEGREES AWARDED:

Doctor of Education, 2020, University of Oregon
Master of Education, Educational Leadership, 2003, University of Oregon
Bachelor of Arts, Art History, 2002, Willamette University

PROFESSIONAL EXPERIENCE:

Professional Learning Content Designer, NWEA, Portland, OR February 2020-present

Secondary Teacher-Leader, Medford School District, Medford, OR 2006-present

Professional Development Facilitator, Oregon Education Association, Portland, OR June 2013-2019

Middle School Teacher, St. Mary's School, Medford, OR 2003-2006

PROFESSIONAL PRESENTATIONS:

Student-involved Assessment for Learning, Medford School District, January-March 2020

Quality Assessment Practices = Quality Instructional Practices, Oregon Education Association Center for Great Public Schools Summer Conference, July 2019

Gradebook for Learning, School District, Fall 2018 and Spring 2019

Assessment for Learning Professional Book Study for Title Staff, Medford School District, fall 2017-spring 2018

Assessment for Learning Bootcamp, Medford School District, August 2016, 2017, 2018

Quality Assessment Practices, Oregon Education Association Center for Great Public Schools Summer Conference, July 2017

GRANTS, AWARDS, AND HONORS:

Kenneth A. Erikson Award, University of Oregon, 2018

Lucinda Jane Criswell Award, University of Oregon, 2018

Golden Pear Nominee, Medford School District, 2017

Joy Lorraine Hayhurst Art Achievement Award, Willamette University, 2002

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CHAPTER I

INTRODUCTION

In this chapter, I explain the general history, current professional standards, and key concepts regarding the broad topic of classroom assessment, with a specific focus on student-involved assessment for learning (SI AfL). Then, I explain the connections between SI AfL professional standards of practice and intersecting issues of educational equity and addressing adverse childhood experiences (ACEs). I conclude this chapter by defining a problem of practice: teachers struggle to implement both the letter and spirit of SI AfL.

Traditional Classroom Assessment and Current Professional Standards

Traditional classroom assessment concepts and procedures are based on nineteenth and twentieth-century business management model mindsets where "students step onto a thirteen-year conveyor belt in kindergarten and progress slowly forward, moving in lines with all the other widgets and gizmos, until they reach the end" (Johnson, 2006, p. 36). In this traditional, assembly line factory model paradigm, classroom assessments are viewed as actions separate from instruction, often norm-referenced, teacher-directed, and placed at the end of a unit for reporting purposes (Stiggins & Chappuis, 2018; Zeng, Huang, Yu, & Chen, 2018). The role of the teacher in the factory model is one of highly centralized, omnipotent authority (Griffin, Cagasan, Care, Vista, & Fe Nava, 2016), and classroom assessment practice is a linear teach, test, and grade process with emphasis on summative product performance. In the traditional model, assessment is an instrument given *to* students rather than an integral part of a learning process done *with* students.

In the nineteenth and twentieth centuries, when the U.S. system of education was modeled after and used to support economic industrialization systems, tracking, sorting, and excluding students by ability, class, and social norms was acceptable (Johnson, 2006; Stiggins, 2017). However, to meet current, twenty-first century expectations of educational access, opportunity, and success for all students, U.S. educational system leaders and teachers are working to shift away from traditional mental models, roles, systems, and practices that track, sort, and exclude students. Aspects of contemporary U.S. educational legislation, such as the *Every Student Succeeds Act* (U.S. Department of Education, 2015), reflect this departure from the traditional, factory model of classroom assessment. The Act outlines federal expectations for student learning. To achieve federal learning goals, states use professional standards constructed by experts informed by research. And, to ensure that teachers are able to meet these expectations for student learning, states have also adopted rigorous standards for teaching. For example, in 2013 the Council of Chief State School Officers (CCSSO) through the Interstate Teacher Assessment and Support Consortium (InTASC) published a set of ten teacher standards (CCSSO, 2013). Multiple states, including Oregon, shape educational practices, evaluation, teacher preparation, and educator professional development around the ten InTASC standards.

In order to achieve the standards, which are intended to ensure that all students learn, grow, and ultimately succeed in post-secondary opportunities, educators must effectively construct and use classroom-level assessment instruments as well as processes. In doing so, they must also be able to navigate the increasingly challenging social and emotional environments of the modern-day U.S. school, with changing

demographics, opportunity gaps, and students' lives impacted by traumatic events. InTASC Standard 6 establishes expectations for classroom-level assessment, detailing 22 sub-standards targeting the performances, knowledge, and dispositions that educators must possess in order to achieve the expectations of the standard. Four sub-standards, in particular, relate to the practices of student-involved assessment for learning (SI AfL), the focus of my proposed dissertation (see Table 1). It was my hope that focusing professional development on these practices would enable more teachers to meet the needs of their increasingly diverse, dynamic, and complex student body while concurrently providing a better foundation of support for students overcoming traumatic experiences as well as disparity. Before I explain the details of the descriptive study, I will further define current classroom assessment concepts, explicate the connections between SI AfL, educational equity, and trauma-informed practices, as well as provide support from established literature.

Definitions

In order to achieve the performances, knowledge, and dispositions outlined in InTASC Standard 6 (Table 1), current U.S. educators must know and apply associated concepts as well as reframe teacher and student roles (Griffin, Cagasan, Care, Vista, & Fe Nava, 2016). Terms for teachers' knowledge and application of concepts include *assessment literacy* or *assessment competency*. Part of assessment knowledge and application includes the purpose of assessment. Educators use assessments for "two general purposes: to support student learning (formative applications) and to evaluate the sufficiency of that learning (summative assessment)" (Stiggins, 2017, p. 29). While assessment of learning (AoL) is a summative assessment approach, assessment for

learning (AfL) is a formative assessment approach (Kippers, Poortman, Schildkamp, & Visscher, 2018) that includes practices where criterion-based assessments are carefully designed and the results are used as feedback that respond to learning needs (Black, Harrison, Lee, Marshall, & Wiliam, 2004).

Table 1

InTASC Standard 6 Components Related to This Dissertation

Standard 6	Performances	Knowledge	Dispositions
The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.	6(d): The teacher engages learners in understanding and identifying quality work and provides them with effective descriptive feedback to guide their progress toward that work. 6(f): The teacher models and structures processes that guide learners in examining their own thinking and learning as well as the performance of others.	6(m): The teacher knows when and how to engage learners in analyzing their own assessment results and in helping to set goals for their own learning.	6(q): The teacher is committed to engaging learners actively in assessment processes and to developing each learner's capacity to review and communicate about their own progress and learning.

Adapted from Council of Chief State School Officers (2013). *InTASC Model Core Teaching Standards and Learning Progressions for Teachers 1.0: A Resource for Ongoing Teacher Development*, Interstate Teacher Assessment and Support Consortium, p. 30.

Student-involved assessment for learning (SI AfL) is part of the broader category of AfL. With SI AfL, teachers purposefully nurture students' assessment literacy skills so that students are engaged in "develop[ing] their capability to assess their own learning" (Charteris & Thomas, 2016, p. 167). InTASC Standard 6 does not explicitly use the term SI AfL; however, the tasks such as goal setting, interacting with success criteria, and self

or peer assessment require that teachers involve students in the assessment process and build metacognition as well as self-regulation, identified as one of the most significant influences on learning and academic success (Braund & DeLuca, 2018). In the SI AfL model, the teacher is no longer the omnipotent director of instruction; the teacher collaborates with students in iterative, responsive cycles of learning, informed by regular formative feedback and reflection.

Another nuance in the classroom assessment landscape receiving attention in New Zealand, Australia, and Asia is assessment as learning (AaL). With AaL, the student, not the teacher, directs the "process in which students evaluate and reflect upon their learning with the primary purpose of supporting metacognition and SRL [self-regulated learning] development" (Braund & DeLuca, 2018, p. 68). Some researchers cast AaL as a subset of AfL (Earl, 2013; Lam, 2018), while others do not (Sadeghi & Rahmati, 2017). The framework that connects AoL, AfL, and AaL is known as learning-oriented assessment (LOA) (Zeng, Huang, Yu, & Chen, 2018).

Although the purpose and components of AaL as well as the LOA framework are promising, this approach to assessment does not yet have an established base within the U.S. educational system. I will focus on SI AfL, which most directly aligns to InTASC Standard 6. The concepts of AaL could be applied to clarify U.S. teachers' understanding of what is possible after mastering AfL on the classroom assessment skills continuum.

Educational Equity Connections

Twenty-first century U.S. secondary teachers must enact professional standards of classroom assessment practice for an increasingly diverse student body. For example, between 2009 and 2019, the reported percent of white/non-Hispanic students in the

Medford School District in Jackson County, Oregon, the setting for my descriptive study, decreased, while the percent of reported Hispanic/Latino and Multiracial students increased (see Table 2).

Table 2

Medford School District Fall Student Population Percentages by Reported Ethnicity

School Year	American Indian/ Alaskan Native	Asian	Native Hawaiian/ Pacific Islander	Black/ African American	Hispanic/ Latino	White/ non-Hispanic	Multiracial (non-Hispanic)
18-19	0.60%	1.20%	0.70%	0.80%	26.10%	65.60%	4.90%
17-18	0.70%	1.20%	0.80%	0.90%	26.10%	65.50%	4.80%
16-17	0.70%	1.20%	0.80%	0.90%	25.30%	66.60%	4.60%
15-16	0.70%	1.10%	0.80%	0.90%	24.60%	67.60%	4.20%
14-15	1%	1%	1%	1%	23%	69%	4%
13-14	1%	1%	1%	1%	23%	70%	4%
12-13	1%	1%	1%	1%	22%	71%	3%
11-12	1.12%	1.34%	0.86%	1.35%	21.01%	71.31%	3.02%
10-11	1.41%	2.17%*		1.53%	20.50%	71.69%	2.70%
09-10	1.53%	1.86%*		1.66%	20.30%	72.82%	1.67%

Note. Asian and Native Hawaiian/Pacific Islander groups not separated 2009-2011
Retrieved and adapted from "School Enrollment Reports," by Oregon Department of Education, 2019, https://www.oregon.gov/ode/reports-and-data/students/Pages/Student-Enrollment-Reports.aspx

Additionally, between 2012-2016, indicators of diversity in the Medford School District (the setting for the study) such as percent of English learners and number of

languages spoken increased in grades 9-12 while indicators such as percent economically challenged increased in grades 6-8. The percent of students with disabilities increased in both grade groupings (see Table 3).

Table 3

Indicators of Student Diversity in Medford School District 2012-2018

School Year	Percent of Students English Learners		Number of Languages Spoken		Percent of Students with Disabilities		Percent Economically Challenged	
17-18 district total	14%*		38*		15%*		67%*	
Totals by school year and grade level	6-8	9-12	6-8	9-12	6-8	9-12	6-8	9-12
16-17	14%	16%	16	26	14%	11%	71%	53%
15-16	15%	15%	14	25	14%	10%	72%	54%
14-15	15%	14%	16	24	14%	9%	71%	50%
13-14	15%	12%	18	22	13%	9%	60%	51%
12-13	14%	12%	19	22	11%	9%	60%	53%

Note. 2017-2018 data not separated by grade level
Retrieved and adapted from "Report Card Download Archive," Oregon Department of Education, 2019, https://www.ode.state.or.us/data/reportcard/ReportArchive.aspx

With the increasingly diverse body of students, achieving the SI AfL processes inherent in Standard 6, requires teachers to create a high-trust classroom environment where students from a variety of backgrounds, identities, abilities, and cultures are comfortable engaging in SI AfL pedagogy such as self and peer assessment (Clark, 2014; Stiggins, 2017; Stiggins & Chappuis, 2005). The knowledge, skills, and dispositions for

nurturing a high trust learning environment are summarized in InTASC Standard 3 (see Table 4). At the heart of InTASC Standard 3 are concepts central to educational equity such as learner diversity ("*The teacher understands how learner diversity can affect communication and knows how to communicate effectively in differing environments."*) and inclusion *("The teacher knows how to collaborate with learners to establish and monitor elements of a safe and productive learning environment."*) (CCSSO, 2013, p. 21). Again, even though there are learning environment standards of professional practice that support SI AfL classroom learning conditions, it is reasonable to believe that not all teachers are equipped to successfully implement these practices in the classroom. District leadership in this study's schools, in fact, have identified this as an area of need, providing impetus for my study.

An argument for the provision of classroom conditions that support the diverse social, emotional, and academic needs of learners and SI AfL processes is that their use helps mitigate educational disparities because the learner is a partner and has a voice in the learning process. SI AfL empowers and motivates reluctant, underserved, marginalized, and underperforming students as well as improves overall instructional quality and achievement (Andrade & Brookhart, 2016; Black & William, 1998; Clark, 2014; Hattie & Timperley, 2007; Popham, 2017; Stiggins & Chappuis, 2005). When an educator can implement SI AfL pedagogy, learning goals, processes, and examples are consciously transparent; students are actively engaged in and encouraged with formative assessment information analysis as well as monitoring. Students, no matter what their cognitive, linguistic, social, emotional, physical, cultural, ability, or identity may be, are provided structured opportunities to build confidence as well as self-regulation skills

using goals, examples, success criteria, and feedback to adjust learning (Clark, 2014; Heritage & Wylie, 2018; Xiao & Yang, 2019). Therefore, such approaches remove the traditional, opaque "guessing game" of test points and grades that students from more privileged backgrounds may better know how to play. The emphasis in a true SI AfL learning environment is to support all students to become valuable, confident, and successful partners in the learning process and the learning community.

The reciprocal relationship I propose between Standard 3, Standard 6, educational equity, and student learning is illustrated in Figure 1. Figure 1 details build off of the formative assessment framework as well as theories, which I explain more thoroughly in Chapter II. Ultimately, Figure 1 can be used to illustrate the reciprocal relationship between underpinning framework and theory, InTASC Standards 3 and 6, school equity and TIPs goals, and student learning. I will refer back to and further explain this figure as I synthesize the literature.

State, district, and school leaders are keenly aware of educational equity needs and benefits. For example, the goal statements of both the Oregon Department of Education (see Table 5) and the Medford School District (see Table 6) reference educational equity. To support staff to fulfill established goal statements, states, districts, and schools currently offer professional development opportunities on topics of educational equity such as culturally responsive and Universal Design for Learning practices. As can be seen, however, current equity professional development offerings stop short of integration with classroom assessment training.

Table 4

InTASC Standard 3 Performances, Knowledge, and Dispositions Related to this Dissertation

Standard 3	Performances	Knowledge	Dispositions
The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation	3(a) The teacher collaborates with learners, families, and colleagues to build a safe, positive learning climate of openness, mutual respect, support, and inquiry. 3(d) The teacher manages the learning environment to actively and equitably engage learners by organizing, allocating, and coordinating the resources of time, space, and learners' attention. 3(f) The teacher communicates verbally and nonverbally in ways that demonstrate respect for and responsiveness to the cultural backgrounds and differing perspectives learners bring to the learning environment.	3(k) The teacher knows how to collaborate with learners to establish and monitor elements of a safe and productive learning environment including norms, expectations, routines, and organizational structures. 3(l) The teacher understands how learner diversity can affect communication and knows how to communicate effectively in differing environments.	3(o) The teacher values the role of learners in promoting each other's learning and recognizes the importance of peer relationships in establishing a climate of learning. 3(r) The teacher is a thoughtful and responsive listener and observer

Adapted from "InTASC Model Core Teaching Standards and Learning Progressions for Teachers 1.0: A Resource for Ongoing Teacher Development," by the Council of Chief State School Officers, 2013, Interstate Teacher Assessment and Support Consortium, p. 21.

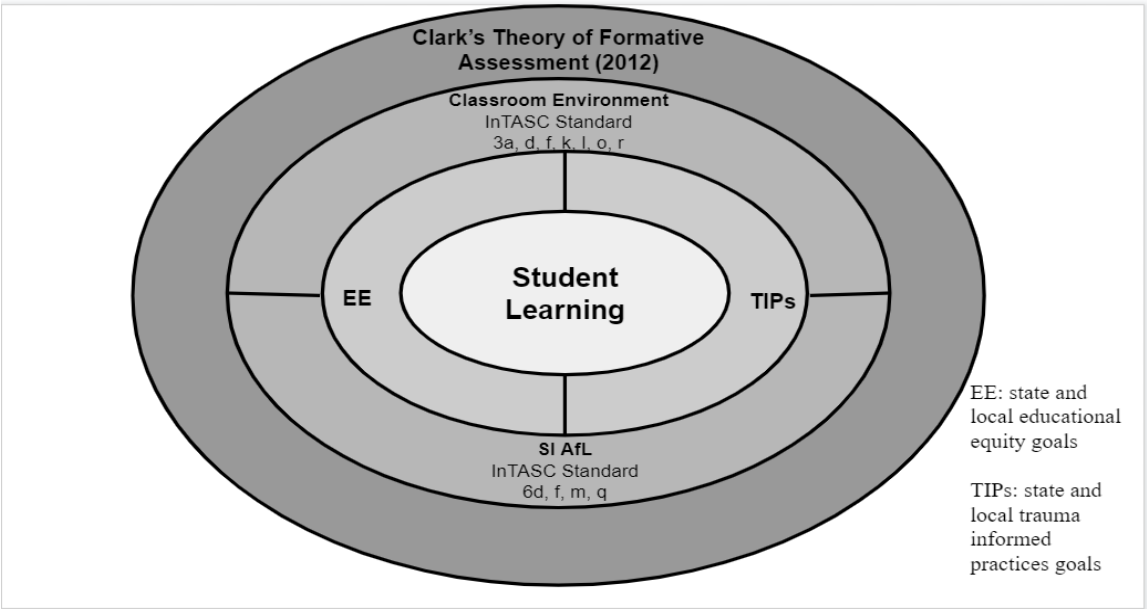


Figure 1. *A Reciprocal Relationship Model between Clark's (2012) Formative Assessment Theory, InTASC Standards 3 and 6, State Goals (educational equity and trauma-informed practices), as well as Student Learning.*

Note: Model builds on and functions like Clark's (2012) Theory of Formative Assessment cross section (see Figure 3).

Trauma-Informed Practices Connection

Not only must teachers have the skills necessary to support a diverse student body, they also need to structure the learning environment in ways that support students who have experienced trauma and are thus less likely to expose their vulnerabilities to their classmates, as might be needed for SI AfL to realize its full potential (Terrasi & de Galarece, 2017). Dotson Davis (2019), analyzing national data from 2014, reported that 46% of children had experienced at least one traumatic event or adverse childhood experience (ACE). Similarly, RB-Banks and Meyer (2017) citing National Survey of Children's Health data stated that "nearly 35 million children in the United States are living with emotional and psychological trauma" (p. 63).

Table 5

Examples of Oregon Department of Education Educational (ODE) Equity and TIPs Goal Statements and Provided Professional Development

	Goal Statements		Current Provided PD
Ed. Equity	The ODE fosters equity and excellence for every learner through collaboration with educators, partners, and communities.	Every student will have access to and benefit from a world-class, well-rounded, and equitable educational system.	Southern Oregon Equity Summit Big Ideas in Education Disability Studies Cultural Values, Intelligence, Bias, and Self-Awareness
Trauma-informed	Trauma-informed schools understand the impacts of trauma on students, family and staff and become safe, supportive environments where all members of the school community have positive connections and can focus on skills necessary to improve learning	Create physically and psychologically safe environments for all staff and students; realize both the widespread impact of trauma and the role of schools in promoting resiliency; recognize the signs and symptoms of trauma in students, family, and staff; integrate knowledge about trauma into policies, procedures, and practices; resist re-traumatization of students and staff and foster resiliency	Trauma Informed Educator Certification Program

Retrieved and adapted from "Mission, Vision, and Values," Oregon Department of Education, 2019, https://www.oregon.gov/ode/aboutus/Documents/Pages%20from%201170823 _ODE_ Strategic%20Plan %208.5x11_2016%20V7%20Values.pdf, "Professional Development Calendar" https://www.oregonednet.org/events/list, and "Trauma-Informed Practices in Schools" https://www.oregon.gov/ode/students-and-family/GraduationImprovement/ Documents/Trauma-Informed%20Practices%20in%20Schools.pdf.

Table 6

Examples of Medford School District Equity and TIPs Goal Statements and Provided Professional Development

Goal Statements			Current Provided PD
Ed. Equity	Promote a school environment of EQUITY in which ALL students find connections, meaning, and understandings in their daily school experiences.	All students will become affiliated and engaged with the educational process through connections to caring adults, like-minded peers, meaningful curriculum and coursework and ultimately their own learning.	Implicit Bias Training
Trauma-informed		Acknowledge Adverse Childhood Experiences (ACEs) and trauma informed practices.	Trauma Informed Practices for New Staff

Retrieved and adapted from "Equity for All," Medford School District, 2018, https://www.medford.k12.or.us /Page/3894 and http://pdnetworks.soesd.k12.or.us/public/events/find-events

This situation is particularly relevant in the study's geographic region. Jackson County ACE indicators are higher than state and national rates (see Table 7). The toxic stress generated by ACEs affect students' neurodevelopment, which can interfere with the social, emotional, and cognitive skills needed for learning (Blodgett & Dorado, 2016). In order for SI AfL processes to work, a teacher must be supported to grow in his or her trauma-informed practices (TIPs) so that students who have experienced ACEs are actively engaged in SI AfL processes.

Table 7

Examples of ACEs Indicators: Jackson County Compared to State and Nation in 2010

	Percent of Children Living in Poverty	2010 Unemploy-ment Rate	Child Abuse/ Neglect (per 1,000 children)	High School Graduation Rate	Youth Criminal Referral Rate (per 1,000 youth)
Jackson County	19%	12.4%	14.3%	62%	42
Oregon	17%	10.6%	12.5	66%	31
U.S.	18%	9.6%	9.3	70%	NA

Adapted from The Oregon Community Foundation. (2011, April). *Southern Oregon Regional Profile*[PDF]. Retrieved from https://www.oregoncf.org/Templates/media/files/regional _profiles_ 2011/southern_oregon_final_with_cover.pdf

Student-involved AfL pedagogy mitigates students' ACEs because the impact of ACEs is reduced; brain wiring is repaired because there is a "physically safe and psychologically supportive place" (Clark, 2014, p. 117) with instructional practices that build student trust, responsibility, and agency (Blodgett & Dorado, 2016). The learning goals as well as criteria are clear; students are supported to build resilience, inclusivity, stress management as well as self-regulation. Thus, SI AfL practices *are* academic trauma-informed practices (Dotson Davis, 2019; Terrasi & de Galarce, 2017), although they might not explicitly be identified as such in the literature or state/district policies. When SI AfL is effectively used, students, even those who have experienced ACES, can state, "I understand these [classroom assessment] results, I know what to do next, and I'm OK. I choose to keep trying" (Stiggins, 2017, p. 91).

State, district, and school leaders are acutely aware of ACEs impact. For example, the Oregon legislature passed House Bill 4002 in 2016, which directs the Chief Education Office to fund and implement trauma-informed approaches in schools (H.B. 4002, 2016). In January 2019, the Oregon Education Association (OEA) published the report, "A Crisis of Disrupted Learning," which illuminates the impact of ACEs in Oregon schools and includes recommendations for addressing the effects. The authors of the report recommend providing high quality, on-going TIPs professional development (Oregon Education Association, 2019, p. 16). Trauma-informed practices are currently part of state, union, district, and school goal statements, recommendations, and professional development plans (see Table 5 and Table 6). As of this publication date, however, state, union, and district training opportunities that explicitly connect as well as integrate TIPs and classroom assessment are not yet regularly offered.

Tigard and Central High Schools received grant funding from the state of Oregon to participate in a pilot program in which they partnered with the Oregon Department of Education and the OEA Center for Great Public Schools during the 2017-2019 Oregon Quality Assessment Practices Networked Improvement Community project (OR QAP NIC). The OR QAP NIC project was the first known professional development endeavor where facilitators explicitly connected classroom assessment, educational equity, and TIPs. I was fortunate to be a beneficiary of this professional development, and insights from the OR QAP NIC project inform my dissertation study focused on InTASC Standard 6 (CCSSO, 2013). I leveraged the insights from and connections with the OR QAP NIC project in the design, implementation, and analysis of this case study (see Methods section).

The Problem of Practice

Despite (a) an established SI AfL research base that verifies successful outcomes for the varied needs of students, such as those who experience ACEs or who are from groups traditionally underserved, (b) standards of professional practice that establish expectations for student-involved classroom assessment as well as high-trust learning environment conditions, and (c) state and local goal statements regarding educational equity and TIPs, SI AfL remains difficult to implement in classrooms, particularly in large secondary schools (Booth, Hill, & Dixon, 2014). There are several challenges to successful implementation of SI AfL. School improvement initiative overload is a factor (Booth, Hill, & Dixon, 2014; Braund & DeLuca, 2018; Lysaght & O'Leary, 2017). The consequences of performance pressure and imbalanced assessment systems are also barriers (Booth, Hill, & Dixon, 2014; Charteris & Thomas, 2016; Deneen, Fulmer, Brown, Tan, Leong, & Tay, 2019; Heritage & Wylie, 2018; Hill, 2011; Lysaght & O'Leary, 2017). Contradictory policies or mandates and variability in implementation can also undermine SI AfL implementation efforts (Adie & Willis, 2016; Cumming & Van der Kleij, 2016; Laveault & Allal, 2016). There are challenges when principals and school leaders lack assessment literacy skills and/or assessment leadership capacity (Hill, 2011; Laveault, 2016; Smith, 2016; Zeng, Huang, Yu, & Chen, 2018). There is also lack of preparation in teacher preservice programs (Coombs, DeLuca, LaPointe-McEwan, Chalas, 2017; Xu & Brown, 2016).

For the purposes of this descriptive study, I will focus on one specific SI AfL implementation challenge: Research studies suggest that although inservice teachers may comply with the practices, knowledge, and dispositions of student-involved AfL (such as

those outlined in InTASC Standard 6) they do not enact the spirit; thus, the full power of student-involved AfL is not fully realized (Birenbaum, 2016; Charteris & Thomas, 2016; Heritage & Wylie, 2018). Teachers who enact SI AfL procedures while having a fixed, traditional, factory model conceptualization of assessment may conform to the letter of classroom assessment expectations (e.g., facilitate a partner activity and call it peer feedback or administer a quiz and call it a formative assessment), but not the spirit; they do not act as student learning "empowerers" (Booth, Hill, & Dixon, 2014, p. 149). When teachers remain the omnipotent business manager figure, and when students' social, emotional, and cognitive development remain isolated or underdeveloped, students are not empowered to be self-regulated learners. With a traditional assessment mindset, SI AfL components are viewed as tasks rather than a dynamic process, and students are not guided to use formative results to guide their learning. In this environment, even though SI AfL-related activities might be completed, learning remains a mysterious process of rewards and consequences, which only some students know how to access; thus, issues such as educational disparity as well as ACEs effects continue.

Teachers who (a) conceptualize classroom assessment as part of a malleable progression of student-involved learning, (b) activate student agency by building social, emotional, as well as cognitive self-regulation skills, and (c) support students to use SI AfL information to guide the learning process are *empowerers* – teachers who embody both the letter and spirit of SI AfL, which mitigates educational disparity and ACEs (Booth, Hill, & Dixon, 2014, p. 149; Heritage & Wylie, 2018; Marshall & Drummond, 2006; Popham, 2008). Implementation is successful when teachers can enact both the letter and the spirit of student involved AfL, but few know how to do so (Booth, Hill, &

Dixon, 2014; Lysaght, 2015). Therefore, I reviewed extant literature to explore: How can professional development support inservice teachers to successfully implement both the letter and spirit of SI AfL? In other words, how can more teachers become empowerers?

CHAPTER II

LITERATURE REVIEW AND SYNTHESIS

In this chapter, I (a) illustrate the underpinning framework as well as theory that can help address the problem of practice, (b) describe the gaps in the research as well as what researchers suggest to ameliorate the problem, and (c) explain how my descriptive study, an integrated model of SI AfL professional development for secondary inservice teachers, will address the problem of practice by building upon existing literature and, thus, contributing to the field.

Narrowing the Search

SI AfL is part of a long-established research base regarding classroom assessment. Beginning in the late 1990s, researchers such as Stiggins, Black, and Wiliam defined the topic, established frameworks, and published results of implementation. For the purposes of this descriptive study, I explored the more specific and recent information regarding SI AfL as well as how current classroom realities such as equity and ACEs intersect with the topic. I gathered information regarding conditions for as well as challenges of professional development for enacting both the letter and spirit of SI AfL. I used the literature search results and researcher recommendations to inform the study as well as to identify gaps that I could address.

Framework for Student-Involved Assessment for Learning

To understand why teachers struggle to implement both the letter and spirit of SI AfL, one must find and then comprehend underpinning framework and theories. To find the underpinning framework and theories of the problem of practice, I explored what the authors of the professional standards as well as the authors of current research utilized.

In Oregon, SI AfL is embedded in InTASC Standard 6. InTASC Standard 6 is based on a literature review of 34 empirical studies published between 1985 and 2009 (CCSSO, 2019) and aligns to Sadler's Indispensable Conditions for Improvement (1989) where the student (a) develops a vision of quality in accordance with that of the teacher, (b) is able to monitor learning progress, and (c) is able to draw from a repertoire of strategies to improve as needed. Black and Wiliam (2009) used Sadler's conditions, the research of other formative assessment experts, as well as their own studies to generate a framework of formative assessment (Figure 2). The framework outlines the steps and roles of all actors (teacher, peer, and learner) in order to make SI AfL possible. At the core of the framework is the goal of formative assessment: student self-regulated learning (Panadero, Andrade, & Brookhart, 2018). Even though the formative assessment framework has existed since 1998, the fields of formative assessment (FA) and self-regulated learning (SRL) scholarship have remained separate; the intersection of FA and SRL are only now being fully explored (Panadero, Andrade, & Brookhart, 2018).

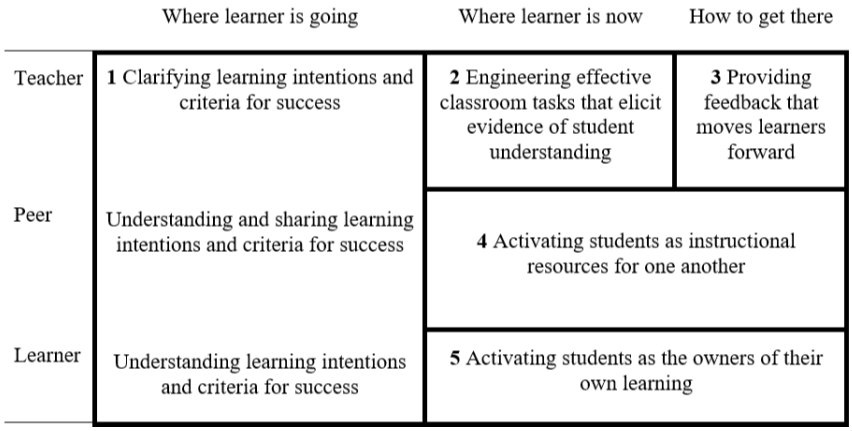


Figure 2. *A Framework of Formative Assessment*

Adapted from "Developing the Theory of Formative Assessment, by P. Black and D. Wiliam, 2009, Black & Wiliam, 2009, *Educational Assessment, Evaluation and Accountability (formerly: Journal of Personnel Evaluation in Education), 21,* p. 5.

Theoretical Foundation of Framework

Clark (2012) further dissected the theoretical basis of Black and Wiliam's (2009) formative assessment framework (see Figure 3). He contributed the cross section to the field in order to clarify the "dynamic nature" of formative assessment in the hopes of bringing "new clarity to the theory of formative assessment and [to stimulate] new directions in research and practice" (Clark, 2012, p. 207). Clark's (2012) cross section is complex, but a step-by-step review of the diagram can help one see the connections between SI AfL, equity and TIPs as well as understand why teachers struggle to implement both the letter and spirit of SI AfL.

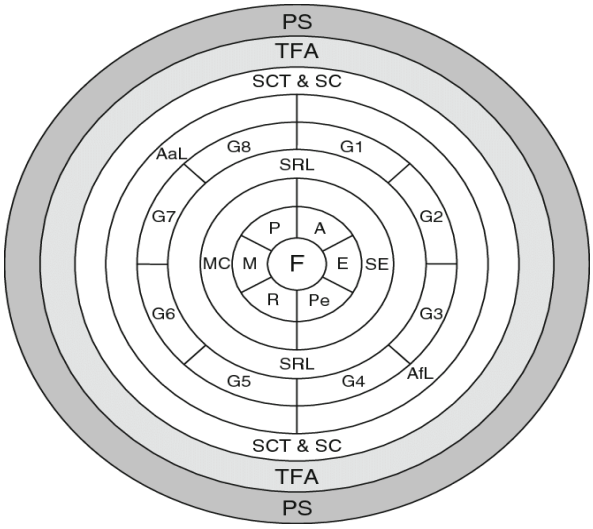


Figure 3. *Clark's (2012) Theory of Formative Assessment in Cross-section*

Note. PS = post-structuralism, TFA = Theory of Formative Assessment, SCT & SC = Socio-Cognitive Theory and Sociocultural theories, AaL = assessment as learning, AfL = assessment for learning, G1...G8 formative goals 1...8, SRL = self-regulated learning, MC = meta-cognition, SE = self-efficacy, P = planning, M = monitoring, R = reflecting, A = ambition, E = effort, Pe = persistence, F = feedback. Adapted from "Formative Assessment: Assessment is for Self-Regulated Learning," by I. Clark, 2012, *Educational Psychology Review*, *24*(2), p. 207.

In the outermost ring of the cross section (Figure 3) is post structuralist (PS) theory. Clark (2012), used the work of theorists such as Foucault, Bourdieu, Heidegger,

and Dewey to explain how PS applies to the formative assessment framework. PS theorists questioned structuralist, binary beliefs and hierarchical relationships. The formative assessment framework requires a thought shift from traditional, structuralist views of education. With PS theory, students are transformed from "passive recipients into the active participants, who create and contribute to their own meanings instead of phlegmatically receiving meanings and leaving them unquestioned" (Clark, 2012, p. 208). Poststructuralist thought also includes elements such as (a) examination of democratic values of equality (representation, discourse, and consensus), (b) acknowledgment that there are differences between individuals that can be developed through communication, (c) the belief that communication governs how authority is circulated throughout the social order, and (d) the promotion of perspectives that contest the social order.

Clark (2012) argues that philosophical thought regulates how educators perceive student voice, which in turn affects instruction. When educators view student voice as an asset, traditionally unspoken knowledge is revealed through communication, which "set[s] the stage" (Clark, 2012, p. 209) for student-involved AfL instructional techniques listed in Black and Wiliam's (2009) framework because the "formality and psychological risk" inherent in structuralist teacher-student relationships and systems is removed (p. 209).

Clark's (2012) next level of the theoretical cross section (Figure 3) includes Social Cognitive Theory (SCT) (Bandura) and Sociocultural theory (SC) (Vygotsky). Social Cognitive Theory includes the belief that students can and should build metacognition as well as self-efficacy processes to make meaning so that self-regulation,

the goal of the formative assessment framework, is possible. Sociocultural theory explains how motivational characteristics of learning are intertwined with cognitive development (Shepard & Penuel, 2018) and acknowledges "that one's cognitive development and social identity are jointly constituted through participation in multiple social worlds of family, community, and school" (Shepard & Penuel, 2018, p. 23).

Understanding SC is particularly important for educational equity and trauma informed practices. When social worlds, such as the classroom or school, are obstructive, students' identity and learning drive can be impaired; however, when social worlds are safe, inclusive, connected, and responsive (e.g. teachers draw on students' funds of knowledge), learning is meaningful, which fuels student motivation (Shepard & Penuel, 2018). Embodying the elements of SCT and SC are critical for the success of the formative assessment framework because engaging students in tasks such as planning, monitoring, reflecting as well as giving and receiving feedback can collapse without metacognition, self-regulation, social identity, and motivation. The elements of SCT and SC also align to the learning environment conditions outlined in InTASC Standard 3 (Table 4.)

The next layers of Clark's (2012) cross section (Figure 3) include the (a) objectives of assessment for learning (AfL) and assessment as learning (AaL), (b) formative goals G1-G8 (see Table 8), (c) the dimensions of self-regulated learning (SRL), (d) themes of global interest in the twenty-first century (metacognition and self-efficacy broken down further into components of planning, monitoring, reflection, ambition, effort, and persistence), and (e) feedback, which Clark (2012) argues is the heart of formative assessment. All parts of the cross section converge to make student self-

regulated learning possible. Notice that the components of the cross-section (see Figure 3) align to the expectations from InTASC Standards 3 and 6 (see Tables 1 and 4) as well as state and district equity and TIPs goal statements (Tables 5 and 6).

Table 8

Clark's (2012) Goals of Formative Assessment (G1-G8)

#	Formative Goal
1	Communicate to students the goals of the lesson and the criteria for success
2	Engage students in discussions about study habits and strategies
3	Involve students in previewing and planning forthcoming work
4	Inform students of who can give them help if they need it and permit full access to such help
5	Provide opportunities for students to become meta-cognitive and build knowledge of themselves as learners
6	Create a non-comparative, productive environment free of risks to self-esteem founded upon cooperation and dialogue
7	Support students as they take more responsibility for their learning
8	Provide opportunities for frequent participation in the process of learning with their teacher as their advisor and with their peers in a climate of equality and mutuality

Adapted from "Formative Assessment: Assessment is for Self-Regulated Learning," by I. Clark, 2012, *Educational Psychology Review*, *24*(2), p. 222-223.

Letter and Spirit Challenges

SI AfL is grounded in post-structuralist theory and the formative assessment framework; however, in many U.S. schools and classrooms, the traditional structuralist factory classroom assessment paradigm model (teacher-as-business-manager teach, test, and grade process) is still prevalent (Heritage, 2016), which might explain why teachers do not implement both the letter and spirit of SI AfL. Teachers' deeply held traditional

assessment mindsets, beliefs, and routines are difficult to change (Booth, Hill, Dixon, 2014; Zeng, Huang, Yu, & Chen, 2018). If teachers implement SI AfL pedagogy with a conscious or unconscious traditional classroom assessment mental model, then the letter and spirit of SI AfL cannot exist because the PS values (such as viewing student voice as an asset) are not developed, which means the SCT and SC elements of Clark's (2012) cross section are not possible. Without utilizing the beliefs of PS and elements of SCT and SC, the formative assessment framework, objectives, SRL dimensions, and goals of Clark's (2012) model can be reduced to acts of hollow compliance and perceived as a series of "add on" strategies or hoops to jump through rather than powerful, collaborative learning mechanisms that support all students to learn and grow (Booth, Hill, & Dixon, 2014; Clark, 2012).

When teachers are grounded in PS, the goal of formative assessment is clear (student self-regulated learning). Thus, the other components of the cross section that align to the learning environment conditions in InTASC Standard 3 (grounded in Socio-Cognitive Theory (SCT) and Socialcutural Theory (SC), self-regulation, meta-cognition, and self-efficacy) are established, Standard 6 is possible, and the full power of SI AfL can be realized, which aligns to state, district, and school equity as well as TIPs goal statements (see Tables 5 and 6). This reciprocal relationship is illustrated in Figure 1, where the effects of the overlapping circles ripple in and out. Again, Figure 1 can be used to illustrate the connections between framework, theory, professional standards, equity, TIPs, and student learning.

Researcher Recommendations for SI AfL PD

Through my review of the literature, I have identified six factors needed for truly effective professional development in the area of SI AfL: connect the practical to theory, accommodate accountability pressure, model and practice in appropriate environments, integrate "empowerer" strategies, include student voice, and provide on-going support. I provide additional information about each of these factors below.

Connect PD to Theory, Practical Needs, and Context. Teachers may not implement both the letter as well as spirit of SI AfL because too often student-involved AfL PD is inconsistent, impractical, or inauthentic (Gotch & McLean, 2019; Koh, 2011; Randel, Apthorp, Beesley, Clark, & Wang, 2016; Smith, 2016). This can happen when training topics remain disconnected, separating teachers from the formative assessment theory and framework goal (self-regulated learning) and disconnecting students' social and emotional needs from their academic needs. The separation of topics and the separation of topics from theory can create a perception that trainings are "add-ons" or "on top of" responsibilities offering a discardable package of strategies that compete for teachers' time instead of being integrated with and central to learning as well as the needs of the site context (Adie & Willis, 2016; Birenbaum, 2016; Braund & DeLuca, 2018; Booth, Hill, & Dixon, 2014). These disconnections and inauthenticity may illustrate as well as contribute to teachers' outdated mental models of assessment (Booth, Hill, & Dixon, 2014; Lysaght, 2015).

The lack of PS theory components as a foundation, a "one-size-fits all" approach and/or the compartmentalizing or perceived "bolting on" of topics may explain why teachers are unable to integrate knowledge and skills to consistently shift mental models

and implement both the letter as well as spirit of SI AfL (Adie & Willis, 2016; Birenbaum, 2016; Booth, Hill, & Dixon, 2014, p. 149). Lopez and Villabona (2016) recommend striking a balance between the "scientific and the practical worlds" to "create new practices based on both experiential and conceptual knowledge (p. 175). Braund and Deluca (2018) recommended investigating the classroom cultures that help teachers "reconceptualize assessment as an integrated component of pedagogy and learning in which students are given greater ownership in structuring the learning environment" (p. 82). Lysaight and O'Leary (2017) and Hill (2011) recommend crafting the PD to meet the needs and subject areas of the participants (both teachers and students), as well as the context of the site. Indeed, as Coombs, DeLuca, LaPointe-McEwan, and Chalas (2018) stated, teachers must use theory and experience to examine and perhaps reformulate their classroom assessment identity.

As Heritage (2016) stated, "While many teachers think of themselves as practical and removed or uninterested in the theoretical world, in reality they all have theories that consciously or unconsciously guide their teaching" (Heritage, p. 338). Straight-forward integration of typically compartmentalized classroom concerns (equity, TIPs, and SI AfL) can make the theoretical underpinnings of Clark's (2012) formative assessment framework visible in relevant, practical, and human terms. Doing so supports teachers in nurturing the learning environment conditions outlined in InTASC Standard 3 (Table 4) so that they can become "empowerers" and enact both the letter and spirit of student-involved AfL outlined in InTASC Standard 6 (see Table 1). The components of Figure 1 can be used with PD participants to make the reciprocal relationship between the components visible.

Address Accountability Pressure. Due to federal testing mandates (i.e., *No Child Left Behind*, 2002, and aspects of the *Every Student Succeeds Act*, 2015) as well as graduation rate expectations, teachers, especially those at the secondary level, experience significant accountability pressure. Teachers may not be able to shift classroom assessment mental models and enact both the letter and spirit of SI AfL because the processes of large-scale, standardized, summative assessments, which are highly structuralist, can be made to feel paramount to classroom assessment. Messages and directives from educational leaders and media that overemphasize performance outcomes of high-stakes tests or credit accrual can contradict, deter, or undermine the theoretical components of the formative assessment framework such as student confidence, self-efficacy, interest, and learning (Andrade & Brookhart, 2016; Clark, 2012; Deneen et al., 2018; Laveault, 2016; Smith, 2016).

Stiggins (2017) describes how large-scale, standardized summative tests and other measures of student performance outcomes (such as graduation rates) do have a place in a balanced assessment system; however, because assessment for accountability or performance purposes is currently overemphasized, the current U.S. system is unbalanced. Professional development endeavors should include support for teachers as they learn about the imbalance and then practice rebalancing the relationship between assessment purposes (Stiggins, 2017). Charteris and Thomas (2016) state that PD participants can be guided to welcome "unwanted truths" about the consequences of unbalanced accountability pressures to transcend compliance mindset and practices. To successfully shift perceptions about assessment, Deneen et al. (2019) recommend addressing the incongruity between accountability pressures and theory-based classroom

assessment expectations. Andrade and Brookhart (2016) state that structuring PD to be student-centered, using participatory techniques and modeling, as well as practicing how to utilize success criteria and feedback on process assessments can help participants rebuff the pressure of accountability.

Model and Practice SI AfL Knowledge in a High-Trust, Collaborative, Embedded Learning Environment. Teachers are more likely to enact both the letter and spirit of SI AfL if they have practiced and "felt" the student-involved learning environment conditions and formative assessment processes in a high-trust, positive, collaborative, and differentiated PD setting where it is safe to take risks (Andrade & Brookhart, 2016; Braund & DeLuca, 2018; DeLuca, Valiquette, & Klinger, 2016; Hill, 2011; Laveault, 2016; Lopez & Villabona, 2016; Panadero, Jonsson, & Strijbos, 2016; Smith, 2016). Indeed, teachers themselves need cognitive, emotional, and social learning process support just like their students (Xu & Brown, 2016). Deneen et al. (2019) as well as DeLuca, Valiquette, and Klinger. (2016) recommend building SI AfL knowledge and skill fluency through scaffolded, differentiated, communal practice and then reflecting on classroom implementation. In order to become "empowerers," teachers need to practice in a hands-on, team-oriented professional community how to teach students to use success criteria as well as feedback and other formative results to guide learning processes, not just focus on products and performance (Andrade & Brookhart, 2016; Birenbaum, 2016; Deneen et al., 2018).

Explicitly Integrate and Model "Empowerer" Strategies. In order to become "empowerers," teachers need to practice how to teach students to build social, emotional, and cognitive skills. As previously mentioned, even though the formative assessment

framework is underpinned by the goal of student self-regulation, only recently has the intersection of formative assessment and self-regulation been explored (Panadero, Andrade, & Bookhart, 2018). Furthermore, teachers, especially secondary teachers, still operate in a factory model of assessment that separates or completely ignores the social and emotional components of assessment. Therefore, teachers need to be explicitly taught strategies that synthesize assessment and self-regulation so that they can teach the strategies to their students (DeLuca, Chapman-Chin, LaPointe-McEwan, & Kinger, 2018).

Include Student Voice. One understudied yet critically important aspect of SI AfL processes and PD is the student viewpoint and effects (DeLuca, Chapman-Chin, LaPointe-McEwan, & Klinger, 2018). Charteris and Thomas (2016), DeLuca et al. (2018), Lysaght (2015), and Panadero, Andrade, and Brookhart (2018) recommend including PD study mechanisms that (a) ascertain student experiences of and perspectives on the learning environments, (b) further explore the relationship between assessment and student mental health/well-being, (c) determine to what degree SI AfL processes are internalized by students, (d) gather information about students' internal cognitive and affective processes. Marsh et al (2016) also recommend including students' perceptions of implementation while also cautioning against the use of student-involved assessment analysis to perpetuate performance orientation, rather than learning orientation.

Provide Time, Patience, and On-Going Support. Because of the complex, dynamic nature of SI AfL and the effort needed to shift mental model and knowledge, particularly at the secondary level, teachers need time, patience, and sustained support (Andrade & Brookhart, 2016; DeLuca et al., 2018; Heritage & Wylie, 2018; Hill, 2011;

Laveault, 2016; Lopez & Villabona, 2016; Xu & Brown, 2016). As Hill (2011) stated, changing secondary classroom assessment from its traditionally summative orientation is neither speedy nor straightforward" (p. 359). Panadero et al. (2016) caution about the use of PD and implementation time: "If poorly designed, [SI AfL] could become an activity in itself that consumes valuable classroom time without necessarily contributing effectively to student learning" (p. 323). DeLuca, Valiquette, and Klinger (2016) found student learning gains when there was "persistent attention" to SI AfL strategies such as community building and independence paired with learning goals and success criteria.

Summary

Despite the established research, standards, and goals, SI AfL remains difficult to implement successfully. Outdated mental models of assessment remain, which means teachers struggle to enact both the letter as well as spirit of SI AfL (Booth, Hill, & Dixon, 2014; Birenbaum, 2016; Marshall & Drummond, 2006). Consequently students, especially those from groups traditionally underserved and/or those who have ACEs, are short-changed. Researchers recommend connecting mindset to practical needs, addressing accountability pressures, including student perspectives, modeling the processes of SI AfL in a high-trust PD environment, and providing on-going support to teachers.

Gaps Addressed and Research Question

At this time, professional development that overtly connects SI AfL theory, framework, Oregon professional standards, equity, and TIPs to support teachers with implementing both the letter and spirit of SI AfL does not exist. Furthermore, SI AfL remains difficult to implement in secondary schools because of the variety of contexts

(e.g., grade levels and content areas). Meanwhile, the intersection of formative assessment and self-regulation remains underexplored in the U.S. Offering an integrated professional development experience with explicit connections between theory, framework, standards, and equity as well as TIPs goals can help teachers understand why it is critical as well as prudent to "examine their mental models, rethink their practices, and develop new skills" so that they can resist accountability pressure to become "adaptive experts" (Earl, 2013, p. 4) – teachers who can build student self-regulation strategies to truly respond to the varied needs of their learners rather than become overwhelmed by separate trainings and only conform to a list of expectations or practices. Therefore, the research question for this dissertation study was: How does an integrated SI AfL professional development approach affect secondary school teachers' classroom assessment mindset as well as SI AfL knowledge?

CHAPTER III

METHODS

The aim of this study was to describe how an integrated SI AfL professional development approach affects teachers' classroom assessment mental model and SI AfL knowledge. The professional development experience was integrated because it (a) built on the SI AfL PD recommendations from extant research, (b) aligned to current professional SI AfL standards of practice (i.e., InTASC Standards 3 and 6), and (c) connected to state and district goals regarding educational equity as well as TIPs. Because this integrated SI AfL PD approach was new, I used a descriptive case study method so that I could thoroughly explore and make meaning from teachers' responses before, during, and after the PD experience. Making meaning from the teachers' responses in this study produced valuable insights that can inform subsequent SI AfL PD impact or intervention studies. To make sure teachers experienced more than an isolated training workshop, the PD experience included follow up coaching sessions. The following sections describe the specific components, steps, and tasks that were completed in order to achieve the aim of the study.

Research Approach. Because exploring teachers' mindset and knowledge is complex, characteristics of qualitative case study methods were used (Creswell & Creswell, 2018). A qualitative approach was also used due to the historical, cultural, and social norms and processes inherent in student-involved assessment for learning, equity, and TIPs. Traditional, factory model, top-down assessment-for-grading norms, processes, and habits persist despite updated professional standards in place that require a student-involved assessment-for-learning paradigm. Researchers note that this is especially true

at the secondary level where there are stronger or additional pressures that make shifts in mental models more difficult (Hill, 2010).

To gain an in-depth understanding of how an integrated SI AfL professional development approach affects secondary teachers, I developed instruments to record and interpret data and then used these instruments to gather multiple forms of data from participants, later organizing them into codes and themes to make a pattern of meaning. Throughout the design and implementation of the professional development, I also utilized the expertise of the consultants at OEA CGPS.

Unit of Analysis and Phases. This qualitative descriptive case study focused on teachers at the secondary level, where multiple factors might confound SI AfL implementation (Booth, Hill, & Dixon, 2014; Hill, 2011; Sadeghi & Rahmati, 2017). The study included six phases over the course of approximately nine months (see Table 9)**:** Phase I (September-October 2019): With help from my advisor, I created study instruments and protocols, and I completed the IRB exemption approval process; Phase II (October-December 2019): I recruited participants and conducted a needs assessment of study participants as well as site leaders (i.e., principals and instructional coaches); Phase III (October 2019-January 2020): I created an integrated SI AfL PD experience that aligned to the site and participants' identified needs; Phase IV (January-February 2020): I implemented the professional development (initial whole group session and at least two follow up coaching sessions); Phase V (March 2020): I facilitated a whole group follow up focus group with participants; and Phase VI (Spring 2020): I analyzed and reported data.

Table 9

Case Study Timeline

Study Phase	Sept. – Oct. 2019	Oct.-Dec. 2019	Jan. 2020	Feb. 2020	Mar. 2020
Phase I – Created Measures and Protocols; completed IRB process	X				
Phase II – Recruitment and Needs Assessment		X			
Phase III – Created PD		X	X		
Phase IV – Implemented PD and Gathered Data			X	X	X
Phase V – Participant Follow Up Focus Group and Gathered Data					X
Phase VI – Analysis and Reporting					X

Participants and Setting. This case study was conducted in one Jackson County, Oregon secondary school. Jackson County is located along the border between northern California border and southern Oregon. The specific district recruited for this study was the Medford School District (MSD), which is considered both a rural and suburban district because of its location in the Rogue River valley. During the year prior to the year in which this study took place, 13,981 students attended MSD. Fourteen percent of

district students were Ever English Learners, the district reported 38 languages spoken, 15% of students with disabilities, and 67% of students eligible for free/reduced lunch. In 2017-2018, 46% of eighth graders met grade-level math expectations (compared to 41% state average), more than 95% of ninth graders were on track to graduate (compared to 85% state average), and 78% of students earned a diploma in four years (compared to 77% state average) (Oregon Department of Education, 2018). At the secondary level, the district included two comprehensive middle schools, two comprehensive high schools, one alternative high school, one charter school, and one online school. District secondary staff and principals had been exposed to classroom assessment professional development for at least four years through partnerships with OEA CGPS; however, consistency of training varied from school to school. For more demographic information about the county and MSD, see Tables 2, 3, and 7.

The specific site for this case study was a traditional, comprehensive middle school where students attended a schedule of seven periods of classes each day, comprised of required courses as well as electives. On Monday, Tuesday, Thursday, and Fridays, students spent approximately sixty minutes with each of their teachers each day with a thirty-minute lunch scheduled by grade level. The Wednesday schedule was slightly different (late start; class periods shorter) so that staff members could meet in grade-level teams (one hour) and subject-specific professional learning communities (one hour).

According to the Oregon Department of Education *At-a-Glance School Profile*, at the site in 2018-2019, there were 1,009 students enrolled in grades 6-8 with 47 teachers and 13 educational assistants. Seventy-eight percent of licensed teachers had more than

three years of experience, and the principal had been working at the school for at least three years. Ninety-eight percent of the teachers identified as White and 2% identified as multiracial.

Seventy-two percent of students at the site identified as White, and other student racial/ethnic groups include American Indian/Alaskan Native (1%), Asian (2%), Black/African American (1%), Hispanic/Latino (18%), Multiracial (5%), and Native Hawaiian/Pacific Islander (1%). Thirteen languages were reported spoken by students at the school, and 46% of students were identified as qualifying for free/reduced price lunch. Fourteen percent of students had a reported disability. The average class size in 2018-2019 was 26, and 84% of students attended 90% or more of their enrolled school days. Seventy percent of site students met state grade-level ELA expectations (compared to the state average of 54%) and 51% of site students met state grade-level math expectations (compared to the state average of 39%).

At the time this study took place, site staff had been engaged in on-site classroom assessment professional development for approximately three years. On-site training had included the principal facilitating a book study of *Classroom Assessment for Student Learning* with the teacher-leadership team (department chairs and team leads). In addition, site teacher-leaders have attended summer assessment literacy workshops facilitated by OEA consultants and me. Currently, there are also school-wide expectations for assessment plan writing as well as mechanisms for feedback. Assessment literacy lessons are also regularly embedded in staff meetings, and the leadership group is discussing the book, *Grading for Equity* by Joe Feldman.

Four licensed classroom teachers participated in this study. Participants included teachers of the following subject areas: English, social studies, science, and computer skills, with a mix of males and females and teaching experience ranging from 4 to 25 years. Two participants reported having participated in previous professional development or training in assessment, equity, and/or TIPs, including workshops, seminars, or post-graduate courses; two participants reported having minimal training in any of the topics. All four reported never having experienced a training that blended all three.

Sampling Logic. For case studies, Creswell and Creswell (2018) recommend between three and five cases; my sample included four. Purposive sampling was used to ensure that the teachers in the sample met the selection criteria (Babbie, 2012). The selection criteria included: teachers who (a) taught at the site, (b) had administrator approval to participate in the study, (c) agreed to and completed the informed consent form, (d) participated in the needs assessment conducted in Fall 2019, (e) attended the professional development experience (pre-training screencast notes, whole group training session, and at least two one-on-one coaching sessions January-February 2020) (f) attended the whole group follow up focus group session in early March 2020, (g) completed the pre and post survey, (h) implemented new learning in the classroom, and (i) submitted an SI AfL artifact (e.g. lesson plan, student work) with accompanying reflection. Initially, I had intended to focus my recruitment on ELA and social studies teachers because those are the subject areas with which I have the most experience. Ultimately, in order to have enough participants, I expanded the sample to include two teachers who taught subjects besides ELA and social studies.

Phase I, Fall 2019 – Created Instruments and Protocols, Completed IRB Process

Step 1: Developed instruments and protocols aligned to constructs. The constructs and data sources for this study are listed in Table 10. With the help of my advisor as well as the consultants at OEA CGPS, I created the needs assessment and professional development instruments as well as protocols.

Table 10

Study Constructs and Data Sources

Study Phase	Construct	Data Sources
Phase I - II Needs Assessment	Site demographics; participant demographics and learning needs; student voice	ODE report card; surveys; YouthTruth student survey responses
Phase III - V PD Implementation and Follow Up	Teacher classroom assessment mindset and SI AfL knowledge; connections between assessment, equity, and TIPs	pre and post survey; artifact reflection; verbal and written responses to PD activities
	Teacher perceived satisfaction with professional development experience	district professional development course evaluations

Needs assessment. A needs assessment ensured that the SI AfL professional development experience was informed by and aligned to the context of the sites as well as the training needs of the teachers, an approach recommended by researchers such as Birenbaum (2016), Hill (2011), and Lysaght and O'Leary (2017). The needs assessment was also intended to model "empowerer" strategies such as getting to know learners' needs. I worked with my advisor, Dr. Alonzo, to create a survey that gathered training

needs information from teacher participants (see Appendix A) as well as site leaders (see Appendix B). Site leaders included two administrators and one instructional coach. Because the consultants at Oregon Education Association Center for Great Public Schools (OEA CGPS) guide school leaders to leverage empathy data to improve school improvement endeavors, I also asked the OEA CGPS consultants for feedback to improve the needs assessment tools.

Teacher and site information. I used an online survey (Google Form) sent via email approximately one month prior to the January whole group session to gather demographic information from teacher participants regarding their (a) racial, cultural, ethnic, and gender identification; (b) level of teaching experience: new (less than one year), probationary (1-3 years), mid-level (4-6 years) and veteran teachers (7 or more years); (c) type of teacher preparation program (e.g., MAT, M.Ed., emergency license, out of state license, other); (d) current subjects and levels taught; (e) learning preferences; (f) snack preferences; and (g) the opportunity to explain anything else that would support growth. This background information plus the information available from the ODE Report Card (see Setting information above) helped me understand the context and learning needs of the participants. Participant responses were collected and recorded on a spreadsheet. Further analysis of the participants' needs assessment information is reported in the Results chapter.

I had intended to conduct follow up interviews with the participants if I needed more information than what was provided through the needs assessment. Ultimately, follow up interviews were not necessary. I was also cognizant of potential information overload as well as competition for teachers' time. After emailing the survey link with

completion directions, I informally visited ("popped in" to) participants' classrooms before or after school to check for understanding face-to-face, but I did not linger so that I did not interfere with teachers' already busy schedules. The information that I had provided via email was sufficient, and no participants requested follow up explanation.

Voices of students. When designing and implementing SI AfL PD, researchers recommend including students' perspectives (Charteris & Thomas, 2016; DeLuca et al., 2018; Lysaght, 2018; Marsh et al., 2016; Panadero, Andrade, & Brookhart, 2018). The timing and logistical constraints for this study did not allow for student interview, survey, or observation. To ensure that this study still included student voice in some way, I used extant student YouthTruth survey data to gain more insight regarding the site context and to inform the content of the SI AfL professional development.

The YouthTruth survey has been conducted for the last four years each fall in the Medford School District (until this school year when it was administered in the winter). There are 53 total questions on the YouthTruth overall school experience survey organized in the following categories: engagement; academic rigor; culture; belonging and peer collaboration; relationships, strengths and areas for improvement; and demographics. There are two YouthTruth survey questions that best align to the research question regarding teachers' mindset and knowledge about classroom assessment: (a) *In most of my classes, we learn to correct our mistakes* and (b) *How many of your teachers are not just satisfied if you pass, they care if you're really learning?* Students who take the survey share their views through Likert scale items as well as constructed response. Prior to designing the professional development experience, I requested and then

analyzed the most recent YouthTruth results (2018-2019) from the site principal and found the students' responses to the questions most aligned to the constructs of this study.

Professional development instruments. I used multiple original data sources (see Table 10) in this study to allow for both inductive and deductive data analysis (Creswell, 2018). I describe the data sources below. I include the instruments as well as evidence of IRB exemption approval consent in the Appendix section. I was able to obtain IRB exemption approval because the professional development opportunity was provided as a regular part of the district and school PD offerings.

Pre and post teacher survey. At the beginning of the whole-group session, I used an online survey (i.e., Google Form) sent to participants via email to gather baseline data regarding participants' classroom assessment mindset as well as SI AfL knowledge. Although there are more than 36 existing measures for the broad topic of assessment literacy (Gotch & French, 2014), there is not an instrument that measures teachers' classroom assessment mindset nor teachers' SI AfL knowledge aligned to InTASC Standard 6 (Table 1).

I used related existing instruments to inform what I created. For example, Dr. Smith shared an Educational Philosophies Inventory with our Professional Writing II class that prompts users to choose statements that most align to their approach to education. I also researched and analyzed Chappuis and Stiggins (2018) shortened version of the Zheng and Burry-Stock (1995) Assessment Practices Inventory (API) for a Survey and Question Design course (EDLD 625). In addition, during my literature search, I found at least two more classroom assessment practices instruments. DeLuca, LaPointe-McEwan, and Luhanga published the Approaches to Classroom Assessment

Instrument (ACAI) in 2016, and Lysaght published the Assessment for Learning Audit instrument (AfLAi) in 2015.

With the knowledge gained from extant tools as well as with the help of my advisor, I ultimately developed instruments that fit the qualitative design and constructs of this study. I worked with my advisor to create a semi-structured survey (see Appendix C) that included both selected and constructed response prompts so that participants could explain the more structured prompts if needed. The instrument was sent to participants via email approximately three weeks prior to the January whole group session, and participants' responses were recorded in a spreadsheet. The same survey was administered via email after the whole group follow up session in early March 2020, which enabled me to compare pre and post responses.

Screencast guided notes. During my proposal presentation, a member of my committee suggested that I frontload the big ideas of the training prior to the whole group session so participants would have plenty of time to digest the information. Accordingly, I designed and then recorded a PowerPoint slide deck explaining the research, theory, models, and connections of SI AfL, equity, and TIPs (see Appendix D). After participants completed the needs assessment, I emailed the links to the screencast, slide deck, and guided notes handout (Appendix E). As participants watched/listened to the screencast, they added to a provided handout of guided notes. Participants brought the completed guided notes to the January whole group session so that they could review and discuss the content with the cohort as well as ask questions. They left copies for later analysis.

Implementation plan. I crafted a handout (see Appendix F) to guide participants in the process of (a) identifying SI AfL-related standards on which to focus; (b) gathering

classroom strategies, tools, and activities that would support growth in the identified SI AfL-related standard growth; and (c) listing the necessary logistics and support needed for implementation of the plan. Participants had time to complete a draft of the plan during the January whole group session, leaving me with a copy so that I could review their notes to prepare for coaching sessions as well as to analyze trends, patterns, or themes in their plans.

Participants' verbal responses. During my face-to-face interactions with participants (i.e., whole-group sessions and coaching sessions), I kept a notebook and pen next to me so that I could record participants' verbal responses that reflected their current or developing thoughts about classroom assessment mindset or knowledge. I opted not to audio or video record face-to-face interactions because although I may have missed writing down some key statements or reflections, the presence of a recording device may have been too intrusive with such a small group.

Artifact with reflection. Teachers were prompted to bring or describe a classroom assessment artifact to the initial whole group session in January. At the end of the experience, they were prompted to submit an artifact that they felt illustrated their application of classroom assessment mindset and/or SI AfL knowledge, with accompanying reflection. The artifact could include lesson plans, lesson materials (e.g. handouts), or a lesson product (e.g. student work) that demonstrated how they implemented the one learning environment standard and/or the one SI AfL standard.

For the more formal end-of-experience artifact, I worked with my advisor to develop a reflection prompt to gain insight into participants' post-PD classroom assessment mindset as well as SI AfL knowledge. I worked with my advisor to develop a

protocol for analysis of the artifact reflection. See Appendix G for the artifact reflection prompts. During the initial whole-group session (January 2020), I told teachers that they would submit an artifact with reflection at the follow up whole group session (early March 2020), and I gave them a paper copy of the reflection prompts to provide as much thinking and preparation time as possible.

Course Evaluations. To gather participants' feedback regarding the content and structure of the training as well as to align to familiar district professional development processes, I administered the MSD course evaluation (Appendix H) twice – once after the January whole group session and again at the end of the March whole group session. I used the results from the January course evaluation to inform my interactions with participants in February and March. I also used both course evaluations to note suggestions for improvement should the training occur again.

Phase II, Fall 2019 – Recruitment and Needs Assessment

Step 1 and 2: Used sampling logic and recruitment plan to recruit participants. As recommended by Creswell and Creswell (2018), to gather participants, I used sampling logic (see Phase I above) as well as a recruitment strategy and message. The recruitment plan included crafting a clear, succinct, engaging rationale for the training, finding relevant and ethical incentives, as well as using approaches when initial recruitment efforts were not successful. After receiving district permission to conduct the study as well as IRB exemption approval, I distributed a flyer advertising the professional development opportunity (see Appendix I). I emailed the flyer to potential site participants, and I met face-to-face with site ELA and social studies teachers during available times such as before school and during scheduled department, leadership, and

union meetings so that I could hand out paper copies of the flyer, further explain the training, as well as answer questions.

To gather names of participants who had not considered signing up for the PD on their own, I also used snowball sampling by asking site leaders for names of teachers who had expressed interest in or demonstrated need for classroom assessment, educational equity, and/or TIPs training. Furthermore, I communicated with my district's professional development office. I shared the informational flyer so that the information was published in the monthly professional development newsletter. Publishing the information in the district PD newsletter was intended to communicate to site staff a sense that the study was approved by the district as well as aligned to normal district PD offerings. Again, initially I targeted site ELA and social studies teachers because those are the content areas in which I was endorsed and had classroom experience, which would help narrow the training focus and shared experience. Two of the participants fit the initial selection criteria. Ultimately, to find enough participants for the study, I included a computer skills teacher as well as a science teacher.

To make participants' enrollment process as smooth as possible, I directly communicated the study information to MSD and site leaders. With MSD leader permission, I used the district's method for professional development enrollment so that the PD sign up process was familiar and formalized. In the Medford School District, teachers sign up for training via the online tool, PDNetworks. All participants earned 10 PDUs for involvement in the study, and the PDUs were tracked electronically through the PDNetworks website.

To make sure participants felt encouraged to sign up as well as rewarded for their time, besides offering PDUs (a professional requirement for maintaining licensure), I offered graduate credit or pay for participating in the study. Graduate credits were a relevant and ethical incentive because earning graduate credits can help teachers move up in the district salary scale. I worked with the site district administration as well as the consultants at the OEA CGPS to allow participants to earn graduate credits from Western Oregon University. If participants already had enough graduate credits, they could get pay for the time spent outside of the work day on training tasks such as surveys, implementing their plan, and reflecting on their artifact. Pay was provided with funds from the OR QAP NIC grant. Two participants chose the graduate credit incentive; the other two chose to log their hours on a timesheet for pay.

Phase III, Fall 2019 – Winter 2020 – Created Professional Development

I used the needs assessment results, student YouthTruth survey themes, researcher recommendations, as well as my professional experience as a PD creator, facilitator, coach, and secondary classroom teacher to generate an integrated SI AfL professional development approach that aligned to the constructs of the study. I also drew upon my experience with and connections to the consultants at OEA CGPS who have designed and led numerous professional development workshops for classroom assessment, equity, as well as TIPs throughout the state of Oregon. The consultants and my advisor helped inform the content (e.g., most relevant SI AfL, equity, and TIPs strategies) as well as delivery (e.g., engaging, high-trust, collaborative adult learning methods) of the professional development experience. The design of the PD experience includes a pre-training screencast, one full-day group experience, one two-hour group experience, as

well as one-on-one coaching sessions so that the PD is not an isolated, "bolted on" event, which aligns to researcher recommendations (Adie & Willis, 2016; Birenbaum, 2016; Braund & DeLuca, 2018; Booth, Hill, & Dixon, 2014). Instead of a "one-size fits all" approach, the pre-training screencast and the whole-group session paired with consultation also allows for collaboration, follow up support, as well as differentiation, which is also recommended by the researchers above.

Pre-training screencast. During my dissertation proposal, one of the committee members suggested that I frontload the big ideas of the professional development so that participants could have time to digest the information before coming together as a group (See Phase I). This pre-training screencast was approximately 20-minutes in length, although by design, participants could speed up, slow down, pause, or repeat some or all of the screencast depending on needs. To make sure participants were not overwhelmed or shut down by a deep dive into research and theory, and to keep the screencast as succinct as possible, I chose phrasing and content carefully. For example, instead of names heavy with theoretical vocabulary, I used common names to describe theoretical frameworks (i.e., $19^{th}/20^{th}$ Century Business Model and Empowerer Model). I also touched on research and then prompted participants to let me know in the January whole group session if they wanted more. Because researchers recommended being explicit about ways in which information is integrated and not separate topics piled on top of one another (Adie & Willis, 2016; Birenbaum, 2016; Braund & DeLuca, 2018; Booth, Hill, & Dixon, 2014)), several times throughout the screencast I pointed out the overlaps. Furthermore, to diminish overwhelm and support focus on key points, I provided

participants with the guided notes handout (Appendix E) to help them digest and reflect on the screencast information.

January whole group session. The content of the January whole group session (see slide deck in Appendix J) was designed to (a) address site and individual needs expressed in the needs assessment; (b) review the screencast content that explicitly connected SI AfL to theory, framework, InTASC Standard 6, and equity as well as TIPs goals; (c) address accountability pressure; (d) model InTASC Standard 3 learning environment expectations by using high-trust, collaborative strategies such as using clear session objectives, group norms grounded in improvement science community mindsets (e.g., start small; fail forward; collaborative responsibility), demonstrating active listening, and engaging in energizers known as "stokes" (see Appendix K); (e) reflecting on current mindset and knowledge; and (f) explicitly explaining and demonstrating strategies for metacognition and self-regulated learning that are embedded in InTASC Standards 6 and 3 (Table 1 and 4). Specific InTASC Standard 6-related strategies modeled, taught, and practiced during the whole group session included making learning goals transparent so that participants could reflect upon their learning progression; practicing components of effective feedback; and making a plan for growth towards learning goals. I gathered evidence of participants' mindset and knowledge by collecting their guided notes handouts and by collecting verbal quotes throughout the session.

In the second part of the January whole-group session, participants prepared a plan to grow in one learning environment standard and one SI AfL standard by March 2020. (see implementation plan Appendix F.) Participants also articulated the logistics needed to implement their plan. The January whole-group session concluded with the

first of two course evaluations so that participants could provide anonymous feedback and reflections regarding the day, aligned to previous district trainings. Thus, the content and structure of the whole-group session modeled and practiced the strategies teachers can use with students as well as processes familiar in our district. I collected more evidence of participants' mindset and knowledge by making a copy of their implementation plans.

The initial whole group session lasted seven hours with two 10-minute breaks and one 30-minute lunch. In order for participants to be out of their classrooms for the whole day, grant money from the OR QAP NIC project was used to cover guest teacher costs. The whole group session was held in a site classroom that is used for interventions, meetings, and community services. With the financial support of OEA CGPS, I provided snacks for the participants because food can contribute to a high-trust learning environment. I ultimately decided not to provide lunch. Participants were able to go out, have a break from the meeting room, and gather the foods that they preferred for lunch.

Coaching session. Because researchers (Andrade & Brookhart, 2016; DeLuca et al., 2018; Heritage & Wylie, 2018; Hill, 2011; Laveault, 2016; Lopez & Villabona, 2016; Xu & Brown, 2016) recommend (a) differentiating and embedding professional development, as well as (b) providing patience and support beyond one workshop, I offered at least two one-on-one consultation sessions with each participant. Each participant scheduled one session of the two available. Coaching sessions were offered face-to-face, via telephone, or via Zoom. Three out of four participants selected face-to-face sessions; one participant preferred to meet via phone. The coaching sessions allowed for the continuation of conditions established in the whole group session (i.e., addressing

needs; making connections; nurturing high trust; demonstrating metacognition and self-regulation strategies). Through these coaching sessions, participants continued to receive support implementing at least one learning environment standard and one SI AfL standard.

The offered length of the coaching sessions was 60-90 minutes; ultimately, some participants needed just 30-minute sessions. Three out of four participants preferred after school sessions; one participant preferred to meet via phone over the weekend. By using the OR QAP NIC grant funds, when I met face-to-face with participants, I provided snacks. I did this to continue a trusting relationship; furthermore, three out of four participants chose to meet at the end of the day and were hungry. The structure of the coaching session included (a) "How are you?" questions, (b) review objectives of session, (c) reflect on big ideas of the training (SI AfL mindset, knowledge, and connections), (d) review and build feasible plan together including standards, logistics of next steps, and support needed, (e) conclude with recapping, addressing questions, and thanks. See Appendix M for the coaching session outline.

March whole group session. I facilitated a two-hour whole group follow up session in early March 2020 (see Appendix L for slide deck). Initially, I had intended to facilitate the session outside of school hours so that teachers did not have to make sub plans; however, participants opted to have a half-day guest teacher so that we could meet in the morning. This was the venue where participants engaged in team building strategies, completed mindset and knowledge exercises, shared their artifact and reflection, learned about opportunities for further training, and experienced appreciation for their participation in the study. To align with district expectations and procedures and

to gather feedback to inform subsequent trainings as well as data analysis, I concluded the experience by administering a second professional development course evaluation (Appendix H). Participants completed the post survey in their own home or work spaces after the focus group session.

Phase IV and V, January, February, and March 2020 -- Implemented Professional Development, Focus Group Session, and Gathered Data. See details explained in Phase III.

Phase VI, Spring 2020 – Data Analysis and Reporting.

Procedures. For the qualitative data generated by instruments used in this study, I used Creswell and Creswell's (2018) as well as Miles, Huberman and Saldaña (2020) steps for analyzing qualitative data from multiple sources: (a) converting and cataloging information from all data sources, (b) reading through all the information looking for content, tone, and impressions, (c) using relevant coding procedures such as Descriptive Coding and In Vivo Coding (Miles, Huberman & Saldaña, 2020) as well as Tesch's Eight Steps (Creswell and Creswell, 2018) (see Table 11) to organize and label the information by category, (d) using codes to create description of setting, participants, categories, and themes, (f) interpreting the findings, and (g) using a narrative passage and/or visuals to represent the findings.

Methods Validity

The design of the study included multiple validity approaches and procedures to make sure the findings were as credible and trustworthy as possible (Creswell & Creswell, 2018). First of all, the design was informed by researcher recommendations: I directly connected the practical to theory and addressed accountability pressure through

the pre-training screencast and guided notes exercises; I integrated "empowerer" strategies throughout the asynchronous, whole group, and coaching modes; I included student voice; and I provided on-going support through asynchronous content, whole group sessions, and coaching sessions. Next, to ensure the quality of the design, PD, instruments, and procedures, I had help from experts such as the consultants at OEA GPS and my advisor.

Table 11

Tesch's Eight Steps in the Coding Process

Step	Description
1	Get a sense of the whole. Read all the transcriptions carefully. Jot down some ideas as they come to mind.
2	Pick one document (i.e., one interview) – the most interesting one, the shortest, the one on the top of the pile. Go through it, asking, "What is this about?" Do not think about the substance of the information but its underlying meaning. Write thoughts in the margin.
3	When step 2 is completed for several participants, make a list of all topics. Cluster together similar topics. Form these topics into columns, perhaps arrayed as major, unique, and leftover topics.
4	Take the list and go back to data. Abbreviate the topics as codes and write the codes next to the appropriate segments of the text. Try this preliminary organizing scheme to see if new categories and codes emerge.
5	Find the most descriptive wording for the topics and turn them into categories. Look for ways of reducing total list of categories by grouping topics that relate to each other. Perhaps draw lines between categories to show interrelationships.
6	Make a final decision on the abbreviation for each category and alphabetize these codes.
7	Assemble the data material belonging to each category in one place and perform a preliminary analysis.
8	If necessary, recode existing data.

Adapted from Creswell, J.W., and Creswell, J.D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, p. 196.

The SI AfL PD experience was designed to take place in a natural setting (school site and classrooms), rather than a contrived setting over an extended period of time to gain up close information from participants aligned to the research question. To elicit participant responses that were as candid and genuine as possible, I was upfront with the participants about the purpose of the study (exploratory, not evaluative), and throughout the experience, I reiterated the value of their genuine feedback. I designed the study to better understand the effects of the integrated professional development approach, not to make value judgments about participants' progress or abilities. Thus, I could remain as neutral as possible throughout the design phases.

I designed the study to include multiple data sources (see Table 10) gathered from more than one perspective (teachers, site leaders, students, and researcher) and from more than one angle to help triangulate information, justify themes, and develop a holistic picture of an integrated SI AfL PD experience. Sources of data such as open ended-survey prompts, implementation plan, and artifact reflection were purposefully designed for participants to answer freely (rather than being constrained by predetermined scales or instruments). The instruments and data analysis protocols were aligned to the constructs and quality procedures. I also thoroughly described the study's methods and procedures to give the reader a complete picture of the context and sequence (Miles, Huberman, & Saldaña, 2020).

Methods Limitations

This is a descriptive case study so there is not a treatment and control plus the sample size is small; therefore, causal relationships cannot be inferred and generalizability is limited. To be able to explore the effects of the integrated professional

learning experience, I targeted teachers at my school site, which means the sample was purposive. Being a teacher at the school site allowed access to a purposive sample; however, teachers may have decided to sign up or declined to sign up because of their knowledge of me. Participants volunteered to sign up for the study and expressed intrinsic willingness to improve classroom assessment knowledge and skills (see screencast guided notes responses), which may not reflect the perspectives and experiences of other teachers who did not participate.

Because the design is new, there are not yet studies of the instruments. There are no retests or alternative forms of the surveys. Advantages of using data from open ended survey prompts and artifact reflection include access to the language and words of the teachers that may not appear in other sources of data (Creswell & Creswell, 2018, p. 188); however, limitations include inaccurate, incomplete, or illegible information.

To make sure that I followed researcher recommendations to connect the training to the practical needs and context of the teachers, I had intended to limit my recruitment to ELA and social studies teachers because those were the subjects with which I was most familiar; however, when I recruited for this study, I was reminded that competition for teachers' time is fierce. The recruitment of 3-5 teachers took longer than planned (approximately six weeks). In addition, because of teachers' full schedules, I recruited beyond ELA and social studies subject areas.

Analysis Limitations

Researcher Bias. Because I am an educator in the district and at the school site in which the study was conducted, I must acknowledge my bias so that readers may form their own conclusions. As I analyzed the data, I was cautious of participants' biased

responses due to social desirability and filtered views (Creswell & Creswell, 2018). Furthermore, participation in the case study was voluntary and participants self-reported their SI AfL mindset and knowledge information (i.e., responses to survey; artifact reflection). Thus, I used caution when drawing conclusions from self-reported sources.

One way I tried to counter potential bias was to code the data with established methods (e.g, Tesch's Eight Steps). To check my interpretations and reality, I drew upon the expertise of other educational leaders (i.e., consultants from the Oregon Education Association's Center for Great Public Schools and my University of Oregon advisor). Another way I tried to counter potential bias due to my values and expectations was to triangulate participants' survey responses with other forms of data such as teacher artifact reflection, verbal responses, and extant YouthTruth student responses. Because I was a colleague of the participants, responses may have been affected.

In the results narrative, I provide a detailed description of the findings related to the research question so that the results are congruent and the perspectives of participants and students are clearly conveyed. I also reemphasized that this is a case study with the aim of exploration; cause/effect, correlations, and causation cannot be determined. I used reflexivity, a reflection regarding how my values and personal background may shape interpretations, to acknowledge any biases I bring to the study (Creswell & Creswell, 2018). My role and status within the site have been described. To remain focused on the complex reality of the research question and setting, I also included contradictory themes and information (Creswell & Creswell, 2018).

I was also cautious when using the YouthTruth data because, although the questions that I selected for analysis were aligned to the study constructs, they were not

explicitly written for the purpose of studying classroom assessment mindset or knowledge. Also, although the students' responses can provide general perspective about a school or grade level, they could not provide specific perspective about a class or teacher. Conclusions from the students' responses must also be tempered with developmental considerations: some students may have clicked through the survey not answering truthfully, and students who wrote comprehendible written responses probably have higher literacy skills or intrinsic motivation; thus, responses asking for more rigorous and engaging learning experiences may only represent a portion of student views. It is important to note that extant YouthTruth student responses did provide an aspect of student voice, but for a more robust exploration of student perspectives, in future studies, student voice could be collected through observation, survey, student artifact, and interview. In addition, survey responses and other forms of evidence could be organized as well as analyzed by demographic indicators such as language, ethnicity, and gender to identify student voices who might be overrepresented or missing.

I was also cautious when analyzing the results of the instruments. The instruments that I developed for the professional development experience have not been analyzed for technical adequacy. Initially participants may not have had a clear understanding of the concepts used in the instruments, which can skew baseline data, making it difficult to definitively determine shifts in mindset or knowledge.

Generalizability. A limitation that must be acknowledged is the potential lack of generalizability due to small sample size. Furthermore, the teachers in this study were willing participants who expressed intrinsic desire to reflect, shift, and grow in classroom assessment knowledge and practices. It is important to acknowledge that results might be

different if the training was mandatory, teachers were reluctant, and/or if participants felt like the training was tacked on to other required "hoops." The study was conducted in one school district in southern Oregon; consequently, generalizability may be limited due to conditions or context unique to the district or the individual teachers.

Participants' positive responses (such as powerful social and emotional responses in the March focus group session and effusive course evaluation comments) may have occurred in part because of their previous familiarity with each other and me. A group previously unfamiliar with each other and/or the facilitator may not be able to replicate the response even with intentional focus on building a high-trust, collaborative learning environment and modeling social-emotional skill building strategies.

CHAPTER IV

RESULTS

The purpose of this case study was to explore how an integrated SI AfL professional development approach affects teachers' SI AfL mental model as well as knowledge. In this chapter, I will first present the responses from the needs assessment information that informed the content of the professional development. I will then present the findings from the study data gathered between December 2019 – March 2020, organized by needs assessment results and professional development instrument results.

Needs Assessment Results

As recommended by researchers (Adie & Willis, 2016; Birenbaum, 2016; Braund & Deluca, 2018; Booth, et al., 2014; Gotch & McLean, 2019; Hill, 2011; Koh, 2011; Lysaight & O'Leary, 2017; Randel et al., 2016; Smith, 2016) to inform the content of the professional development experience and to align the content to the context of the participant settings, I gathered the viewpoints of participants, school leaders, as well as students before conducting the training.

The first part of the participant needs survey included demographic prompts as well as logistical prompts such as coaching session preferences and snack needs. Another part of the survey asked about preferred learning environment conditions and reasons for participating in the study. When asked to describe the whole group learning environment conditions best help them learn, teachers reported needing time to process information; not liking being put on the spot; preferring clear learning goals; desire to share perspectives; and the chance to try experience in the classroom. When asked what reasons prompted them to sign up for the training, teachers reported interest in the topics, desire to support students' success, and desire to learn from peers.

School Leader Needs Assessment Results

To triangulate perspectives and to follow researcher recommendations that the training matched the school context as much as possible, I elicited information from site school leaders. Two school leaders responded to the school leader survey: an instructional coach and the principal. Site leaders reported that in the last four years district and site teachers have received training, albeit separate trainings, regarding assessment, equity, and TIPs. Both leaders' responses demonstrated evidence of previous SI AfL training (e.g., articulated classroom assessment purpose and roles aligned to the empowerer model rather than the $19^{th}/20^{th}$ century manager model). Both leaders expressed the desire for teachers to continue growth in knowledge and practices that employ students as partners in classroom assessment processes.

Student YouthTruth Survey Responses

DeLuca et al. (2018), Charteris and Thomas (2016), Marsh et al. (2016), Lysaght (2015), and Panadero et al. (2018) recommend including PD study mechanisms that explore students' perspectives about classroom assessment processes. Therefore, I used the extant data from two YouthTruth survey prompts that best align to the constructs of this study (see Table 10). I compiled students' Likert scale response data (see Table 12), and I used Descriptive Coding (Miles, Huberman, & Saldaña, 2020) to compile themes from students' written responses regarding rigor, engagement, and culture (see Table 13). I included examples of students' direct quotes from the written response section to illustrate how students expressed the themes.

Table 12

Number (and %) of Students' 2018 YouthTruth Survey Likert Scale Responses Most Related to this Study

YouthTruth Question	Total Question Responses	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
How strongly do you agree or disagree with the following statement? In most of my classes, we learn to correct our mistakes.	903	9 (<1%)	27 (3%)	154 (17%)	442 (49%)	271 (30%)
How many of your teachers are not just satisfied if you pass, they care if you're really learning?	891	54 (6%)	107 (12%)	187 (21%)	267 (30%)	276 (31%)

Note. Total school population: 1059. Total number of students who completed the YouthTruth survey in the 2018-2019 school year: 963.

Professional Development Results

To investigate whether or not the integrated professional development experience affected teachers' SI AfL mindset and knowledge, I gathered data from the formal tools listed on Table 10 as well as informal tools such as PD activities. Below, I describe the results from both formal and informal data tools.

Table 13

Students' 2018 YouthTruth Themes from Written Responses Most Related to this Study with Examples of Direct Quotes

Rigor	Requests for more rigor (e.g., options for course acceleration, advancement)	• *"My classes are kinda easy. I get bored"* • *"I should be in a higher math class."* • *"I rarely have homework."*
Engagement	Decrease in interest, perceived relevance 6-8 grade Request for increase in learning choices (e.g., options for hitting learning goals, different paths to interact with content)	• *"I really liked 6th grade academy because the teachers made the classes exciting. I miss it."* • *"I hate sitting at a desk all day. Can there be other ways to do stuff?"* • *"Sometimes I'm interested."*
Culture	Concerns about teasing (both student and adult) and favorites Noticing that some teachers are supportive and use growth mindset	• *"I don't like walking through the crowded halls. Kids are always saying mean things."* • *"Why do teachers laugh when people are teasing?"* • *"Some of my teachers don't like me…They pay attention to the good kids and get mad at me."* • *"My math teacher doesn't let me give up."*

Note. Total school population: 1059. Total number of students who completed the YouthTruth survey in the 2018-2019 school year: 963.

Screencast Guided Notes Results

I used In Vivo Coding to compile the themes and feedback from participants' screencast guided notes (see Table 14). I used these results to inform the discussion during the January whole group session as well as the content of the coaching session and March focus group session.

Table 14

Participants' Pre-training Screencast Guided Notes Content Themes and Feedback

Themes About Content	Screencast Feedback
• Activate, agents, collaboration, worth, dignity, voice • Some already knew both models (2); others did not (2) • Had not previously connected InTASC standards for ethical practice to assessment model (2) • Willing to shift models to the right • How to use achievement info, summative assessment, grades in empowering way rather than manager way • Not familiar with local ACEs and disparity data; please provide (3) • By having a say and sense of control, all students can feel safe to move forward with their learning • Empowerer model, equity, and TIPs go together nicely	• Helpful on own learning time – flexible, digestible, feel sense of understanding before attending whole group session • No complaints

January Session Verbal Responses and Implementation Plans

During the January whole group session, I wrote down quotes that reflected participants' thoughts related to SI AfL mindset, knowledge, or professional development (Table 15 presents the five most salient quotes). Participants also chose two SI AfL-related InTASC standards on which to focus and then crafted implementation plans for growth in the standards (see Table 16).

Table 15

Five Participant Quotes from January Session Related to SI AfL Mindset, Knowledge, or Professional Development

1. "[Teachers] can use [SI AfL strategies] in every class as long as you have the commitment to do so."
2. "We can place tools for our students so that they can do [the learning]."
3. "At the beginning of the day, I had an understanding of the empowerer model. Now I have a deeper sense of the empowerer model. I can't describe it, but I can feel it."
4. "Why don't we [teachers] get this information in teacher preparation programs or other trainings?"
5. "This [viewing student voice as an asset; involving students in the process] lightens the teacher's load."

Table 16

Participants' Implementation Plan InTASC Standards of Focus and Growth Approach

Teacher	InTASC Standards of Focus	Growth Approach
A	3k and 6m	Generate student engagement and voice in understanding success criteria (establish foundation for successful feedback)
B	3o and 6q	Build learning team and learning tracking in self-paced, screen-based course
C	3o and 6m	Build learning team; practice tracking and reflecting on learning goals, steps
D	3k and 6d	Embed systems for individual and collaborative learning, feedback

Coaching Session Responses

I originally offered at least two one-on-one coaching sessions to each participant; but ultimately, due to mitigating circumstances including participants' schedule constraints, I met with each participant only once between the January whole group session and the March wrap up session. I met with three participants face-to-face and one participant via phone. I met with two participants before the school day, one participant after the school day, and one participant on the weekend via phone. During the session, I used the coaching session outline (see Appendix M) and wrote down participants' responses.

In the coaching sessions, two participants needed more than an hour of time to go through the outline and conclude with clear next steps for their implementation plan. The other two participants needed only thirty minutes each. To make sure the participants felt that the coaching session was designed to meet their needs and to respect teachers' precious and limited time (two recommendations from researchers), I did not require participants to remain talking with me beyond what they needed to identify successful next steps.

I started each session by asking "Hi, how are you?" kinds of questions and brought a variety pack of pocket M&Ms from which they could choose a snack for right then or for later. This introduction to the session generated smiles and gratitude. For the participant who chose to check in via phone, I explained how I started sessions with M&Ms and brought her the treat the following week back at her school site. At first, I tried to include having participants pick an improvement science community mindset for the focus of the session (e.g., start small; fail forward), but stopping to ask the participant

to make this choice interrupted the flow of the session. Thus, I decided to change my approach slightly and instead, throughout the course of the session, I pointed out ("I like how you…") when participants' responses aligned to improvement science community mindset.

Each coaching session included a check in regarding the big ideas of the PD (i.e., 19th/20th century business manager model of classroom assessment versus the empowerer model; the connections between classroom assessment, equity, and TIPs). After introductions, I asked the participants if they had noticed the big ideas arising since the screencast or January whole group session. One teacher reported noticing connections to the screencast "big ideas" as she served on the district planning committee and when she met with her grade-level Professional Learning Community. She noted that both groups were exploring issues of equity and how to reach all students. Another participant noted the contradictions between the research and the topics of recent district school improvement endeavors. For example, the district was updating the gradebook tool, yet the tool was still going to be set to average students' scores, a practice from the 19th/20th business manager model of classroom assessment.

During a coaching session, one participant reported that the content of the screencast and January whole-group training validated practices already in use. The participant had transitioned from years of experience teaching at the elementary level to teaching at the secondary level. The participant reported feeling concern that she would need to change her practice but that the content of the screencast, the January whole group session, and the implementation plan process reassured her that her previous practices were indeed aligned to SI AfL but that the terminology was different. She

reported feeling reassured and less stressed when she recognized the need for a shift in terminology, not an overhaul in practice. The participant also felt she needed to adjust her timeline for implementing the SI AfL strategy because of preparation for the statewide large-scale assessment (SBAC). I suggested that she incorporate the SI AfL strategy in the SBAC preparation so that the SI AfL practice was embedded.

The bulk of the coaching session time was spent reviewing the participants' implementation plans and providing plan support that matched the participants' chosen focus as well as the context of their classrooms. I offered plan-aligned suggestions, helped brainstorm reasonable next steps, and provided tools (either through email or in-person delivery) to support next steps. For example, one participant wanted to increase student choice, project-based learning options, as well as perceived relevance, so I shared examples of strategies, techniques, and structures that I had used or observed other teachers using, and I emailed follow-up materials that the participant could modify to fit his context. Another participant needed specific ideas for engaging students with understanding success criteria, so I shared a feedback strategy as well as how I modified the strategy for use in different grade levels and content areas.

Two participants stated that teacher-student and student-student relationships were strained or underdeveloped. They wanted to purposefully foster relationships so that classroom climate conditions necessary for goal setting and learning tracking would improve. During the coaching sessions, we brainstormed ways that the participants could gather as well as use constructive feedback from the students that would improve learning team conditions as well as model effective feedback mechanisms, which would be a small yet critical step in their plans for students to eventually "own their learning."

By the end of the coaching sessions, the participants were excited to immediately implement strategies for building a learning team. One participant decided to elicit student voices regarding class climate and to have the students build trust in the feedback process by giving her ideas that would be embedded in subsequent lessons. One participant committed to sharing more personal stories with her students that illustrated how she and family members embraced mistakes as a part of the learning process. She also decided to use games that I suggested (such as "Two Truths and a Lie") to engage students in getting to know each other better.

I concluded each coaching session by summarizing what we talked about as well as listing the follow-up materials that I would be sending to help with next steps. I made sure to prompt for any remaining questions, answer questions, and thank participants for their time. Participants did not have remaining questions and they verbalized appreciation for the one-on-one coaching opportunity that was flexible to meet their schedules and needs.

On the section course evaluation, two participants directly reported that the one coaching session was enough and that they did not feel the need for more. For example, one participant stated, "I feel that the amount of coaching I received was perfect for this course." Another participant suggested that time be provided in between the whole group sessions for peer-to-peer coaching so that participants could learn from each other or watch each other/give each other feedback regarding the incorporation of SI AfL big ideas and strategies in lessons.

March Focus Group Responses

Because of substitute teacher constraints, only three out of the four teachers were able to attend the March focus group session. To help ensure an uninterrupted session, we gathered in a meeting room at the district central office instead of meeting in a classroom at the site. During the session, we practiced learning environment strategies, reviewed the big ideas (models, standards, and goals), shared implementation plans, and celebrated participation in the experience.

To follow the researcher recommendations, as usual I began the session with a collaborative, social and emotional check-in strategy. I used the "Lemonade" activity from the Stanford Stoke Deck (see Appendix K), which models growth mindset and asset-based thinking (turning a "bummer" into a positive). I did not expect the level of participation, emotional response, and social engagement that occurred. All three participants were experiencing significant life transitions and felt comfortable sharing the challenges of those transitions with the group. Participants shared tears and helped each other find the positive in the challenges.

To capture their understanding of big ideas, participants were cued to collaborate and come up with group definitions of the big ideas in their own words. Each participant took a turn writing the group's collaborative response on the whiteboard so that I could be sure to capture the participants' definitions. When asked to explain how the empowerer model ties to existing research-based professional standards as well as data-based equity and TIPs goals, participants constructed the sentence, "As teachers, we are providing not only positive learning environments but also providing the tools and support to drive [students'] learning." When asked to explain the effects of

knowing/reflecting on classroom assessment models, participants constructed the response, “To empower our students and ourselves.” When asked to describe why we talked about pipe cleaners, straws, and cards in January (the Brain Architecture exercise), participants constructed the response, “[To] provide a safe environment where healing and growing produce empowered learners.” When asked to explain how classroom assessment can build relationships with students, participants constructed the sentence, “Students feel valued and heard, which makes them trust in the learning process.”

Participants were also cued to practice reframing business manager model statements to better align with the empowerer model. Participants were cued to do so because business manager model systems and pressures are a daily reality. By practicing how to reframe, participants reviewed the difference between the models, which was designed to underscore the on-going work of shifting to the empowerer model despite the outdated systems and accountability pressure. Examples of participants’ reframed classroom assessment purpose statements are below:

- Instead of *evaluate achievement*: “Produce learning evidence to motivate and keep learning moving forward.”
- Instead of *practice for standardized tests*: “[Practice for large test] is opportunity to share cumulative learning. It’s a time to shine.”
- Instead of *provide data to rank students by achievement:* [Data are used] to celebrate and inform achievement (not rank). It’s still part of the learning journey.”

PD Course Evaluation Results

Participants completed an evaluation of the PD course two times: once after the whole-day session and again at the very end after the coaching and focus group sessions.

First course evaluation. After the January whole group session, I collected participants' course evaluation handouts and organized the results (see Table 17). All four participants responded "agree" (highest ranking out of four choices) to the following statements: the organization of the content was planned and executed in a way that permitted learning to occur; learning time and the need for break time were balanced; the presenter created an atmosphere that was comfortable and made them approachable; the instructional techniques and activities facilitated your understanding of the topic; a good variety of learning experiences were included in the workshop; you will apply the knowledge or skills learned in this workshop to your practice.

Table 17

First Course Evaluation Prompts and Response Themes

Written response prompt	Participants' Response Themes
Value/importance of content	• Motivated to increase student voice for more meaningful, deeper learning experience • Walked away with tools and peer feedback for experimenting with student-involved assessment • Grasped differences between assessment models • Useful to view assessments differently • Valuable • Small group appreciated; appreciated feeling heard; felt comfortable sharing in pairs and whole group • Validated anecdotal evidence about student needs and success

Second course evaluation. Because of substitute teacher constraints, only three of the four participants were able to attend the March focus group session. All three responded "agree" to the six evaluation statements. The themes from participants' written responses are compiled in Table 18.

Table 18

Second Course Evaluation Prompts and Response Themes

Written response prompt	Participants' Response Themes
Value/importance of content	• Invaluable • Built confidence • Useful coaching, feedback • Learned empower tools
Suggestions for improvement	• None • Time to meet with PD peers between group sessions

Artifact Reflection

Prior to the January whole group session, I asked participants to bring an example of an artifact related to classroom assessment. The request was informal and without a specific prompt to guide selection or pre-session reflection. Two participants brought examples, two did not (one participant reported they were not sure what I meant by an artifact). All four participants discussed an example of classroom assessment during the January whole group session. The exercise was to build understanding of what an artifact could be by the end of the training experience and to establish a baseline for artifact comparison. Participants were cued at the January session to prepare a more formal artifact reflection for the March session. They were also given a printed copy of the artifact reflection prompts (see Appendix G). I used Tesch's Eight Steps to code and

interpret the results of participants' artifact reflection documents. To capture the voices of the participants, I organized participants' direct quotes by theme.

Overall Artifact Reflection Themes

Change in teacher learning environment and/or classroom assessment practice.

Teacher A. "Before taking this PD I would have just gone over the criteria and let [students] start working. I would not have had students provide feedback or changed the rubric according to that feedback."

Teacher B. "Since adding the [strategy for tracking daily learning], [students] are more aware of what they can do on a daily basis and why they need to do it…I have implemented language in my class which lets [students] know we are all learners and we all learn at different rates and this is all ok."

Teacher C. "Prior to SI AfL PD students reflected on their learning and what actions they took to achieve their goals. However, students were not reflecting on their learning throughout the journey through a particular learning target. I also did not incorporate peer review or help sessions…the biggest change is recognizing the value of peer relationships and incorporating a peer review system."

Teacher D. "The creation of [the feedback strategy] has allowed me to directly support the [InTASC] standards. [The feedback strategy] allowed me to provide effective feedback to guide students' progress throughout the dialogue writing. It also allowed me to have students examine the learning of others, which ultimately strengthened their own writing."

Nurtured relationships/collaboration/student ownership.

Teacher A. "[Rubric feedback strategy] gave [students] ownership over the learning criteria…The students loved that I heard their input!"

Teacher B. "[Strategy for tracking daily learning] has helped to place part of the responsibility of learning on the student's shoulders…The students write down how they are doing, and it empowers them to learn and do better no matter what situation they are facing…Helping [students] feel like they matter has helped the way my students react to their assignments and learning."

Teacher C. "Again, the artifact represents students taking control of their learning. I facilitate students in the analysis of their assessments and their goals."

Teacher D. "The goal of implementing this [feedback strategy] was to provide students with a voice…The [feedback strategy] was structured to provide students with collaboration with peers and an opportunity to show respect to one another."

Small shift, big benefit.

Teacher A. "The big difference is the collaboration and engagement of my students with the rubric. Easy change with a HUGE payoff!"

Teacher B. "I have given [students] a tool to use to help them see how they are growing/learning. This encourages them to keep trying, even if they are small steps and learn which in turn empowers them to feel good about themselves."

Teacher C. "The peer review system ensures that every student will understand the process and feel supported."

Teacher D. "[With the feedback strategy, students] were simultaneously analyzing their own work as they provided feedback to others…students ultimately produced some quality work."

Participant-specific Artifact Reflection Results

To further explore participants' artifact reflection responses, I analyzed each document looking for evidence of any changes or shifts in participants' classroom assessment mindset, knowledge, and connections to equity and TIPs. Below are the results organized by each participant.

Teacher A. Before the training, Teacher A was not sure what could be an SI AfL artifact and did not bring an artifact to the January session, yet she was the first to turn in the artifact reflection in March. The following statement from the artifact reflection shows evidence of Teacher A's classroom assessment mindset at the end of the experience: "Before taking this PD I would have just gone over the criteria [on the rubric] and let [students] start working. I would not have had students provide feedback or changed the rubric according to that feedback. The students loved that I heard their input!"

The following statement from the artifact reflection shows Teacher A's knowledge of SI AfL at the end of the experience:

> "My artifact illustrates my current knowledge of both SI AfL standards 3 and 6. [Feedback strategy] allowed my students to engage in their own assessment and to set goals for their learning based on the novel. [Feedback strategy] also provided an opportunity for collaboration and for students to deeply know and understand what they need to do to show their learning in a productive way."

The following statements from the artifact reflection shows Teacher A's understanding of the connections between SI AfL, equity, and TIPs at the end of the training experience:

> "The key words that I was looking for were collaboration and engagement when I started this project and it encompassed much more than that! [The training] helped build relationship, respect, responsiveness, and self-motivation for the students. All of these promote equity where students can find connections and meaning in their learning. [The training] fits perfectly into the equity and TIPs way of teaching and empowering students… [The training] doesn't really change my knowledge of the connections of these 3 areas but [the training] reinforces the importance of them in the classroom."

Teacher B. The following statement from the artifact reflection shows Teacher B's classroom assessment mindset at the end of the experience:

> "At the beginning of this PD, I had just ended a very stressful semester and all I got from other educators was to get tougher in the way I did things in the classroom. This advice did not feel right to me and I needed something else…Since adding the Timecard, [students] are more aware of what they can do on a daily basis and why they need to do it…I am not getting questions about 'why' nor any type of 'when am I ever going to need this?'"

The following statement from the artifact reflection shows Teacher B's classroom assessment knowledge at the end of the experience: "I understand the need for students to analyze their progress and see the difference in the way they are working each week. This

is something I had heard about in the past but did not know how to implement until this PD."

The following statements from the artifact reflection shows Teacher B's understanding of the connections between SI AfL, equity, and TIPs at the end of the experience:

> "I have come to understand SI AfL gives the students a voice which helps them feel included and a voice in their learning no matter what their background is. When my students feel they are part of the class, and a community which matters they start to get vested in their progress…This semester I have been a listener and encourager through all I say in class making sure they know they are not alone and yes, this content is hard, but it is not impossible. They will get through it and I am going to be there every step of the way."

Teacher C. The following statement from the artifact reflection demonstrates Teacher C's classroom assessment mindset and SI AfL knowledge at the end of the experience: "My artifact illustrates my current assessment mental model by supporting students to be agents of their learning. It is important to me that students are an active participate in goal setting and understanding what steps to take to achieve those goals."

The following statement from the artifact reflection demonstrates Teacher C's understanding of the connections between classroom assessment, equity, and TIPs: "[By recognizing peer relationships and incorporating a peer review system] every student will understand the process and feel supported…More students have the opportunity to learn and take ownership of their learning."

Teacher D. The following statements from the artifact reflection demonstrate Teacher D's classroom assessment mindset and SI AfL knowledge at the end of the experience:

> "My belief in classroom assessment is structured around the ideal that students should be directly involved in the creation of the assessment and providing support for each other. The goal of implementing [feedback strategy] was to provide students with a voice… [Feedback strategy] gave [students] a roadmap to be successful without directly or even indirectly doing the work for them. Which often time happens in a more traditional multiple-choice test…" [Students] weren't providing criticism for each other's work but were instructed to coax more out of each other. How the 'cool areas' could be 'warmed up.'"

The following statement from the artifact reflection demonstrates Teacher D's understanding of the connections between classroom assessment, equity, and TIPs: "This entire process has enhanced my understanding of true equity and providing a warm, compassionate and enriching environment for every student."

Pre- and Post-Training Survey Results

Participants completed the same classroom assessment mindset and knowledge survey prior to beginning the training and then again at the end. The link to the survey was sent out via email; participants completed both the pre- and post-survey in their own work spaces (not in whole group or coaching session spaces). Participants responded to prompts regarding classroom assessment purpose; teacher and student classroom assessment roles; knowledge of learning environment and classroom assessment; connections between classroom assessment, equity, and TIPs.

Classroom Assessment Purpose. Five statements in this section of the survey were business manager model-oriented, represented by the bars marked M in Figures 4-7. Four statements were empowerer model-oriented, represented by the bars marked E in Figures 4-7. Participants ranked each statement by importance. If they wanted to further explain their ranking choices or thinking, participants could type comments at the end of the section.

Teacher A. On the pre survey, this teacher ranked empowerer-oriented statements with a mix of importance levels. On the post survey, this teacher ranked all four empowerer-oriented statements at the extremely important level. The largest shift in her responses was for the statement regarding using assessments to build relationships with students. On the pre survey, she ranked that statement as a 0, while on the post survey, she ranked that statement as a 4. On the pre-survey, Teacher A wrote, "Assessments are just a snapshot of where students are at that current moment in time...it doesn't take into account if it was a bad day for a child, were they hungry, sad etc. All of those outside factors can affect the assessment." On the post-survey, Teacher A wrote, "Many of these [statements] are required on our jobs today but I can take them and reframe them in a way that makes them fit into the empowerment model!"

Teacher B. In the pre training survey, Teacher B ranked all statements "extremely important" except for the statement regarding building relationships with students; she ranked that statement as a 3 (instead of a 4). On the post survey, she ranked all statements as "extremely important." Teacher B's written response on the post survey explains her pre versus post mindset shift in her own words:

> "So, at the start of this study I was very much of a mindset 'I need to know what grade they have so I know they have learned' but now after seeing how they/students want to learn and own their learning I feel different about assessments as a whole. The students are taking charge of what and how fast they are learning. …my beliefs about taking tests and tests scores have differed in the direction and focus I am placing. Now, I look to see if the student is truly paying attention to how they are working in the classroom. They are telling me and showing me how they are working which is a large part of their grade now. The learning is happening on their own but how they see it has changed… Makes for a lot more meetings and discussions but [tracking learning tool and check ins] gives [students] autonomy which has changed their attitude in the class."

Teacher C. In the pre and post training surveys, Teacher C ranked all four empowerer-oriented statements as extremely important. She ranked the business manager-oriented statements lower in both the pre and post survey. On the post survey, she ranked two of the four business manager-oriented statements at 0. Teacher C did not write comments that further explained her mindset about classroom assessment purpose.

Teacher D. On the pre-survey, Teacher D ranked all four empowerer-oriented statements as important or extremely important. On the post survey, he ranked all four empowerer-oriented statements as extremely important. Four out of the five business manager model statements decreased in importance from the pre-survey to the post survey. Teacher D further explained his thinking about the purpose of classroom assessment on the pre and post survey:

Pre survey. "Formatives in our class is a way to build confidence in the work that is being put in. It's a time trial of sorts. We emphasize that summatives are the opportunity to shine and show what you know. It's the appetizer and the entree combination."

Post survey. "Classroom assessment for me has been about giving appropriate, compassionate feedback to students to encourage rather than discourage. While meeting the target is the ultimate goal, providing positive feedback for growth is incredibly important to developing relationships with students."

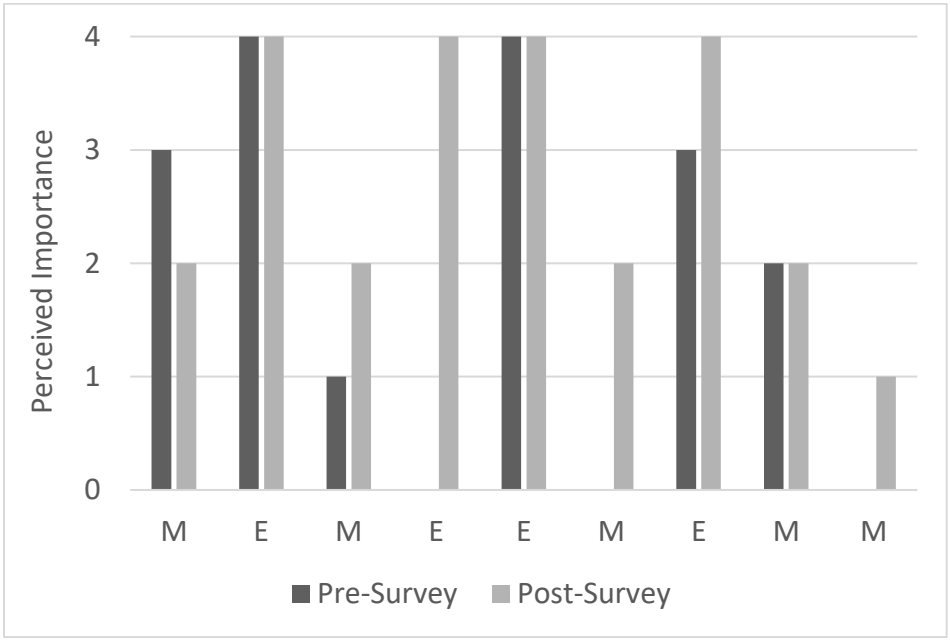


Figure 4. *Teacher A. Survey responses: Manager (M) and Empowerer (E) statements about classroom assessment purpose*

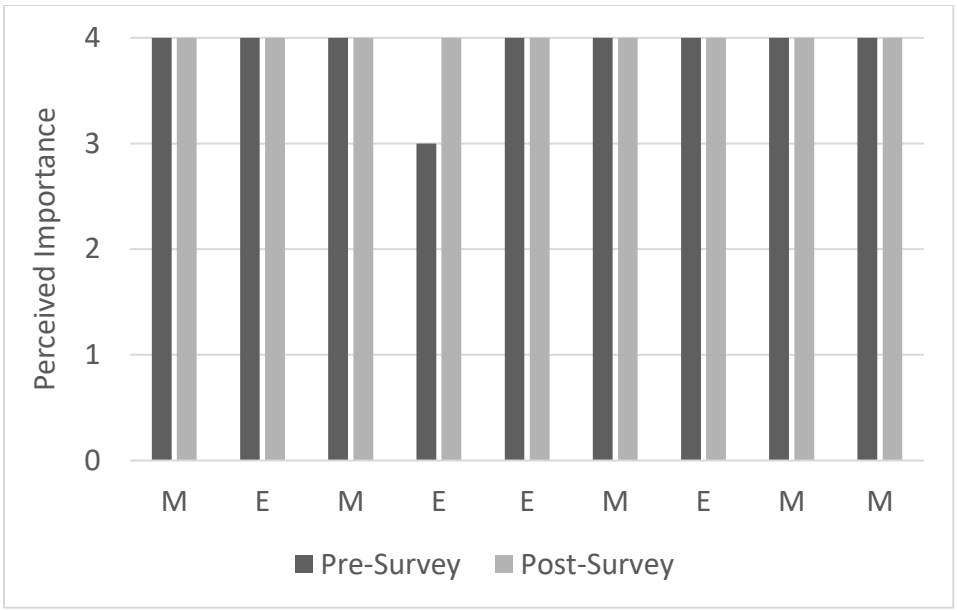


Figure 5. *Teacher B. Survey responses: Manager (M) and Empowerer (E) statements about classroom assessment purpose*

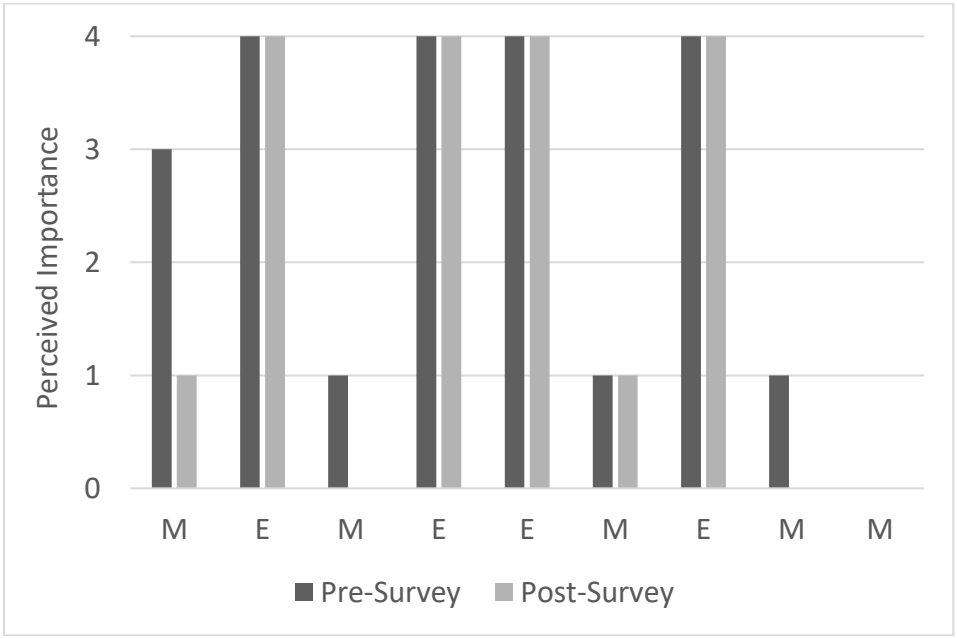


Figure 6. *Teacher C. Survey responses: Manager (M) and Empowerer (E) statements about classroom assessment purpose*

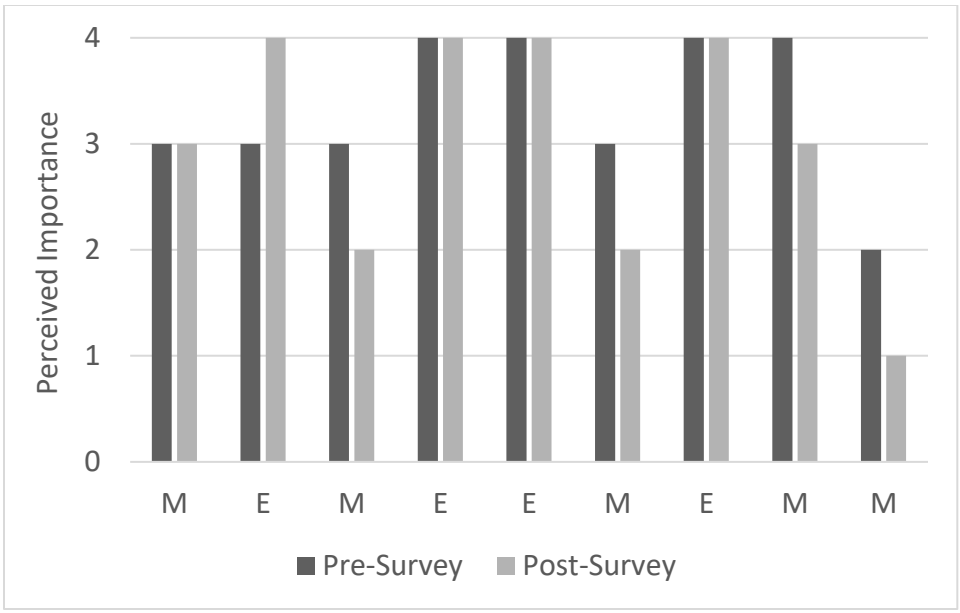


Figure 7. *Teacher D. Survey responses: Manager (M) and Empowerer (E) statements about classroom assessment purpose*

Teacher Role in Classroom Assessment. Four statements in this section of the survey were business manager model-oriented, represented by the bars marked M in Figures 8-11, while five statements were empowerer model-oriented, represented by the bars marked E. Participants ranked each statement by importance and could choose to further explain their thinking at the end of the section with written comments.

Teacher A. On the pre and post survey, Teacher A ranked all five empowerer-oriented statements as extremely important. Two business manager-oriented statement rankings decreased between pre and post survey, one increased, and one stayed the same. Teacher A further explained her thinking in the post survey comment section: “Again I feel it’s all in the way we frame this to our students! We can change the way we deliver the requirements. Using phrases like... listen to and use students’ feedback, and clarify goals and success criteria.”

Teacher B. On the pre-survey, Teacher B ranked all but two statements as extremely important. On the post-survey, Teacher B ranked all but one statement as extremely important. In the open response prompt at the end of this section, Teacher B explained her thinking with several first semester versus second semester classroom comparison examples including: "Where last semester I was just trying to keep [students] quiet and in their seats long in enough to get started/learn, this semester I am watching them engage in their learning and they/themselves policing their behavior and learning and I have no issues with misbehavior during class."

Teacher C. On the pre-survey, Teacher C ranked four out of five empowerer-oriented statements as extremely important; she ranked all five as extremely important on the post-survey. There were no changes in her rankings of the business manager-oriented statements between the pre and post-survey. In the open response opportunity at the end of the section, on the pre-survey, Teacher C stated "I use assessments to inform my teaching on a regular basis." On the post-survey, Teacher C stated that a teacher's role in classroom assessment is to "Provide support in the students learning by asking the student where they are right now and where do they want to be in the future and how I can support them on the path."

Teacher D. Teacher D ranked all statements the same on the pre- and post-survey. All empowerer-oriented statements were ranked as extremely important; business manager-oriented statements were ranked between 1-3. At the end of the section, Teacher D responded on the pre- and post-survey:

Pre-survey. "I'm careful using grades as the only criteria for demonstrating understanding. I'm not sure a low grade is a reflection of lack of knowledge or understanding."

Post-survey. "My role is to give kids every opportunity to be successful. To diversify the opportunities to show what they know and to provide students choice in how they demonstrate what they know. It is not important to me to rank students but instead give feedback that lets students know that they are growing on their own educational journey."

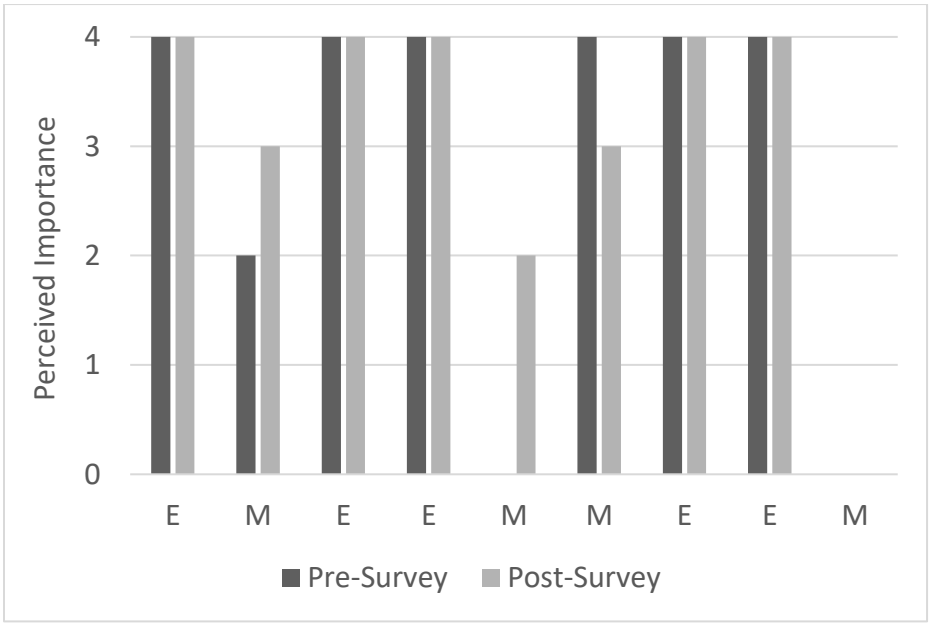


Figure 8. *Teacher A. Survey responses: Manager (M) and Empowerer (E) statements about teacher role in classroom assessment*

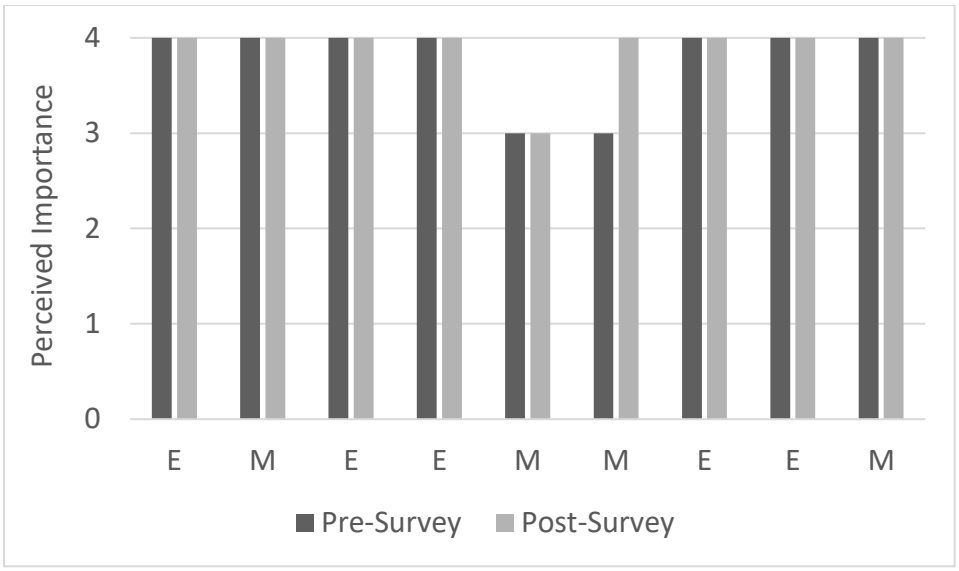


Figure 9. *Teacher B. Survey responses: Manager (M) and Empowerer (E) statements about teacher role in classroom assessment*

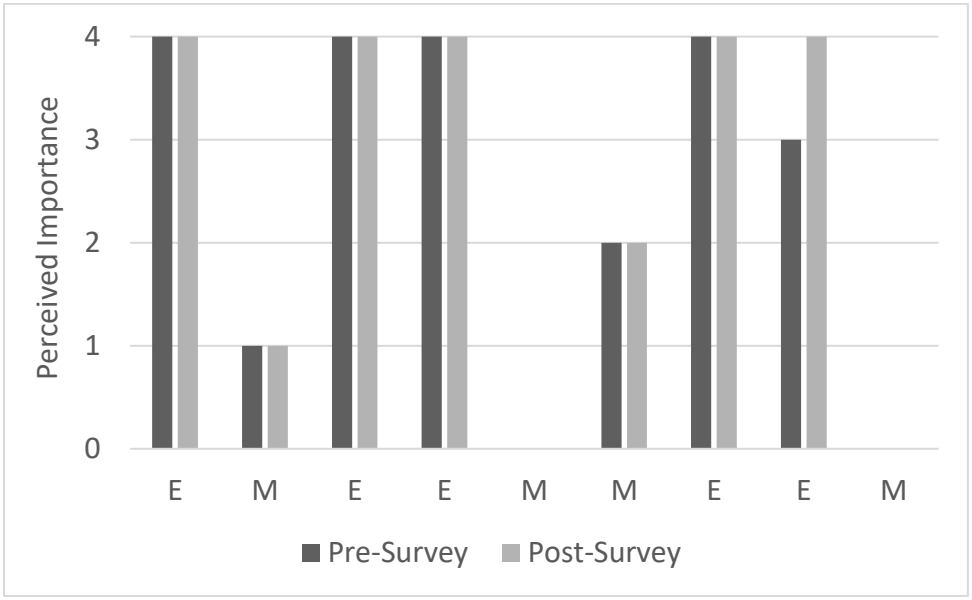


Figure 10. *Teacher C. Survey responses: Manager (M) and Empowerer (E) statements about teacher role in classroom assessment*

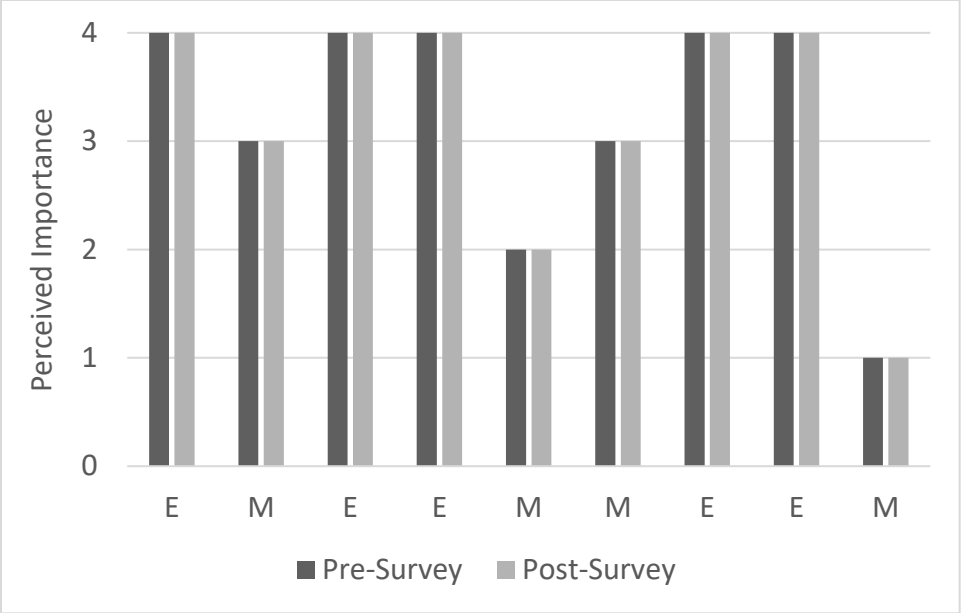


Figure 11. *Teacher D. Survey responses: Manager (M) and Empowerer (E) statements about teacher role in classroom assessment*

Student Role in Classroom Assessment. Five statements in this section of the survey were business manager model-oriented, represented by the bars marked M in Figures 12-15, and four were empowerer model-oriented statements, represented by the bars marked E in Figures 12-15. Participants ranked each statement by importance and could choose to further explain their thinking at the end of the section.

Teacher A. On the pre- and post-survey, Teacher A ranked all four empowerer model-oriented statements as extremely important. Two business manager-oriented statement rankings decreased; three stayed the same. At the end of the section, Teacher A further explained her thinking by stating, "[Student role in classroom assessment is] All in the way it's presented!! Working toward re-phrasing using the empowerer model!!"

Teacher B. On the pre-survey, Teacher B ranked all but one statement as extremely important. On the post-survey, Teacher B ranked all statements as extremely important. Teacher B did not explain her responses further; however, in the space to

explain what she thought students would say is their role in classroom assessment, on the post-survey, Teacher B stated, “I have had students tell me they like being able to see on their grading sheet how well they are progressing in class. The grading sheet is something they keep up on and shows them exactly what their grade is in the class. When I presented the grading sheet, I made sure to tell them it was theirs and they were in charge of their learning.”

Teacher C. On the pre-survey, Teacher C ranked all but one empowerer-oriented statement as extremely important; she ranked all four statements as extremely important on the post-survey. All five business manager-oriented statements decreased in ranking between the pre- and post-survey. Between the pre- and post-survey, Teacher C changed two business manager-oriented rankings from 1 to 0. Teacher C chose not to explain her responses at the end of the section.

Teacher D. Three out of four empowerer-oriented statement rankings stayed the same between the pre- and post-survey. Teacher D’s rankings of business manager-oriented statements was mixed. Between the pre- and post-survey, one ranking increased, one ranking stayed the same, and three rankings decreased. On the pre-survey, Teacher D stated, “Students are empowered to enjoy learning and develop a level of curiosity to explore more. Ideally the information we present encourages students to go and seek more information or make connections to their own life.” Teacher D chose not to explain his responses at the end of the post-survey section; however, in the space to explain what students would say is their role in classroom assessment, Teacher D stated,

> “Their role is to actively participate in the learning process. The learning is a conduit between the instructor and the students. I want to see that the

information is being received by them and they are sending it back to me in their preferred method of communication. The goal is to encourage complete effort in that assessment process and the importance of being to demonstrate their learning to move them to the next level."

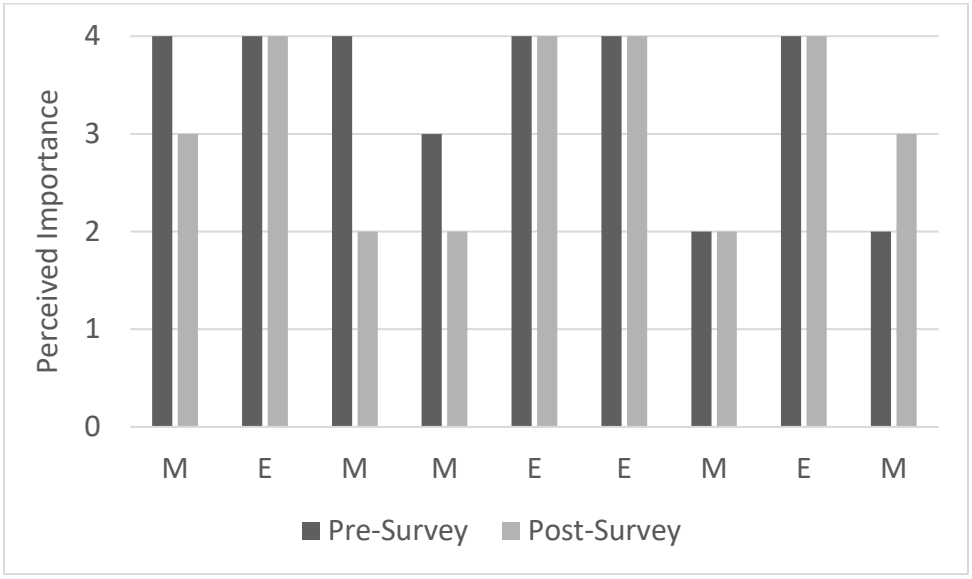


Figure 12. *Teacher A. Survey responses: Manager (M) and Empowerer (E) statements about student role in classroom assessment*

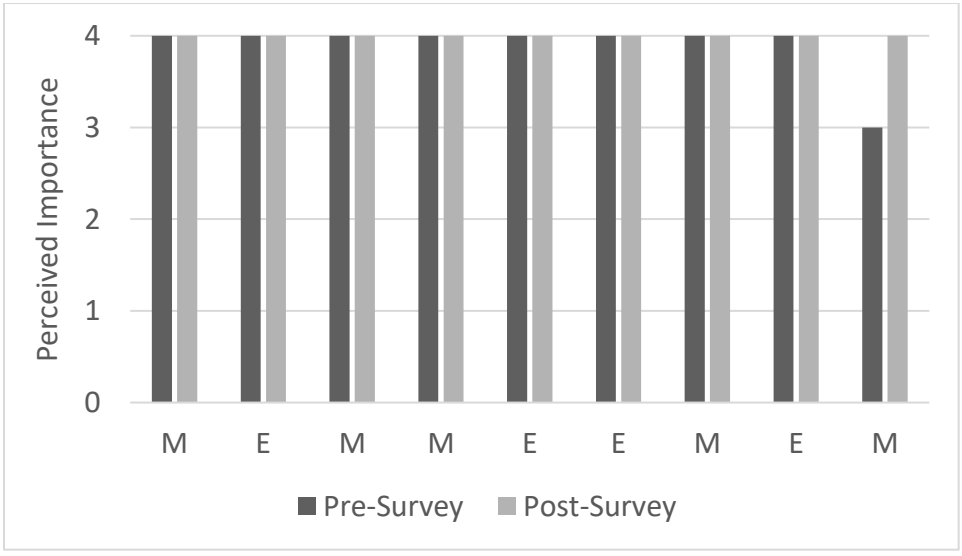


Figure 13. *Teacher B. Survey responses: Manager (M) and Empowerer (E) statements about student role in classroom assessment*

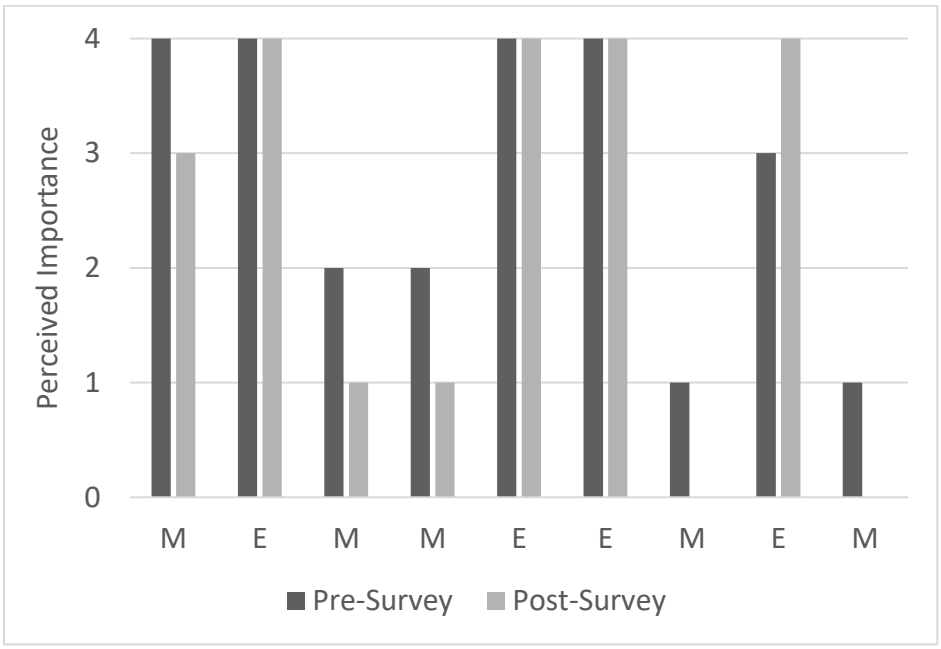


Figure 14. *Teacher C. Survey responses: Manager (M) and Empowerer (E) statements about student role in classroom assessment*

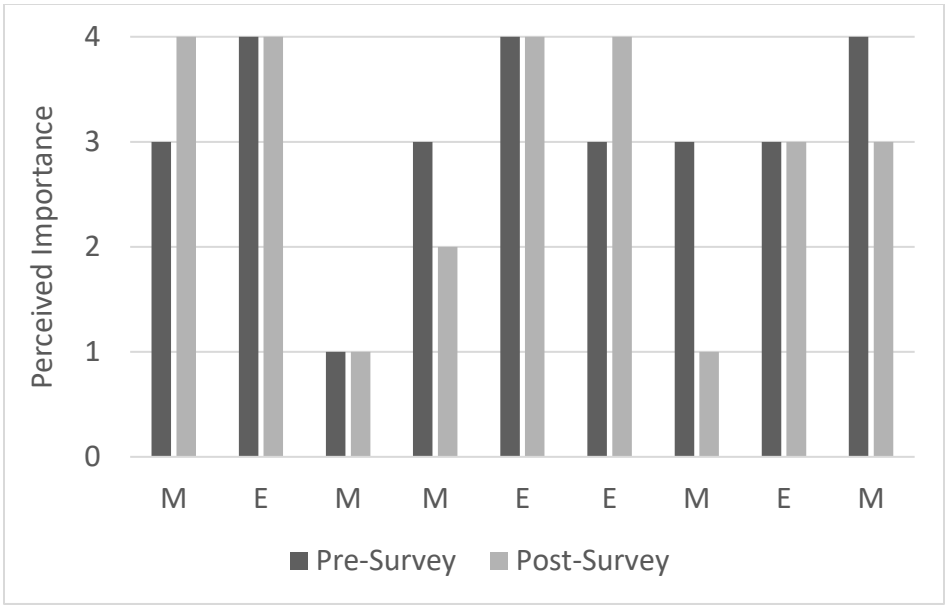


Figure 15. *Teacher D. Survey responses: Manager (M) and Empowerer (E) statements about student role in classroom assessment*

SI AfL-related InTASC Standard 3. In this section of the survey, participants responded to statements regarding their knowledge of SI AfL-related InTASC Standard 3

(learning environment) conditions and practices by ranking their knowledge level for standard and substandard statements on a scale of 0-4. Participants were also given the option to further explain their thinking at the end of the section. Overall, (a) the participants' responses reflect growth in Standard 3 knowledge, (b) there appears to be more growth in Standard 6 knowledge than Standard 3, and (c) no participant reported a decrease in Standard 3 knowledge. I present the, broken down by participant.

Teacher A. On the pre-survey, Teacher A's responses were mixed. She ranked four knowledge statements at a 4, two statements at a 3, and one statement at a 2. On the post-survey, Teacher A ranked all statements at a 4. Teacher A did not choose to further explain her thinking at the end of the section (see Figure 16).

Teacher B. On the pre-survey, Teacher B's responses were mixed. She ranked two knowledge statements at a 4, four statements at a 3, and one statement at a 2. On the post-survey, Teacher B ranked all statements at a 4. Teacher B did not choose to further explain her thinking at the end of the section (see Figure 17).

Teacher C. On the pre-survey, Teacher C ranked three knowledge statements at a 4 and four statements at a 3. On the post-survey, Teacher C ranked all statements at a 4. Teacher C did not choose to further explain her thinking at the end of the section (see Figure 18).

Teacher D. On the pre-survey, Teacher D ranked one knowledge statement at a 4, four statements at a 3, and two statements at a 2. On the post-survey, Teacher D ranked three knowledge statements at a 3 and four statements at a 4. Teacher D did not choose to further explain his thinking at the end of the section (see Figure 19).

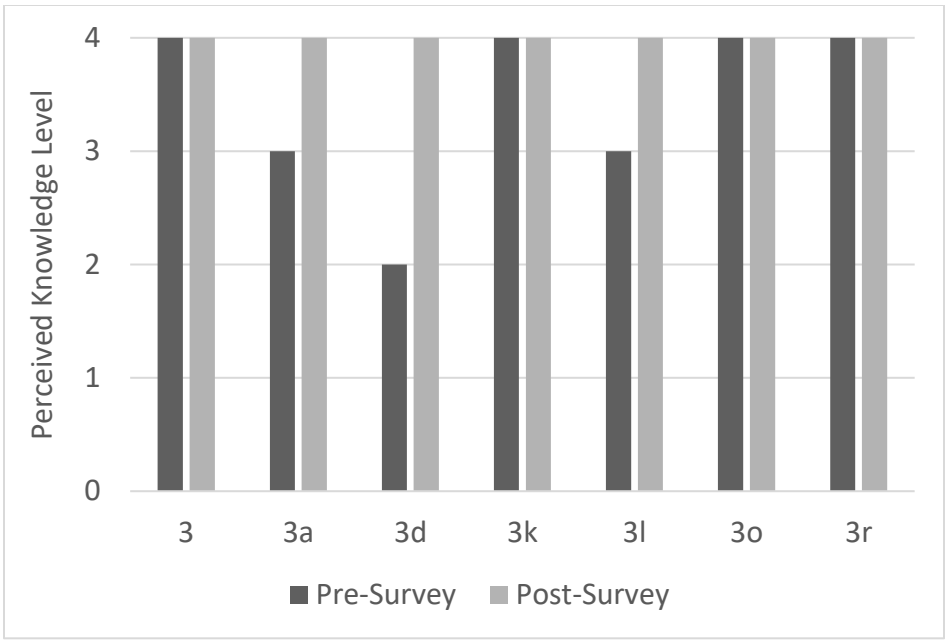


Figure 16. *Teacher A. Survey responses: SI AfL-related InTASC standard and substandard 3 knowledge*

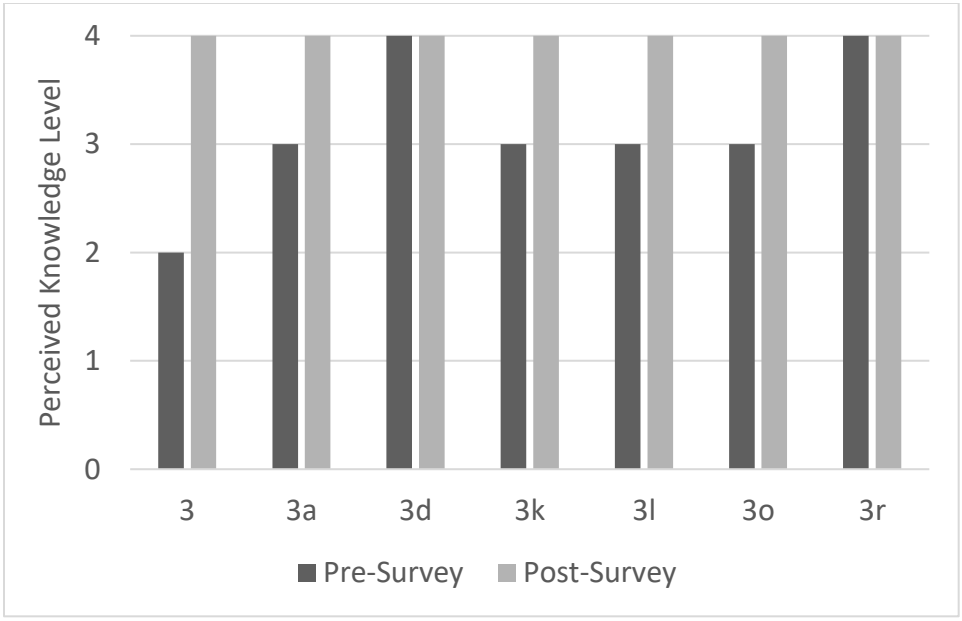


Figure 17. *Teacher B. Survey responses: SI AfL-related InTASC standard and substandard 3 knowledge*

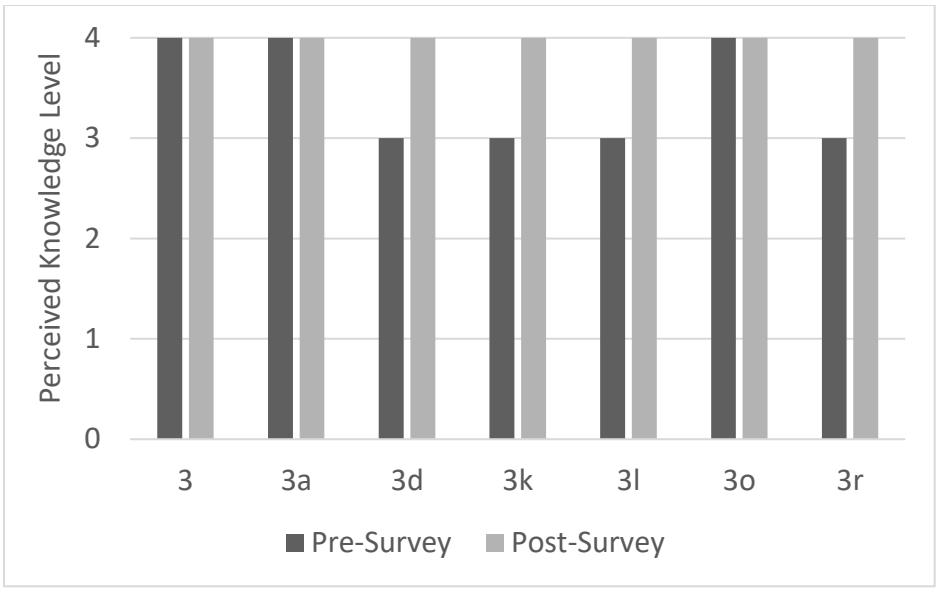


Figure 18. *Teacher C. Survey responses: SI AfL-related InTASC standard and substandard 3 knowledge*

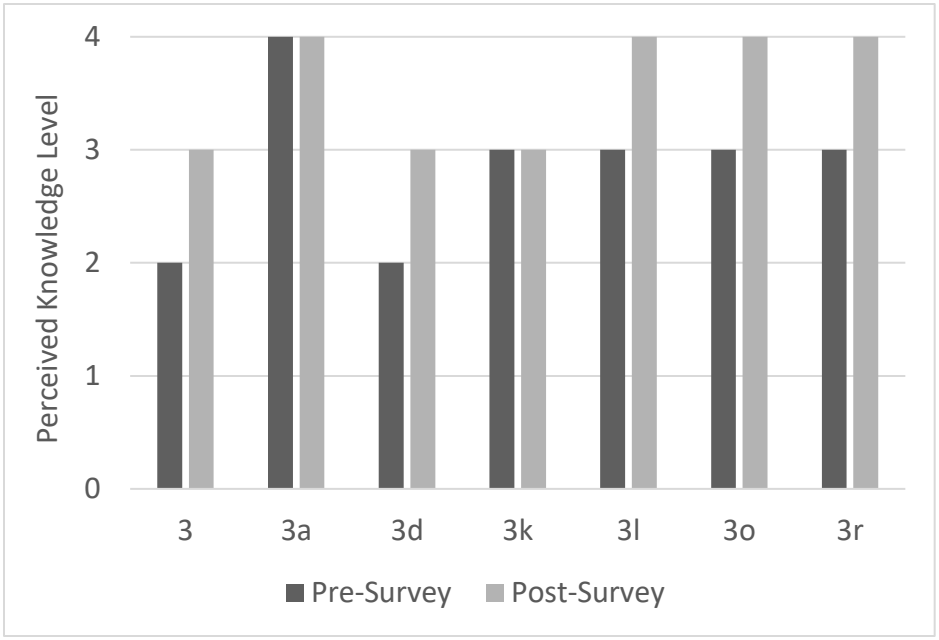


Figure 19. *Teacher D. Survey responses: SI AfL-related InTASC standard and substandard 3 knowledg*e

SI AfL-related InTASC Standard 6. In this section of the survey, participants responded to statements regarding their knowledge of SI AfL-related InTASC Standard 6 (classroom assessment) conditions and practices by ranking their knowledge level in

standard and substandard statements on a scale of 0-4. Participants were also given the option to further explain their thinking at the end of the section. Overall, (a) the participants' responses reflected growth in Standard 6 knowledge, (b) there appears to be more growth in Standard 6 knowledge than Standard 3, and (c) no participant reported a decrease in Standard 6 knowledge. The results are broken down by participant.

Teacher A. On the pre-survey, Teacher A ranked one knowledge statement at 3 and all others at a 2. On the post-survey, Teacher A ranked all statements at a 4. Teacher A did not choose to further explain her thinking at the end of the section (see Figure 20).

Teacher B. On the pre-survey, Teacher B ranked two knowledge statements at a 3 and all others at a two. On the post-survey, Teacher B ranked all statements at a 4. Teacher B did not choose to further explain her thinking at the end of the section (see Figure 21).

Teacher C. On the pre-survey, Teacher C ranked two knowledge statements at a 4 and six statements at a 3. On the post-survey, Teacher C ranked four statements at a 4 and four statements at a 3. Teacher C did not choose to further explain her thinking at the end of the section (see Figure 22).

Teacher D. On the pre-survey, Teacher D ranked five knowledge statements at a 3, and three statements at 2. On the post-survey, Teacher D ranked five statements at a 3 and three statements at a 4. Teacher D did not choose to further explain his thinking at the end of the section (see Figure 23).

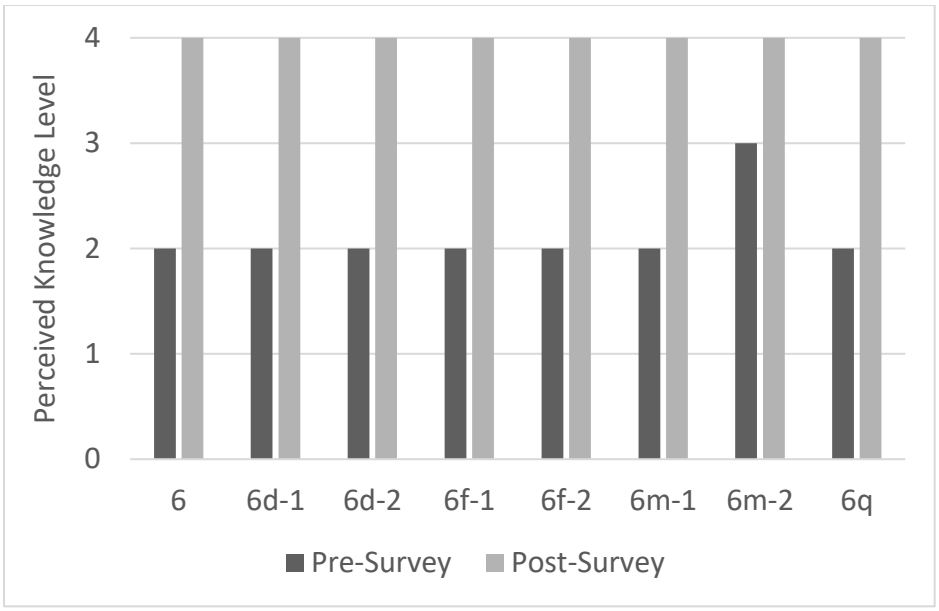


Figure 20. *Teacher A. Survey responses: SI AfL-related InTASC standard and substandard 6 knowledge*

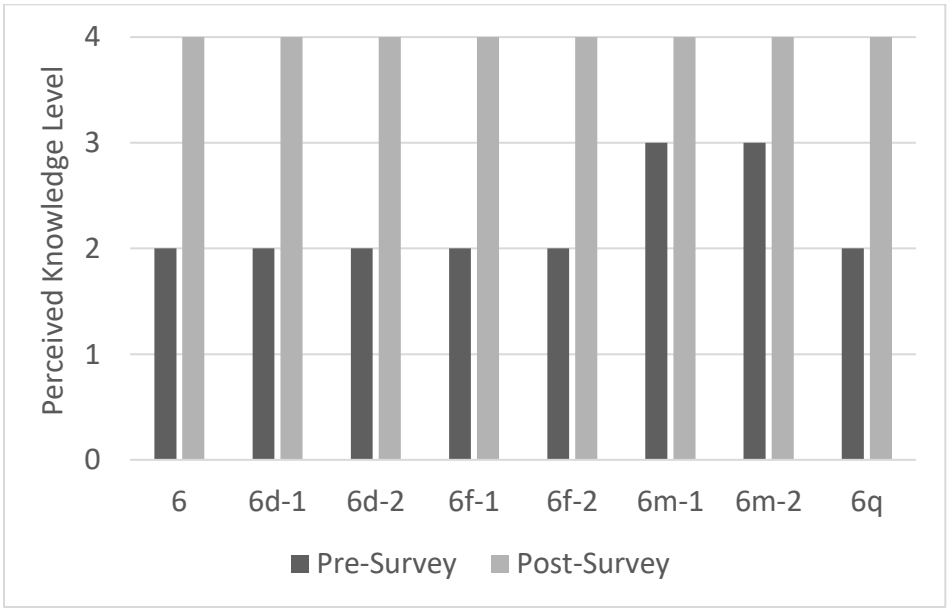


Figure 21. *Teacher B. Survey responses: SI AfL-related InTASC standard and substandard 6 knowledge*

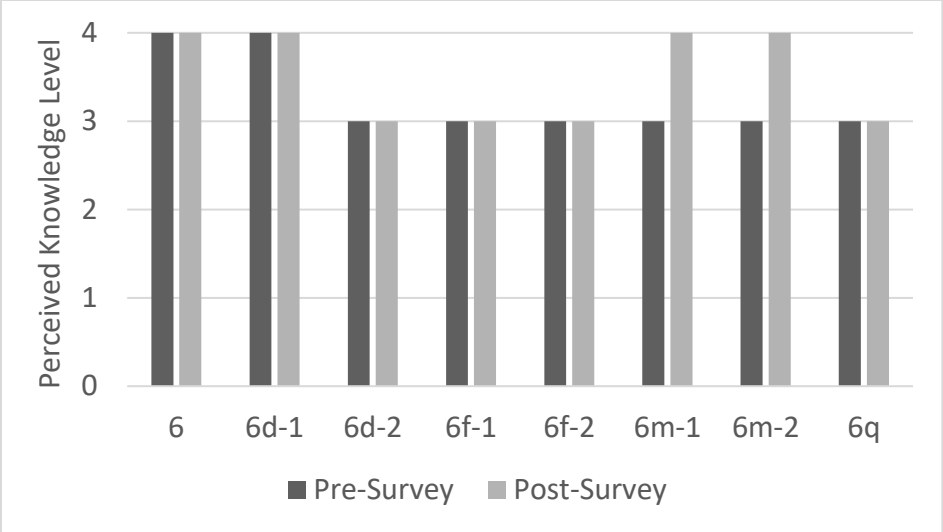


Figure 22. *Teacher C. Survey responses: SI AfL-related InTASC standard and substandard 6 knowledge*

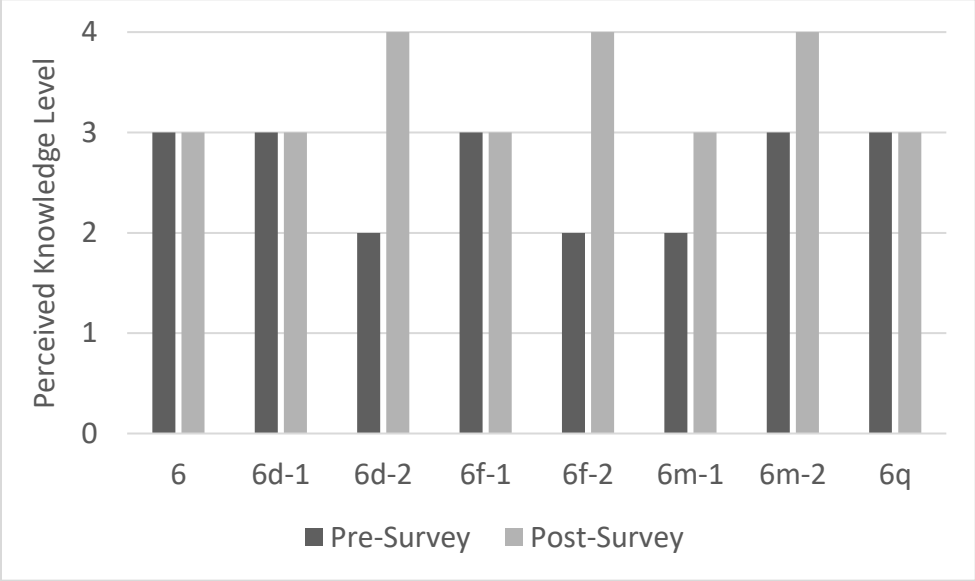


Figure 23. *Teacher D. Survey responses: SI AfL-related InTASC standard and substandard 6 knowledge*

Connections Between Classroom Assessment, Equity, and TIPS

Teacher A. On the pre-survey, Teacher A responded "I don't know" to two out of the four prompts. On the post-survey, Teacher A did not respond with "I don't know" on any of the prompts. On the post-survey, in response to the prompt, *In your own words,*

what are the connections between student-involved assessment, equity, and TIPs? Teacher A stated, "Collaboration, relationship, respect, safety, choice, empowerment."

Teacher B. Teacher B's greatest shift in this section between pre- and post-survey responses was how she articulated her understanding of Trauma Informed Practices. On the post survey, she wrote,

> "I understand now my students who are affected by trauma can act differently and I need to be aware of when this happens. As an educator, this past semester, I have been more aware and more conscientious of the students who have past trauma in their lives. Being a caring educator who makes herself available has been my go-to way of running the classroom. Sitting with them and listening to them has been something I have done differently this semester. The way I present material, and the way I act, and react to students who have had or are experiencing trauma has changed this semester. The makeup of their little brains changes with trauma and by using best TIPs practices has moved their learning forward. If it means one step a day because the student has not been able to sleep I make sure to let them know it is still moving forward and I am proud they are doing it."

Teacher C. On the pre-survey, Teacher C did not know the district or school's goals for classroom assessment, equity, or TIPs. On the post-survey, Teacher C stated that "The new superintendent is focused on creating new goals that includes all students."

Teacher D. On the pre-survey, Teacher D responded "I don't know" to three out of four prompts. On the post-survey, Teacher D responded to all four prompts. He could

explain the connections and did so by stating, “Assessment is designed to meet the needs of the students. To give them the opportunity to feel successful. They should feel that an assessment has been catered to them and that they have been provided all of the tools to show growth in the areas being assessed. The assessment should be fair and reduce any roadblocks to success.”

Implementation Plan Standards of Focus with Survey Results

To further explore whether or not participants reporting increased knowledge in the InTASC standards that they picked for focus during their implementation plan work, I listed participants’ standards of focus next to their pre- and post-survey Likert scale responses for those standards (see Table 19). One participant reported growth in the Standard 3 focus, while three participants reported the same scores. All participants reported growth in the Standard 6 focus. No participants reported a decrease in knowledge.

Table 19

Participants’ Implementation Plan InTASC Standards of Focus with Corresponding Pre-and Post-Survey Likert-Scale Responses

Teacher	InTASC Standards of Focus	Standard 3 Pre	Standard 3 Post	Standard 6 Pre	Standard 6 Post
A	3k and 6m	4	4	2	4
B	3o and 6q	3	4	2	4
C	3o and 6m	4	4	3	4
D	3k and 6d	3	3	3	4

CHAPTER V

DISCUSSION

In this chapter, I will (a) discuss how the needs assessment responses informed the PD design and relate to the literature, (b) discuss how the study findings answer the research question and contribute to the literature, (c) explain other findings related to researcher recommendations, (d) acknowledge limitations, (e) explain how the responses, findings, and limitations can inform future practice and policy regarding professional development for teachers' classroom assessment mental model and knowledge, and (f) conclude with my plan for dissemination of findings.

Needs Assessment Analysis

Participants' teacher training, years of experience, and years in the district varied considerably (4-25 years); what united the participants was the desire to gain understanding about classroom assessment. Responses from both participants and site leaders mirrored prior research findings: participants had not previously experienced a training that integrated the topics of classroom assessment, equity, and TIPs. Teachers expressed that they had not attended integrated SI AfL, equity and TIPs trainings nor had they previously made the connections between the topics. School leader survey responses confirm researchers' findings as well as participants' reported information: separate trainings have been facilitated; however, teachers are still working on integrating and applying the information to update their knowledge as well as practices. This finding aligns to reports from Gotch and McLean (2019), Koh (2011), Randel et al. (2016), and Smith (2016), who identified that teachers may not implement both the letter and spirit of

SI AfL because too often classroom assessment PD is inconsistent, impractical, or inauthentic.

I used the information from the ODE site report card as well as participant and site leaders' needs assessment responses to inform the differentiated content and pacing of training experience (e.g., frontloading the screencast ahead of time; designing the implementation plan to be as flexible as possible; utilizing the one-on-one coaching design; and explicitly connecting the topics of previous trainings). The use of an asynchronous tool (screencast with guided notes) can add to the established literature because the approach was a specific strategy to apply researcher recommendations (Adie & Willis, 2016; Birenbaum, 2016; Braund & DeLuca, 2018; Booth et al., 2014) to connect theory and practice in practical, authentic ways that teachers do not perceive as an add-on.

In the student YouthTruth Likert scale responses (Table 12), more students responded favorably (clicked 4's or 5's) for the statement, *In most of my classes, I learn to correct my mistakes* than the question, *How many of your teachers are not just satisfied if you pass, they care if you're really learning*? Seventy-nine percent of students responded favorably (4's and 5's) to the correcting mistakes statement versus 61% responding favorably to the learning, not passing question. This pattern aligns to what researchers described as the struggle to implement both the letter (formal components) and the spirit (learner-centered intent) of SI AfL (Booth, Hill, & Dixon, 2014; Lysaght, 2015). Educators at the site are used to district policy that stresses allowing students to redo or retake assignments and assessments; however, the policy is not always paired with messages or strategies for implementing the learner-centered intent behind the

policy, which can translate into the erroneous message that students are allowed to retake or redo assignments for passing, not learning purposes. Thus, district educators and students may engage in retakes and redos for policy compliance purposes rather than for learning purposes. Because the number of positive responses was lower for the *learning, not passing* question than the *correcting mistakes* statement, during the PD experience, I emphasized how to notice compliance-oriented thinking patterns, which align to a business manager mindset, and shift to learning-oriented thinking patterns, which align to an empowerer mindset.

Themes in students' YouthTruth written responses (Table 13) included the desire for more rigorous and engaging learning experiences as well as a learning environment free from teasing. These themes from student responses align to the purposes of SI AfL (activate students as agents of their own learning) as well as researcher recommendations (DeLuca et al., 2018) to include student perspectives in the implementation of training. I used students' Likert scale scores and written response themes during the January whole group session to explicitly connect theory, standards, and organizational goals to what often interests and inspires teachers the most: the expressed perspectives and needs of students. I was also able to refer to the students' YouthTruth responses regarding rigor in two different conversations with participants. During the January whole group session as well as during one coaching session, participants anecdotally noticed a need to provide content challenges for ready students. I was able to confirm their observations by referring to the YouthTruth responses and ask how I could support exploring rigor in their context. Thus, I successfully integrated student voice into the teacher learning

experience, which was recommended by Charteris and Thomas (2016), DeLuca et al. (2018), Lysaght (2015), and Panadero et al. (2018).

Many schools or districts use a student climate survey such as YouthTruth but have not considered how to leverage the results to inform a specific training experience. My use of extant YouthTruth data to inform the professional development experience as well as to validate participants' observations suggests a viable way to include an aspect of student voice without disrupting the learning environment. This approach could contribute to the professional development literature through providing an example of how extant student survey responses can be repurposed when planning and implementing teacher professional development.

PD Results Analyzed by Research Question Components

How does an integrated professional development experience effect teachers' classroom assessment mindset?

I triangulated the data from multiple sources to conclude that participants' classroom assessment mindset was positively impacted by the integrated SI AfL professional development experience. Below, I will explain how I reached this conclusion. I will also explain how the findings relate as well as contribute to the literature.

Participants' Likert scale responses regarding classroom assessment mindset shifts did not reveal a clear, consistent pattern; however, participants' constructed-response written comments on the survey (pages 80-97), screencast guided note responses (Table 14), various whole group session verbal responses, and artifact reflections (pages 73-79) did reveal evidence of a greater awareness of or a shift in

mindset. These results (survey Likert scale responses inconsistent, yet evidence from other sources consistent) may indicate that the questions and/or the scale on the Likert section of the survey may need revision. This finding contributes to the literature because future researchers may decide to revise or forgo a Likert scale survey to explore classroom assessment mindset.

Although the Likert scale response for the mindset questions did not result in a clear pattern, participants clearly communicated mindset awareness or shifts through their written and verbal responses. For example, participants' overwhelmingly favorable responses to the "Big Ideas" screencast (see first course evaluation themes on Table 17) revealed that the approach successfully struck a balance between the "scientific and the practical worlds" so that participants could "create new practices based on both experiential and conceptual knowledge" (Lopez & Villabona, 2016, p. 175). Furthermore, during whole group activities in both January and March (such as the assessment mindset sort and the business manager model statement rephrasing exercise), participant responses demonstrated their understanding of the empowerer model and why the shift in mindset is important (see direct quotes on pages 64-65 and 70-71). Evidence that participants could examine mental models, rethink their practices, and develop new skills, suggests that an integrated SI AfL PD experience is a viable process that might support teachers to become "adaptive experts" (Earl, 2013, p. 4).

Participants were also able to articulate differences between the empowerer mindset underpinning their SI AfL implementation plan and the 19th/20th century business manager model influencing district and school practices (see coaching notes regarding district planning and PLC conversations as well as gradebook decisions on p.

67). Participants noticed the lingering contradictions in our systems; meanwhile, they were also able to state and plan for ways to grow SI AfL mindset and knowledge in their classrooms despite the contradictions (see Table 19). Participants' verbal and written responses suggest that I successfully used the recommendations of Andrade and Brookhart (2016), Charteris and Thomas (2016), Deneen et al (2019), and Stiggins (2017) to embed in the PD experience the opportunities to (a) welcome "unwanted truths" and incongruities, including the imbalance of current assessment systems, and (b) practice ways of updating assessment models and thinking patterns. The whole-group exercises designed for participants to categorize and reframe business model thoughts/statements into empowerer model thoughts and statements may contribute to the literature by providing examples of practical, hands-on, rethinking strategies for busy classroom practitioners.

How does an integrated professional development experience effect teachers' classroom assessment knowledge?

I triangulated the data from multiple sources to conclude that participants' classroom assessment knowledge was positively impacted by the integrated SI AfL professional development experience. Below, I will explain how I reached this conclusion. I will also explain how the findings relate as well as contribute to the literature.

Participants' Likert scale responses regarding their knowledge of SI AfL-related InTASC Standards 3 and 6 did reveal a clear pattern. There was a clear increase in reported knowledge between the pre- and post-survey; furthermore, no participants reported a decrease in knowledge. The increase in Likert scale responses was supported

by participants' written comments on the constructed response sections of the survey (pages 80-97), various verbal statements during group sessions, as well as the artifact reflection (pages 73-79). This evidence suggests that I successfully applied researcher recommendations (Andrade & Brookhart; Birenbaum, 2016; Deneen et al., 2019; DeLuca et al., 2016) to structure the PD as a scaffolded, differentiated, team-oriented, hands-on, and reflective knowledge building experience. My application of the research offers a specific PD approach that efficaciously supported SI AfL knowledge growth.

Future researchers or professional development facilitators may want to continue to gauge participants' SI AfL-related InTASC Standard 3 and Standard 6 knowledge. The practical, flexible, and monitored approach (participant choice of professional standards for focus; an implementation plan explicitly tied to professional standards of focus; a survey that checked for growth in the standards) can offer a specific standards-based method to other researchers or school leaders. A standards-based method of assessing and documenting professional growth contributes to research and practice. For licensing requirements and school accreditation plans, teachers must show how they are making progress in professional standards, and school leaders must show how PD supports growth in the standards. The integrated SI AfL PD methods and instruments used in this dissertation can support teachers and school leaders to meet these requirements.

Connections Between Classroom Assessment Equity, and TIPs

Before the integrated professional development experience, three out of four participants responded "I don't know" to survey prompts regarding the connections between classroom assessment, equity, and TIPs. I followed researcher recommendations (Gotch & McLean, 2019; Koh, 2011; Randel et al, 2016; Smith, 2016) to integrate

students' social, emotional, and cognitive needs into one PD experience. By the end of the professional development experience, all four participants could clearly articulate the connections (see survey written responses pages 80-97 and artifact reflections pages 73-79). Furthermore, no participants reported feeling overwhelmed or confused by the integration of topics. Therefore, my study can serve as a specific example of how training topics (classroom assessment, equity, and TIPs) that are often separated or siloed can be combined with positive results.

Analysis of Other Findings

Study participants. Originally, I planned to include just ELA and social studies teachers in this study to make sure I possessed the background knowledge and experience to best match participants' needs. Ultimately, the participants in my study included a science and a computer skills teacher in addition to an ELA and a social studies teacher. My initial concerns about the potential for a lack of alignment between my background and the needs of my participants proved unfounded. Regardless of subject area and grade level taught, the teachers who participated in the PD reported that the content and pacing of the experience was relevant (see course evaluation responses pages 72-73). This finding contributes to the literature because the content of the PD was structured yet flexible enough to be appropriate across four different middle school content areas.

I targeted secondary teachers in this study; however, one participant had both elementary and secondary experience. Her reflections regarding teaching in both elementary and secondary levels provide valuable insights. The participant observed that she did not need to shift practices; she needed to shift terminology. Her observation suggests the need for continued vertical K-12 alignment of SI AfL terminology so that

teacher and student confusion is minimized when either group changes grades or levels. This finding can contribute to the literature because it is a call for SI AfL information to flow in both directions of the K-12 continuum. Too often there can be top down flow of information (e.g., secondary teachers thinking or stating, "If elementary teachers would just…"); however, due to the realities and expectations of their context (e.g., teaching multiple subjects to targeted groupings of students), elementary teachers may already have updated classroom assessment mindsets and be better trained in differentiated, responsive instruction techniques that support both the letter and spirit of SI AfL. Secondary teachers may need to be supported in listening to and learning from elementary teachers' perspective, experience, and ideas more often. The idea of a K-12 SI AfL exchange is not something that I saw in the existing literature. Thus, the finding that such an exchange might be not only viable but useful may be a contribution to the literature.

Content, pacing, and length. Initially I was concerned about how participants would react to processing a large amount of theoretical material in a relatively short amount of time (December-March); however, teachers reported that the content of the PD experience, including the screencast and guided notes (introducing the big ideas of theory, the connections between theory and practice, and the integration of assessment, equity, and TIPs) was not excessive (see Tables 14 and 17). Participant responses reflected enthusiasm, affirmation, and empowerment. Therefore, the content, pacing, and length accomplished what Lopez and Villabona (2016) describe: a balance between the "scientific and the practical worlds" to "create new practices based on both experiential and conceptual knowledge (p. 175). The screencast and guided notes approach paired

with subsequent whole group and coaching sessions supported teachers as they used theory and experience to reflect on their classroom assessment identity (Coombs et al., 2018). The consistently favorable responses on the two course evaluations regarding organization, execution, pacing, atmosphere, facilitation techniques and variety, as well as value and importance of the PD content, which were consistent with the themes from participant artifact reflections (change in practice; nurtured relationships; small shift, big benefit) adds to the literature by providing a specific PD course example that covered an enormous amount of theoretical content in a way that was digestible, responsive, and inspiring to busy classroom practitioners.

As planned, I offered all participants at least two one-on-one coaching sessions if they felt they would be useful. Again, due to mitigating circumstances, including full calendars and scheduling constraints, each participant received only one coaching session. The participants' verbal responses (eagerness to implement ideas right away; lack of evidence of confusion or unanswered questions) and written feedback on the second course evaluation (see Table 18) indicated that they were satisfied with the content of the session and that one session was enough for the timeframe of the experience. No participants reported disliking the coaching session, nor did they state a desire for more coaching sessions. I heeded the recommendation of Panadero et al. (2016) to make sure that the PD was well designed so that the experience did not "consume valuable classroom time without necessarily contributing effectively to student learning" (p. 323).

I think participants' "just right" feedback relates to the recommendations of Adie and Willis (2016), Birenbaum (2016), Booth, Hill and Dixon (2014), Lysaght and

O'Leary (2017), and Hill (2011). Teachers' plates are full. The facilitator must know the context and participants well enough to find the balance between provided support and becoming an extra burden, add-on, or have-to. I did use a coaching session outline (see Appendix M); however, I used the outline flexibly. The coaching session content, quantity, time amount, mode of communication, and scheduling in this study were all responsive to the teachers' needs. This responsiveness contributed to positive feedback from the participants (course evaluations) and validated the researcher recommendations cited above. The coaching outline and examples of flexible use contribute a specific *in situ* application of the literature recommendations.

Accountability pressure. The screencast and whole-group session content explicitly addressed the realities of accountability pressure. I used Stiggins (2017) balanced assessment system ideas to reassure participants that large-scale assessments do have a time and place. Furthermore, as Deneen et al. (2019) recommended, the PD content directly addressed the mismatch of accountability pressures and theory-based classroom assessment expectations. To rebuff the pressure of accountability and keep the focus on aspects of learning that were in teachers' locus of control, as Andrade and Brookhart (2016) recommended, I designed the PD to be as student-centered and participatory as possible. As demonstrated by the responses on the course evaluations, participants responded favorably to this approach.

Accountability pressure arose when participants noticed business manager model-oriented statements in district meetings and when one participant felt she needed to shift her planned schedule for SI AfL implementation to accommodate SBAC practice (see coaching results on pages 66-69). Just as researchers (Charteris & Thomas, 2016; Deneen

et al., 2019; Stiggins, 2017) recommended, I acknowledged the pressure, modeled how to reframe the business manager-oriented statements, and suggested how SI AfL strategy can be embedded within the SBAC preparation. Teachers demonstrated that they knew how to reframe the structuralist-oriented statements in both the March focus group activity (see p. 71) and in the artifact reflection (see pages 73-79).

Successfully modeling how to reframe business manager-oriented statements (activity from March focus group session) contributes to the literature by providing a specific, practical tool that teachers and leaders can use in twenty minutes to apply researcher recommendations (acknowledge accountability pressure and find ways to shift to the empowerer model). The suggestion to embed the SI AfL strategy within the large-scale summative assessment preparation can add to the literature because, as Stiggins (2017) writes, large scale summative assessments are part of a balanced assessment system; the tests can be valuable when used appropriately. Teachers do not need to stop using SI AfL strategies to prepare for SBAC or other large-scale summative assessments; there does not need to be an either-or mentality. SI AfL strategies can be embedded in the preparation, but teachers need further practical support with this idea.

Professional development learning environment. The participants' positive responses (i.e., smiles and expressions of gratitude) to beginning the coaching session with "Hi, how are you?" questions as well as a snack confirms that the approach set the tone for a supportive, non-evaluative professional learning environment even when meeting in a one-on-one coaching setting. Throughout the session, I verbally acknowledged when participants' questions, ideas, or answers aligned to improvement science community mindsets (e.g., start small, fail forward). This approach helped ensure

that the learning and growth focus (rather than evaluative focus) was maintained throughout the experience. Being flexible with the coaching session time (i.e., ending the session when participants articulated readiness for next steps, not holding them for a prescribed time) reinforced that the PD was responsive to participants' needs as well as their busy schedules. Thus, participants "felt" the student-involved learning environment conditions and formative assessment processes in a differentiated PD setting, which aligns to the recommendations of Andrade and Brookhart (2016), Braund and DeLuca (2018), DeLuca et al., (2016), Hill (2011), Laveault (2016), Lopez and Villabona (2016), Panadero et al. (2016) and Smith (2016). The introduction of strategies, use of improvement science community mindsets, and flexibility with coaching session time are specific techniques that subsequent researchers or PD facilitators can use to maintain a responsive and relevant PD experience.

As several researchers stated (Andrade & Brookhart, 2016; Braund & DeLuca, 2018; DeLuca et al., 2016; Hill, 2011; Laveault, 2016; Lopez & Villabona, 2016; Pandadero et al., 2016; Smith, 2016), teachers also need a high-trust, positive, collaborative, and differentiated PD setting where it is safe to take risks. Teachers, especially those at the secondary level, also need classroom assessment and learning environment strategies explicitly modeled and practiced in PD settings so that they can use the techniques with students (DeLuca et al., 2018). The participants' positive responses as well as evidence from implementation plans demonstrate that I was successfully able to apply researchers' recommendations. For example, when two participants acknowledged classroom climate challenges during coaching and whole group sessions, they demonstrated the willingness to be vulnerable, and they

demonstrated understanding of the connections between learning environment and academic success. Furthermore, the different learning space for the March focus group session (district meeting room instead of site classroom) did not seem to affect participants' engagement in the content. Participants' powerful social and emotional responses during the warm up (Lemonade Stoke) as well as consistent positive feedback between the first and second course evaluations (see pages 72-73) provides evidence of successful establishment of a high-trust, collaborative environment and modeling of "empowerer" strategies. In addition, participants reported successful use of empowerer strategies with their students (see artifact reflections pages 73-79). Thus, the content and structure of the SI AfL PD experience contributes to the literature an example of efficacious practical application of researcher recommendations.

Reflexivity

Because qualitative research is interpretive, one must acknowledge biases, values, and personal background that influence the research process (Creswell & Creswell, 2018). Furthermore, the researcher must recognize how access to the site and potential ethical issues may impact interpretations during the study. Because my study was "a sustained and intensive experience with participants," in order for the reader to make informed conclusions, I used reflexivity to explore my biases, values, personal background, as well as possible ethical issues.

Past experiences. I was born and raised in the town in which the study took place. I have worked in the district for fourteen years and at the study site for nearly two years. I addition, I attended the site as a middle school student in the early nineties. All three of my children attend schools in the district: one child attended the site school and

is now in high school; one child is currently a seventh-grade student at the site; one child may be a student at the site in the future (she is currently a second grader).

The specific research question at the heart of this study is new; however, for the last six years I have been immersed in other studies and professional development experiences related to assessment literacy, formative assessment, and school improvement. As previously mentioned, I have worked as a student and facilitator with OEA's CGPS on various projects including crafting microcredentials for asynchronous professional development as well as co-presenting sessions at the OEA annual summer conference regarding topics such as clear learning targets, sound assessment design, and improvement science. In the University of Oregon D.Ed. program, I completed courses that included topics related to assessment literacy and formative assessment (e.g., Measurement and Assessment; Evidence-based Decision Making; Data-based Decision Making). Furthermore, when given the opportunity to choose project topics in my courses, I chose to explore issues related to classroom assessment professional development (e.g., validity of extant assessment literacy survey; program evaluation of AfL PD). For the past year and a half, I have collaborated with the site principal and instructional coach to craft, facilitate, and reflect on AfL-related professional development lessons in site staff meetings (e.g., how to use student learning trackers and other strategies to involve students in the learning process).

Experiences shape interpretations. My interpretations of this study's results are influenced by my personal and professional passion as well as experience. The school site in which the study occurred is both personally and professionally meaningful to me; therefore, I am more likely to look for positive, optimistic study outcomes. Because I

have been previously trained and employed by the OEA CGPS to deliver AfL PD, my approach to classroom assessment PD response interpretation is influenced by the organization's approach and values. For example, I may interpret SI AfL PD participant responses with improvement science community mindsets in mind (e.g., failing forward and possibly wrong, definitely incomplete), rather than a dispassionate research methods point of view. Lastly, because I have been engaged in training the site staff in classroom assessment strategies, my interpretation of this study's results may be influenced by perspectives from or connections to earlier staff training sessions at the site.

Contradictory Themes and Information

Miles, Huberman, and Saldaña (2020) state that qualitative researchers must consider and examine "competing hypotheses or rival conclusions" (p. 305). One competing hypothesis or conclusion for this study includes the idea that participants already had an empowerer model mindset and knowledge but not the words for it. Perhaps participants did not shift in classroom assessment models or knowledge; they just built vocabulary to describe their existing models and knowledge. For example, in the screencast guided notes responses (see Table 14), two participants stated that they were already familiar with the models. Furthermore, in their pre-survey Likert scale responses and written comments (see p. 76 and 77), Teachers C and D already demonstrated an empowerer model way of thinking. Before the training started, Teacher A expressed that she did not know classroom assessment systems and wording for the secondary level; however, through conversations and written prompts, Teacher A connected her elementary experience and terminology to secondary systems and terminology. Perhaps

participants already possessed SI AfL mindset and knowledge; what they actually gained was SI AfL validation and confidence as well as terminology clarity.

In discussing the effect of the PD experience on participants' classroom assessment mindset, I concluded that the Likert scale survey prompt responses did not show a clear pattern of effect; however, a rival conclusion could be that the unclear pattern *was* the effect. It is possible that the results of the other sources of data, such as survey written comments, group session verbal responses, and artifact reflections, are skewed because of self-reporting and social desirability threats. I must consider that the other sources of data contain bias, and I could be misinterpreting the Likert scale survey response results.

Implications and Recommendations

The main purpose of this case study was to explore the impact of an integrated professional development experience on teachers' classroom assessment mindset and knowledge. As described in the literature review, although the benefits of empowerer-aligned classroom assessment are well known, successfully implementing SI AfL remains challenging. My descriptive study is one small part of the implementation process that needs further exploration.

Future Research

My study was designed to elicit the responses of four teachers in one southern Oregon middle school who experienced an integrated SI AfL PD experience during the 2019-2020 school year. The sample was small, purposive, and convenient; participants volunteered. Future studies could include teachers in different grade levels and content areas (e.g., high school levels and courses) as well as explore how to "hook" teachers

who may be reluctant to engage (e.g., teachers who may think the training is "just another initiative" or who are overwhelmed by "latest trends"). The experiences of teachers from different schools, districts, and/or states could also be compared for further understanding of the integrated approach effects. Future studies could also explore how best to sustain and scale up such professional development initiatives. For example, the blend of whole group and coaching sessions seemed to work for the participants in this case study; however, it is unclear the extent to which this blend would work for other groups or for groups with more than four participants. The participants in this study reported that there was enough coaching support and time to implement a small change idea; however, it is unclear whether other groups would report the same. This study included a three-month snapshot of PD effects; future studies could explore if the effects of an integrated SI AfL PD experience lingered, grew, or dissipated over a longer stretch of time.

There appeared to be more self-reported growth in SI AfL-related InTASC Standard 6 knowledge than InTASC Standard 3 knowledge. Evidence for this pattern is supported by participants' pre and post survey Likert scale responses (see Figures 16-19 compared to Figures 20-23). Future researchers could examine whether or not this difference between learning environment knowledge and classroom assessment knowledge is a pattern for teachers. If it is a pattern, researchers could further explore why there is a difference and if the difference has any effect on whether or not teachers are able to be empowerers.

I collected, coded, and analyzed themes from teachers' artifact reflections. Future researchers could also create and use an InTASC Standards 3 and 6 artifact scoring tool (e.g., rubric) to compare teachers' artifact reflections to artifact scores. A team of scorers

could be calibrated to give objective evaluation of the artifacts based on established rubric criteria. Comparing self-reported data (teachers' reflection themes) to artifact rubric scores generated by a team of calibrated scorers could add additional depth and integrity to the examination of the effects of an integrated SI AfL PD experience.

In this study, I focused on in-service teachers; however, during the January whole group session, one participant asked, "Why don't we [teachers] get this information in teacher preparation programs or other trainings?" This participant's question reflects the previously-reported lack of classroom assessment preparation in teacher preservice programs (Coombs, DeLuca, LaPointe-McEwan, Chalas, 2017; Xu & Brown, 2016). A future study could explore the effects of an integrated SI AfL PD experience modified for preservice teachers.

Because of time constraints related to completing my dissertation, my design focused almost exclusively on data from teachers. I was able to capture a small amount of student perspective through extant YouthTruth survey responses. However, to more thoroughly follow researcher recommendations (Charteris & Thomas, 2016; DeLuca et al., 2018; Lysaght, 2015; Marsh et al., 2016; Panadero et al., 2018), subsequent studies should include a more thorough integration of students' voices regarding SI AfL mindset and knowledge. On the pre- and post-survey, I asked teachers what they thought students would say are the purpose and roles of classroom assessment. Several responses indicated that students' classroom assessment mindset may be rooted in a business manager model (for example the purpose of classroom assessment or the role of the student is "to get good grades.") Future research could gather a more thorough exploration of students' perspectives and mindsets through interview, observation, and school work. Follow up

studies could also explore the impact of an integrated SI AfL professional development experience on student SI AfL mindset and knowledge, as well as success indicators such as attendance, learning growth, and summative test scores.

Students were not involved in the case study professional development sessions; however, future studies could include student participants. Involving students in the PD sessions could be mutually beneficial. Teachers could hear directly from students regarding issues of classroom assessment, equity, and TIPs, and students could explore mindset and gain knowledge concerning SI AfL. Teachers and students could listen and learn from each other through exercises such as Fishbowl and Restorative Circles. Having teachers and students directly communicate and learn from each other in PD sessions would underscore the student-centered intent of SI AfL

In this particular case study, the site leaders (principal and instructional coach) had previous knowledge and training related to SI AfL. They also co-facilitated previous site book studies and PD sessions. Other sites may not have leaders so immersed in or enthusiastic about SI AfL. Lack of leader SI AfL knowledge or support can be a barrier for teacher training. As noted in the literature, there are challenges when principals and school leaders lack assessment literacy skills and/or assessment leadership capacity (Hill, 2011; Laveault, 2016; Smith, 2016; Zeng, Huang, Yu, & Chen, 2018). Therefore, follow up studies could include the effect of an integrated SI AfL training on the mindset and knowledge of site leaders.

In the second PD course evaluation, one teacher suggested that participants meet to swap strategies and observe each other between whole-group sessions. This is an idea that aligns to the recommendations of Andrade and Brookhart (2016), Birenbaum (2016),

and Deneen et al. (2018). The participant's suggestion supports these researchers' call for hands-on observation and practice in a high-trust, collaborative, embedded learning environment. The teacher's suggestion (have participants observe each other) is a specific approach that could be explored in future studies.

Studying whether or not the integrated SI AfL PD experience impacted teacher practice was beyond the scope of this study; however, there is evidence that this study did cause participants to start to change their practice (see quotes from artifact reflections pages 73-79). Future studies could further explore (a) whether the PD experience did have an effect on teacher practice and (b) whether the effect is sustained over time.

Including the perspective of parent/family and community members was beyond the scope of this study. Therefore, future studies should include parent/family and community members so that updated classroom assessment information as well as tools are aligned across multiple groups that support student success. Alignment of information between stakeholder groups could minimize conflicting mindsets and messages. If parents/families and community members are equipped with updated classroom assessment information as well as tools, they also become empowered to activate students as owners of learning. Empowering parents/families and community stakeholders, including those who have experienced disparity and/or ACEs, with updated classroom assessment information and tools can contribute to ameliorating educational discrepancies.

Because this was an exploratory descriptive study, tools such as the pre- and post-survey were new, untested instruments. Subsequent researchers could further explore the reliability and validity of instruments that measure classroom assessment mindset and

knowledge. With instruments tested for technical adequacy, future studies could include quantitative analysis, which would further triangulate data and contribute to a clearer picture regarding the relationship between educator classroom assessment mindset and knowledge and/or the effect of SI AfL PD on educator classroom assessment mindset and knowledge.

Classroom, School, and District Practice

Classroom. Despite lingering business manager model systems and practices, including accountability pressure, teachers can continue to make changes that align to the empowerer model. The four teachers in my case study were extremely busy, yet through small, practical, and supported steps they were still able to successfully explore their classroom assessment mindset, grow in two InTASC standards (3 and 6), and make connections between assessment, equity, and TIPs without showing signs of overwhelm or aversion. Participants experienced success and expressed relief as well as enablement. With this assurance, teachers can feel confident that an integrated SI AfL PD experience will support them in the journey to become "empowerers" – educators who effectively implement both the letter and spirit of SI AfL. As more teachers experience SI AfL PD, students, including those who have experienced disparity and/or ACEs, will be able to fully realize the promises of classroom assessment and become agents of their own learning.

School and District. School and district leaders can also continue to make changes that align to the empowerer model. During whole group and coaching sessions, more than one participant verbalized how they noticed evidence of the two classroom assessment mindsets emerging at school and district leadership meetings. If school and

district leaders can be trained to recognize evidence of the two mindsets, they will be more likely to interrupt systems and practices that perpetuate the business manager model; precious time and energy can be reinvested in building as well as implementing robust empowerer-based systems and practices. School and district leaders can also follow the state policy suggestions regarding time and future exploration below.

State Policy

In order for current and future educational decisions to align with professional standards of practice such as InTASC standards 3 and 6 as well as equity and TIPs goals, state policy makers need classroom assessment mindset and knowledge training. Even if teachers and leaders are able to continue updating their classroom assessment mindset and knowledge, if state policy makers are not also trained, systems will remain contradictory (e.g., classroom systems may get updated to the empowerer model, yet state systems may remain in the business manager model). Contradictory policy decisions create barriers and frustration as well as disparity and adverse learning experiences. For example, without knowledge of the difference between classroom assessment models, state policy makers may maintain or contribute to accountability pressure which can undermine educators' hard work to shift classroom assessment mindset and knowledge to the empowerer model. To interrupt and prevent contradictory policy and practice, I recommend a classroom assessment mental model and knowledge training experience tailored to state policy makers.

Shifting classroom assessment mindsets and building knowledge takes time as well as practice. Unfortunately, competition for time in the school day is fierce. For example, finding 3-5 participants to sign up for this case study took longer than planned

because teachers were quite busy or even overwhelmed with their normal job expectations plus involvement in other training mandates, extracurricular duties, and cumulative weariness from adding yet another task without something else removed from the long list of responsibilities. In addition, because of substitute teacher constraints, one participant was unable to attend the March focus group session. One participant suggested that teachers observe each other to gain SI AfL knowledge; however, the logistics needed for peer observation, especially with unpredictable substitute teacher coverage, are complicated.

After state policy makers are trained in shifting from a business manager model to an empowerer model of classroom assessment, they can engage in decision-making that updates systems and logistics so that educators have the time and resources to shift mindset, build knowledge, gain hands-on practice (including observing one another as one participant requested), and experience built-in support – conditions that make implementing the both the letter and spirit of SI AfL possible. I recommend that state policy makers also learn from systems and organizations that have already made classroom assessment mindset and knowledge implementation shifts. For example, U.S. state policy makers may benefit from studying how policy makers and educational leaders in New Zealand, Australia, and Asia have already embraced *assessment for learning* and are now working on making *assessment as learning* possible.

Dissemination of Study Responses and Findings

I plan to share the responses and findings from this descriptive case study with several different audiences. First, I will share with the study participants as well as site and district leaders. Next, I will share with state leaders from groups such as the Oregon

Department of Education and OEA CGPS. I also plan to disseminate the responses and findings from my study by submitting a proposal to present at an ASCD conference, which will involve (a) monitoring the ASCD website for upcoming conference opportunities, (b) selecting a conference opportunity with a theme that aligns with the topic of SI AfL, and (c) crafting and submitting a proposal by the ASCD conference due date. By sharing the study responses and findings with several audiences, I hope to inspire other researchers, practitioners, and policy makers to continue the hard work of shifting stakeholders' classroom assessment mindset as well as knowledge to the empowerer model so that students experience the benefits of both the letter and spirit of SI AfL.

APPENDIX A

PARTICIPANT NEEDS ASSESSMENT QUESTIONS

SI AfL PD Teacher Needs Assessment

Thank you for participating in the student-involved assessment for learning training. In order to know your background and to support your learning, please complete the questionnaire below. The questions should take between 15-20 minutes to complete. If you have any questions, please email erin.beard@medford.k12.or.us

* Required

1. First and last name: *
2. Gender identity: *
3. Race(s)/ethnicity(ies) identity: *
4. Name(s) and place(s) of teacher preperation program(s) (e.g. SOU MAT; UofO M.Ed.): *
5. Including this year, how many years, total, have you been teaching? *
6. Including this year, how many years have you taught in the Medford School District? *
7. What is your current teaching role? Please include content area(s), grade level(s), and school site(s). *
8. Please describe the amount or type of training you have received related to classroom assessment, equity, or trauma informed practices (TIPs). If you have not received training, please write "No training." *
9. Please share your reason(s) for signing up for this PD experience. *
10. Please describe what you hope to gain from this PD experience. *

11. By participating in this training, you can choose to earn PDUs or graduate credits or get paid for your time outside of the school day. Which incentive do you prefer? *

Mark only one oval.

- ◯ PDUs
- ◯ graduate credits
- ◯ pay for time (work completed outside of regular work day; timesheet curriculum rate)
- ◯ I have no preference

12. Part of this training will include two whole-group sessions (one full day; one two hour wrap up session). Describe whole group learning environment conditions that help you learn best. *

13. The first whole group session will occur in the first half of January. The session will be one school day and a sub will be provided. I will schedule the whole group session around participants' schedules. Please let me know your January whole group session date preference(s) and/or let me know the January dates I should avoid. *

14. To the first whole group session in January, you will bring a classroom artifact -- an example (e.g. handout, picture, description) of how you already use student-involved assessment in your classroom. In the space below, write an idea of an artifact that you could bring. *

15. Part of this training will include at least two one-on-one coaching sessions. What time frame would work best for your 60-90 minute coaching sessions? *

Mark only one oval.

- ◯ After school between 4p and 6p
- ◯ Saturday between 9-11a
- ◯ Saturday between 3-5p
- ◯ Saturday between 7-9p
- ◯ Sunday between 9-11a
- ◯ Sunday between 3-5p
- ◯ Sunday between 7-9p

16. What format would you prefer we use for your 60-90 minute coaching sessions? *

Mark only one oval.

- ◯ Phone
- ◯ Face-to-face in classroom
- ◯ Online video chat with the ability to share screens/documents (e.g., Zoom)
- ◯ No preference

17. Please list any snack/beverage preferences or allergies you have.

18. Please share anything else you want me, the PD facilitator, to know about you, your professional needs, or your learning needs.

APPENDIX B

SITE LEADER NEEDS ASSESSMENT QUESTIONS

SI AfL School/Instructional Leader Questionnaire

Congratulations! A teacher in your school is participating in the student-involved assessment for learning (SI AfL) professional development training. To make sure the training fits the teacher's and your student's needs as much as possible, please answer the questions below by December 18th.20

* Required

1. Your name, site(s), and role(s): *

2. What are your school's or district's goals for the topics below? If you don't know, please write "I don't know." Topics: Student involved classroom assessment, equity, trauma informed practices *

3. Please describe the amount/type of training the school or district has provided related to the topics listed below. If the school or district has not provided training, please write "No training." Topics: student involved classroom assessment, equity, trauma informed practices *

4. What do you think your students would say is the purpose of classroom assessment? *

5. What do you think your students would say is the teacher's role in classroom assessment? *

6. What do you think your students would say is their role in classroom assessment? *

7. Please describe what you hope teachers will gain from this PD experience regarding student-involved classroom assessment. *

8. Please explain anything else that you think would help make the student-involved assessment for learning PD experience useful and meaningful for your teachers and students. *

APPENDIX C

PRE AND POST TRAINING SURVEY

SI AfL Pre Questionnaire

Thank you very much for participating in this study! Below is a pre-professional development questionnaire. The intent of the questionnaire is to gather baseline information regarding classroom assessment mindset and knowledge. In other words, your answers are NOT used for evaluation or judgment! Your answers will be used to shape the focus of the PD as well as to celebrate your professional growth.

* Required

1. Email address *

_____

Purpose of Classroom Assessment

Think about the purposes of classroom assessment. Based on your understanding of classroom assessment purposes, please rank each statement by level of importance to you: 0 = not important/not a purpose; 1 = not an important purpose; 2 = moderately important purpose; 3 = important purpose; 4 = extremely important purpose

2. Evaluate students' achievement in class (e.g. generate scores and grades for report card) *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

3. Generate learning evidence and feedback for use by teachers and students *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

4. Practice for standardized tests *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

5. Build relationships with students *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

6. Motivate and support students to become owners of learning *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

7. Provide data to rank students by demonstrated achievement level *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

8. Move student learning forward *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

9. Prove that required standards and/or curriculum were taught *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

10. Use with students as "carrot" or "stick" (e.g. good grades are a reward for listening to what's taught; low grades are a consequence for not listening to what's taught) *

Mark only one oval.

	0	1	2	3	4	
not a purpose of classroom assessment	◯	◯	◯	◯	◯	extremely important purpose of classroom assessment

11. Other purposes of classroom assessment and/or comments that explain responses above:

_____
_____
_____
_____
_____

12. What do you think your students would say is the purpose of classroom assessment?

_____
_____
_____
_____
_____

Teacher Role in Classroom Assessment

Think about the role of the teacher in classroom assessment. Based on your understanding of the teacher's role in classroom assessment, please rank each statement by level of importance to you: 0 = not important/not a role; 1 = low importance; 2 = moderately important; 3 = important; 4 = extremely important

13. Clarify learning intentions and criteria for success *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

14. Report student achievement (grades) *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

15. Engineer an environment and tasks that motivate students to demonstrate their learning *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

16. Provide feedback that moves learners forward *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

17. Provide data to rank students by demonstrated achievement level *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

18. Teach and test the required standards and/or curriculum *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

19. Develop students as owners of learning *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

20. Listen to and use students' feedback and assessment results to inform next steps *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

21. Rewarding students with good grades when they listen to what's taught; giving low grades as consequence when students don't listen to what's taught *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment teacher role	◯	◯	◯	◯	◯	extremely important classroom assessment teacher role

22. Other classroom assessment teacher role(s) and/or explanation of responses above *

_____
_____
_____
_____
_____

23. What do you think your students would say is the teacher's role in classroom assessment? *

Student Role in Classroom Assessment

Think about the role of the student in classroom assessment. Based on your understanding of the student's role in classroom assessment, please rank each statement by level of importance to you: 0 = not important/not a role; 1 = low importance; 2 = moderately important; 3 = important; 4 = extremely important

24. Complete and turn in classroom assessments *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

25. Participate in understanding learning intentions and criteria for success *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

26. Follow classroom assessment directions and class rules *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

27. Turn in work on time *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

28. Use feedback from teacher, peer, and self to move forward in learning *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

29. Develop as owners of learning and members of a learning team (e.g. able to provide effective peer and self feedback) *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

30. Listen to what's taught to earn good grades *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

31. Contribute to an environment that motivates self and peers to learn *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

32. Demonstrate intelligence to teacher and peers *

Mark only one oval.

	0	1	2	3	4	
not important/not a classroom assessment student role	◯	◯	◯	◯	◯	extremely important classroom assessment student role

33. Other classroom assessment student role(s) and/or explanation of responses above

34. What do you think your students would say is their role in classroom assessment? *

Classroom Assessment Artifact

35. Describe your student-involved classroom assessment artifact. Be as detailed as possible in describing how you and the students used the tool and/or process. *

Classroom Assessment -- Learning Environment Knowledge

The following statements are from InTASC professional standard 3 regarding learning environments that establish conditions for successful classroom assessment. Rank the following learning environment statements in order of your knowledge level: 0 = I do not know anything about this; 1 = I know a little about this; 2 = I know a moderate amount about this; 3 = I know quite a bit about this; 4 = I know a great deal about this

36. Standard 3i: I know how to work with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

37. Standard 3a: I know how to collaborate with learners, families, and colleagues to build a safe, positive learning climate of openness, mutual respect, support, and inquiry. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

38. Standard 3d: I know how to manage the learning environment to actively and equitably engage learners by organizing, allocating, and coordinating the resources of time, space, and learners' attention. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

39. Standard 3k: I know how to collaborate with learners to establish and monitor elements of a safe and productive learning environment including norms, expectations, routines, and organizational structures. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

40. Standard 3l: I understand how learner diversity can affect communication, and I know how to communicate effectively in differing environments. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

41. Standard 3o: I know the value of the role of learners in promoting each other's learning and recognize the importance of peer relationships in establishing a climate of learning. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

42. Standard 3r: I know how to be a thoughtful and responsive student listener and observer. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

43. Other learning environment knowledge and/or explanation of responses above

Student-Involved Assessment Knowledge

The following statements are from InTASC professional standard 6 that relate to student involved classroom assessment. Rank the following learning environment statements in order of your knowledge level: 0 = I do not know anything about this; 1 = I know a little about this; 2 = I know a moderate amount about this; 3 = I know quite a bit about this; 4 = I know a great deal about this

44. Standard 6i: I know how to use multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

45. Standard 6d: I know how to engage learners in understanding and identifying quality work. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

46. Standard 6d: I know how to provide students with effective descriptive feedback to guide students' progress toward quality work. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

47. Standard 6f: I know how to model processes that guide learners in examining their own thinking and learning. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

48. Standard 6f: I know how to structure processes that guide learners in examining the performance of others. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

49. Standard 6m: I know when and how to engage learners in analyzing their own assessment results. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

50. Standard 6m: I know how to help students to set goals for their own learning. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

51. Standard 6q: I know how to develop each learner's capacity to review and communicate about their own progress and learning. *

Mark only one oval.

	0	1	2	3	4	
I do not know anything about this	◯	◯	◯	◯	◯	I know a great deal about this

52. Other student-involved assessment knowledge and/or explanation of responses above

Student-Involved Classroom Assessment, Equity, and Trauma Informed Practices (TIPs)

53. In your own words, what is educational equity? If you don't know, write "I don't know." *

54. In your own words, what are trauma informed practices (TIPs)? If you don't know, write "I don't know." *

55. In your own words, what are the connections between student-involved assessment, equity, and TIPs? If you don't know, write "I don't know." *

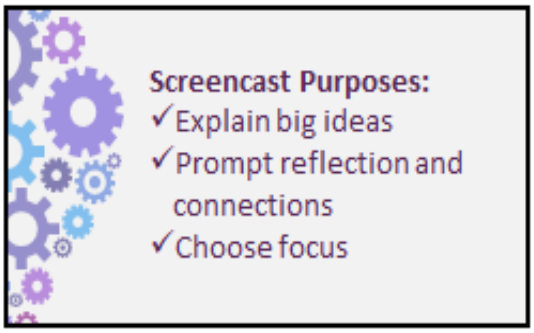
56. What are your school's or district's goals for classroom assessment, equity, and trauma informed practices (TIPs)? If you don't know, please write "I don't know." *

APPENDIX D

PRE-TRAINING SCREENCAST SLIDE DECK

1

2



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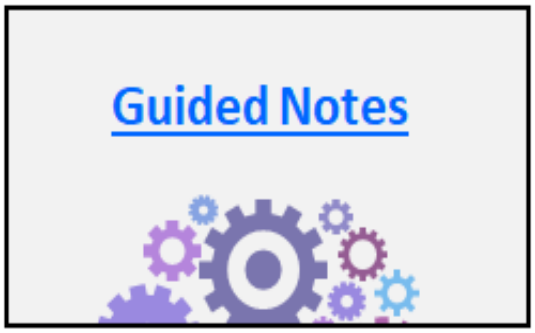

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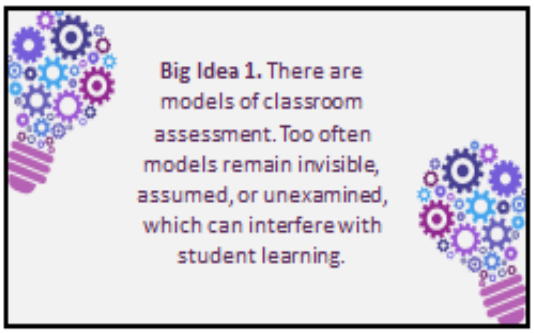

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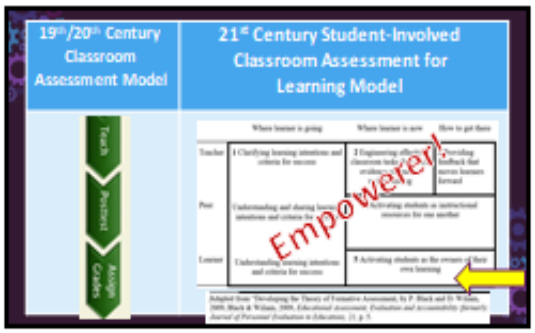

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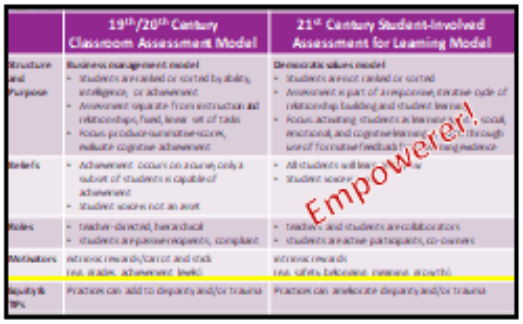
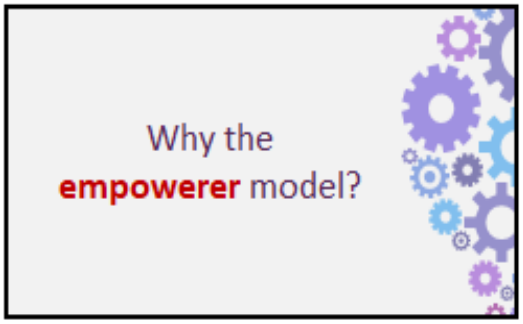

19th/20th Century Classroom Assessment Model
21st Century Student-Involved Assessment for Learning Model
Empowerer!

7


The Competent Educator
The teacher or administrator demonstrates a commitment to:
1. Recognize the worth and dignity of all persons and respect for each individual;
2. Encourage scholarship;
3. Promote democratic and inclusive citizenship;
4. Raise educational standards;
5. Use professional judgment;
6. Promote equitable learning opportunities.
TSPC Standards for Competent and Ethical Practice

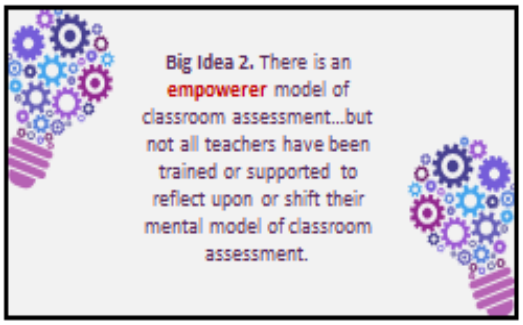
8


Why the
empowerer model?

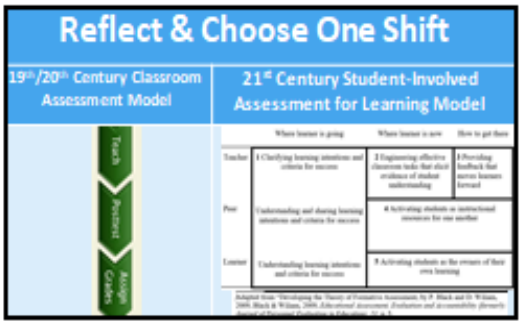
9


The More You Know
Congratulations! You now have a visible, examined, and up-to-date model of classroom assessment. With the empowerer model as an anchor, we can reflect on our current mindset and choose relevant ways to continue mindset shifts.

10


Big Idea 2. There is an empowerer model of classroom assessment…but not all teachers have been trained or supported to reflect upon or shift their mental model of classroom assessment.

11


Reflect & Choose One Shift
19th/20th Century Classroom Assessment Model
21st Century Student-Involved Assessment for Learning Model
Teach
Practice
Assign Grades

12

	19th/20th Century Classroom Assessment Model	21st Century Student-Involved Assessment for Learning Model
Structure and Purpose	Business management model • Students are ranked or sorted by ability, intelligence, or achievement • Assessment separate from instruction and relationships; fixed, linear set of tasks • Focus: product-oriented score, mastery cognitive achievement	Democratic values model • Students are not ranked or sorted • Assessment is part of a responsive, iterative cycle of relationship building and student learning • Focus: activating students as learning agents; social, emotional, and cognitive learning; growth through use of formative feedback from learning evidence
Beliefs	• Achievement occurs on a curve; only a subset of students is capable of achievement • Students' scores sort an event	• All students will learn and grow • Students' scores assist
Roles	• Teacher-directed, hierarchical • Students are passive recipients, compliant	• Teachers and students are collaborators • Students are active participants, co-owners
Motivators	extrinsic rewards/carrot and stick (eg. grades, achievement levels)	extrinsic rewards (eg. safety, belonging, meaning, growth)
Equity & SPs	Practices can add to disparity and/or trauma	Practices can ameliorate disparity and/or trauma

13

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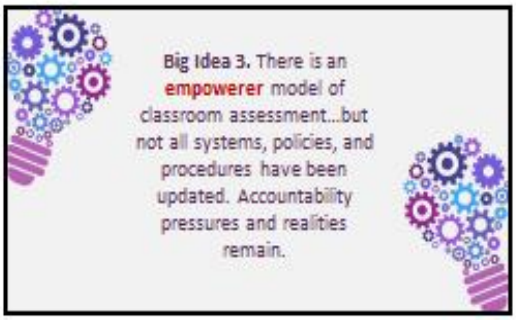

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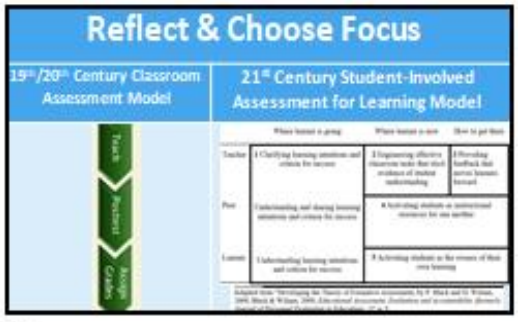

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	19th/20th Century Classroom Assessment Model	21st Century Student-Involved Assessment for Learning Model
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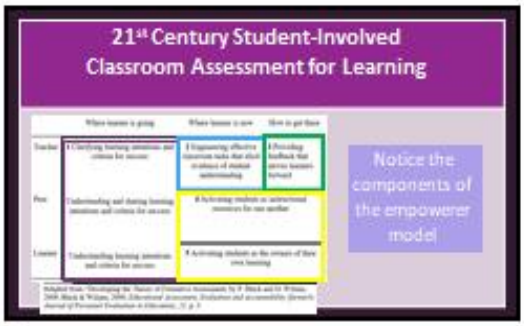

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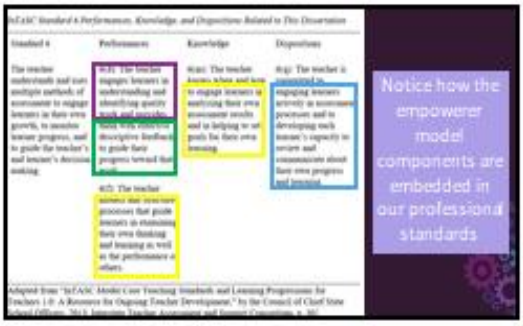

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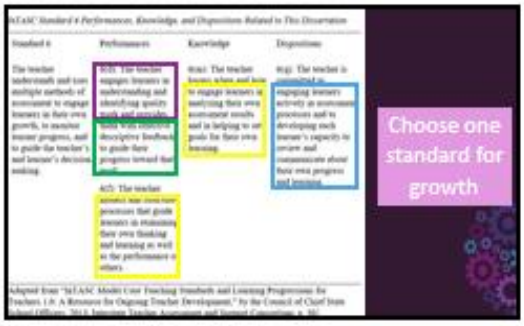

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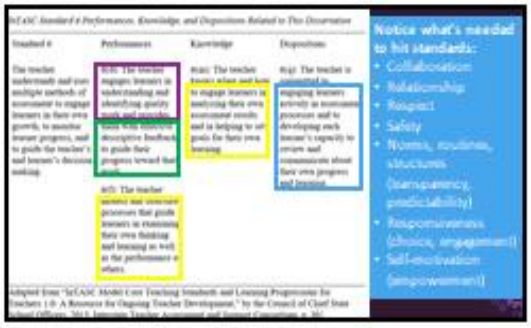

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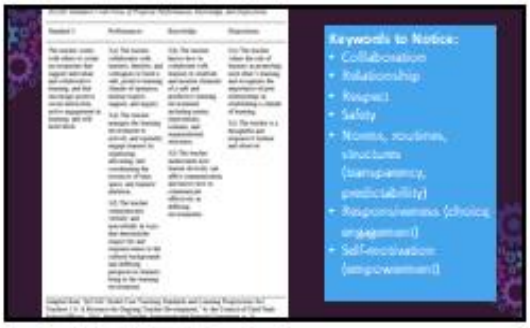

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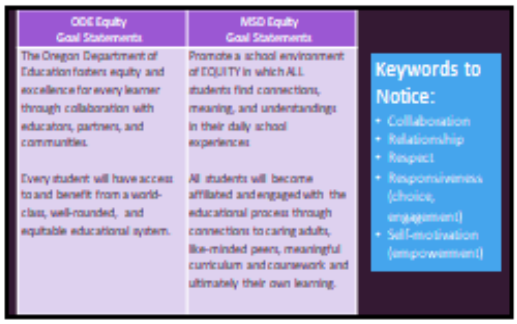

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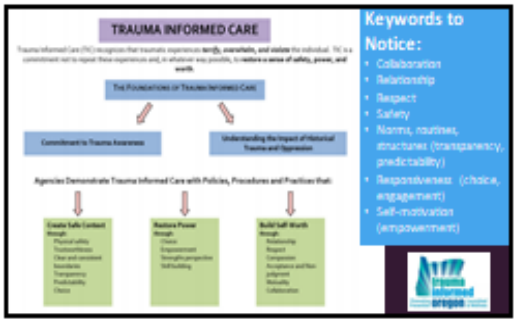

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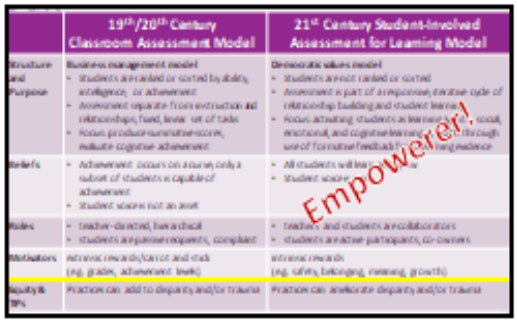

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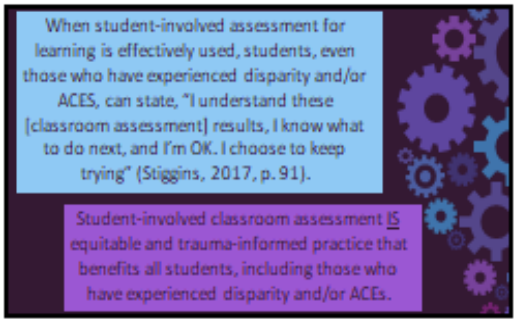

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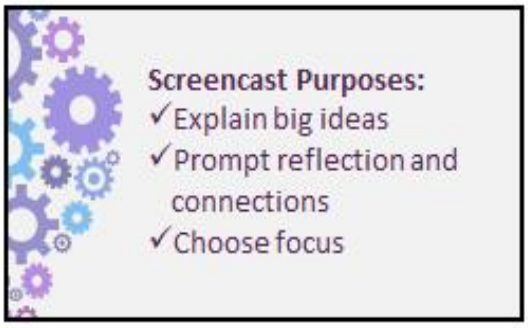
36


The More You Know
Congratulations! You are now empowered to know that using the empowerer model of classroom assessment IS equitable and trauma-informed practice. By growing in one classroom assessment standard and one learning environment standard during this training, you are also growing in equity and TIPs. What a deal!

37


Screencast Purposes:
✓Explain big ideas
✓Prompt reflection and connections
✓Choose focus

38


Questions?

39


Next Steps
Screencast feedback on guided notes
Bring notes to whole group session on January 23rd from 8:30a-4p
January-March: Continue to work on classroom assessment mental model and knowledge during whole group as well as coaching sessions
Thank you!

40

APPENDIX E

PRE-TRAINING SCREENCAST GUIDED NOTES HANDOUT

Name:

Student-involved Assessment for Learning Screencast Guided Notes

Slide #	Prompt and Notes
6 or 7	What differences do you notice between the classroom assessment model on the left compared to the assessment model on the right? What did you already know and what is new information?
8	How does the empowerer model (right hand side of slides 6 and 7) align or connect to or overlap with TSPC Standards for Competent and Ethical Practice? What did you already know and what is new information?
9	Why use an empowerer model of classroom assessment? Why can't we continue to use the 19th/20th century business model?
12, 13, or 14	How would you describe or illustrate your current classroom assessment mental model? (Consider your common inner thoughts about classroom assessment structure, purpose, beliefs, roles, and motivators.) What is one mental shift to the empowerer model that you can make between now and March? How can I support you?
17, 18, or 19	Think of a learning or assessment system, policy, or procedure that has not been updated to align with the empowerer model. Think of when or where accountability pressures and realities remain. When those challenges arise, how can you stay focused on continuing to shift to an empowerment model? How can I support you?
24	Between now and March, what is one student-involved classroom assessment standard that you would like to grow in? How would you like my support?

Slide #	Prompt and Notes
29	Between now and March, what is one learning environment standard that you would like to grow in? How would you like my support?
31	What do you already know about local disparity and ACEs data? Do you need me to provide local data to better understand the issue? Do you have any other general equity, ACEs, or TIPs questions?
36	In your own words, explain the connections between the empowerment model of classroom assessment, equity, and trauma informed practices.
39	Questions:

Screencast and Guided Notes Feedback

What did you like about the screencast and guided notes? (e.g. clarity or amount of content, structure, flexibility, length, etc.)

What did you not like about the screencast and guided notes? (e.g. clarity or amount of content, structure, flexibility, length, etc.)

Would you like me to use the screencast and guided notes procedure prior to our second and final whole group session in March? Please explain.

APPENDIX F

PARTICIPANT IMPLEMENTATION PLAN HANOUT

Name:	
Student-Involved Classroom Assessment Plan	
1. Consider your students' needs and class/course goals (e.g. learning targets or SLG goals) between January - March. **Pick one relevant student-involved classroom assessment standard and one relevant learning environment standard on which to focus between January - March.** (See provided InTASC standard 6 and 3 list.) Write the standards in the boxes below.	
2. **Gather strategies, tools, and activities that would support your growth in your selected standards.** (Suggested resources: peers, self reflection, the Teaching Channel, other.) List ideas below. **Circle or highlight your "keepers" -- what you will try to use.**	
3. **Plan the logistics for implementation**. List details such as: supplies needed; estimated date(s) and time needed; directions for students; practice needed; progress monitoring indicators or tools; support needed; etc.	

APPENDIX G

PARTICIPANT ARTIFACT REFLECTION HANDOUT

SI AfL PD Artifact Reflection Prompts

Complete AFTER implementing plan and by March meeting

Directions: After implementing your plan, pick an artifact generated by the plan (evidence of strategy, tool, or activity that you used). Before we meet in March, please reflect about your artifact by answering the questions below:

1. How does your artifact illustrate your current classroom assessment mental model (purpose, roles, beliefs of classroom assessment)?
2. How does your artifact illustrate the change, if any, in your classroom assessment mental model since the beginning of this PD?
3. How does your artifact illustrate your current knowledge of SI AfL standards? (InTASC Standards 6 and/or 3)
4. How does your artifact illustrate the change, if any, in your SI AfL knowledge since the beginning of this PD?
5. How does your artifact illustrate your understanding of the connections between SI AfL, equity, and TIPs?
6. How does your artifact illustrate the change, if any, in your knowledge of the connections between SI AfL, equity, and TIPs since the beginning of this PD?

APPENDIX H

MSD COURSE EVALUATION HANDOUT

MEDFORD SCHOOL DISTRICT
Course/Workshop Evaluation Form

Course Name:

Date of Training:

Directions: To help us evaluate this course, please take a few moments to complete this questionnaire.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree
The organization of the content was planned and executed in a way that permitted learning to occur.	☐	☐	☐	☐
Learning time and the need for break time were balanced.	☐	☐	☐	☐
The presenter(s) created an atmosphere that was comfortable and made them approachable.	☐	☐	☐	☐
The instructional techniques and activities facilitated your understanding of the topic.	☐	☐	☐	☐
A good variety of learning experiences were included in the workshop (e.g., lecture, group learning and engagement).	☐	☐	☐	☐
You will apply the knowledge or skills learned in this workshop to your practice.	☐	☐	☐	☐

In a couple of sentences, how would you describe the value of the content of this course/workshop to you? Which knowledge, skills, or techniques were most important to you?

How could the course/workshop be improved?

APPENDIX I

RECRUITMENT FLYER

EMPOWER

STUDENTS WITH CLASSROOM ASSESSMENT

A Professional Development Opportunity for Secondary Teachers

Growth

Learn more about the connections between classroom assessment, equity, and TIPs

Support

Receive whole group and coaching support

Student Success

Gain practical tools that support your students' academic, social, and emotional success

This is a D.Ed. dissertation study facilitated by Erin Beard with the support of the Medford School District, Oregon Education Association's Center for Great Public Schools, and the University of Oregon. Between December 2019 and March 2020, there will be two whole group sessions and at least two coaching sessions. Full study participation includes completing surveys, interviews and artifact reflection. Participation incentives include PDUs, graduate credits, or timesheet pay. Secondary ELA and social studies teachers are asked to participate in the full study. Any other subject area teachers may audit the PD experience.

APPENDIX J

JANUARY WHOLE-DAY SESSION SLIDE DECK

1

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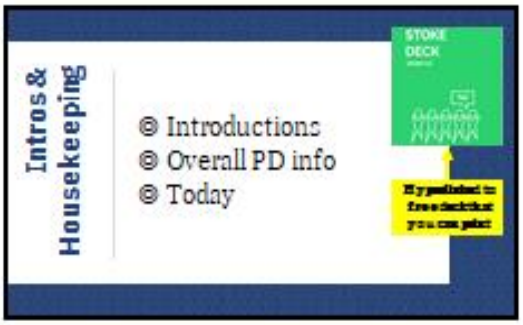

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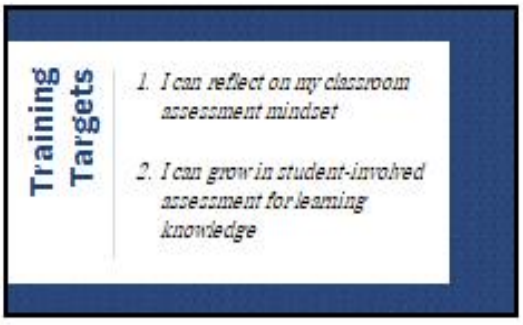


5

6

Stoke for Partner Work

Invent handshake, fist bump, or other greeting gesture

7

Debrief Screencast Info

1. **Quick review:** Summarize the parts of the screencast
2. **Back pocket:** Share at least three overall "nuggets" from notes
3. **Growth intentions and questions:** Share plans for growth and any remaining questions
4. **Classroom assessment artifact:** What do you already do? How would you like to refine or try something new?

8

Turn In Guided Notes and Artifact

I'll make a copy and return the original(s) to you.

9

Break

10

The Brain Architecture Game

Making connections between classroom assessment, equity, and TIPs

11

The Brain Architecture Game

Making connections between classroom assessment, equity, and TIPs

How could we adapt this game for a middle school classroom assessment context?

1. What might be on the positive experience cards?
2. What would be on the toxic stress cards?
3. What could be stones? (learning environment and assessment practices supports)

12

The Brain Architecture Game

Point of thinking: How can our classroom assessment calendar and knowledge help form "positive experience cards" and "stories" for our students?

13

Why should we know our SI AfL 'Why'?

14

- ✓ 30+ years of research: empowerer model and teaching standards
- ✓ State, district equity and TIPs goals because of demographic shifts, opportunity gaps, brain science, and ACEs data
- ✓ Voices of Hedrick students (YouthTruth survey themes)
- ✓Focus on growth lessens 6 → 8th grades
- ✓Asking for engagement (relevancy, rigor)
- ✓Concerns about learning environment (teasing)

15

Lunch On Your Own

16

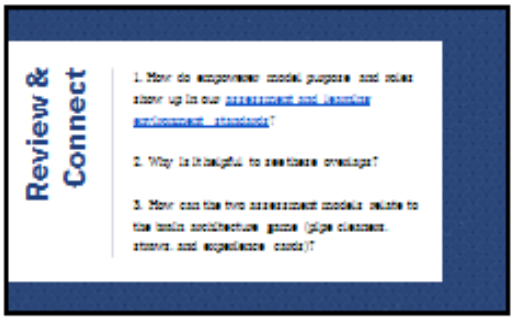
Welcome Back!

17

Classroom Assessment Purpose and Roles Sort

19th/20th Century Business Model	?	Empowerer Model

18



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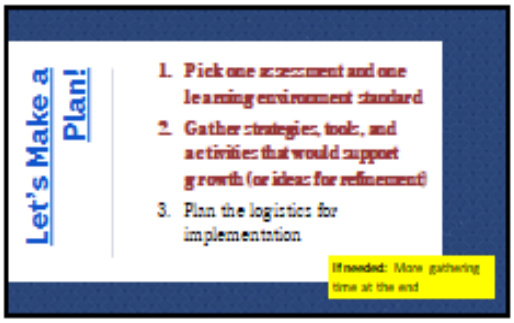

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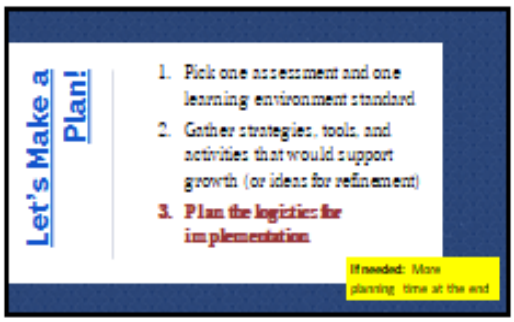

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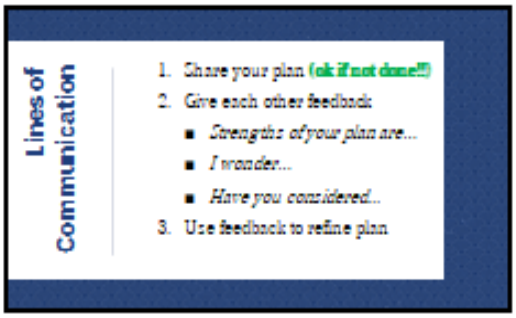

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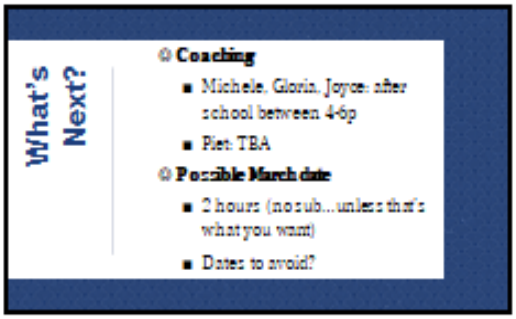

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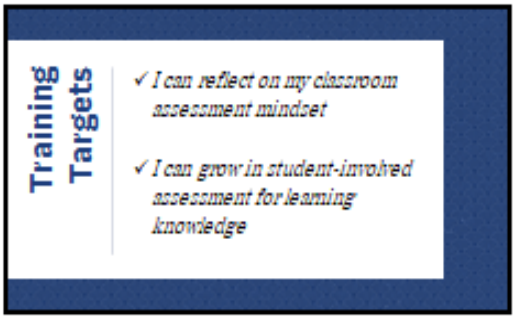

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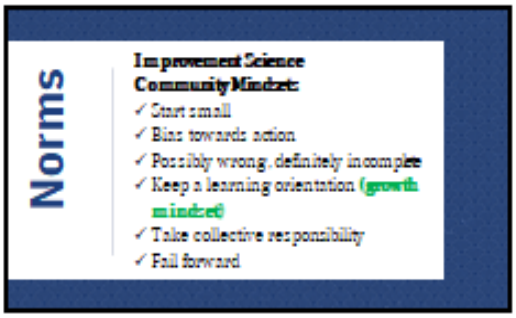

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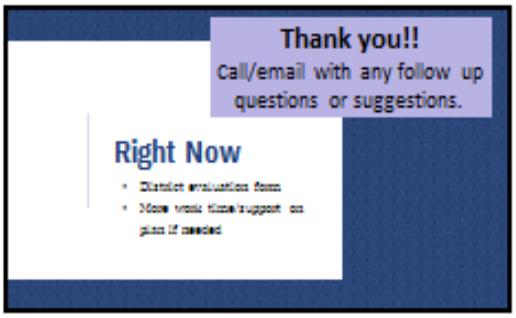

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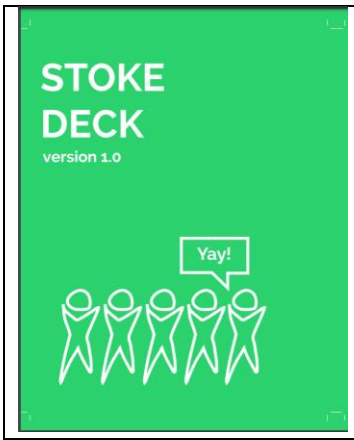
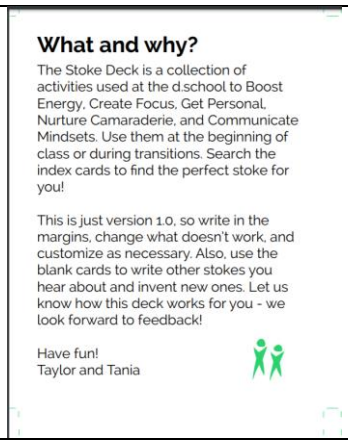
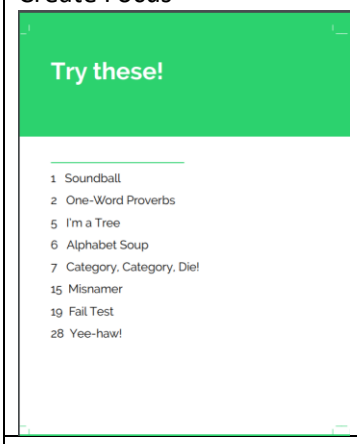
APPENDIX K

EXAMPLES OF “STOKE” ACTIVITIES

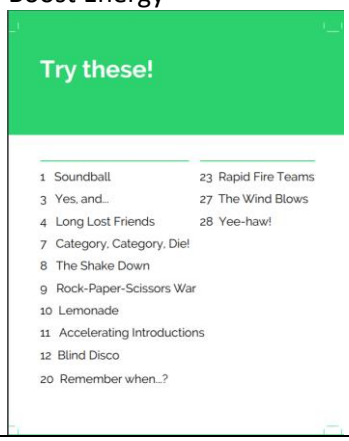




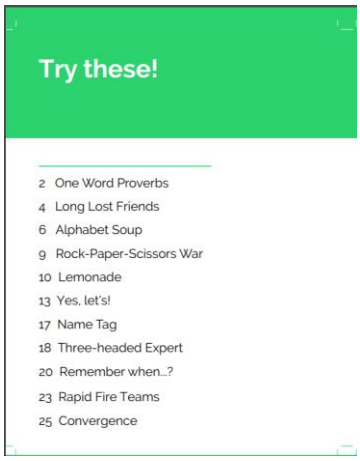
Create Focus



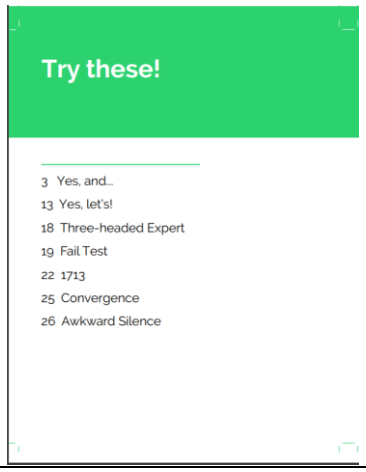
Boost Energy



Nurture Commraderie



Communicate Mindset



Note: Strategies modified for small group and one-on-one contexts of study
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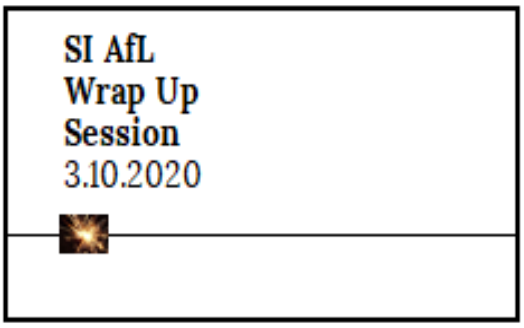
APPENDIX L

MARCH FOCUS GROUP SESSION SLIDE DECK



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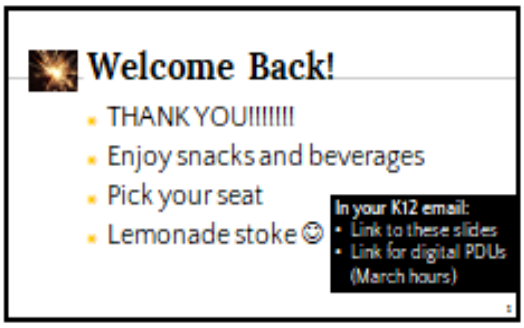

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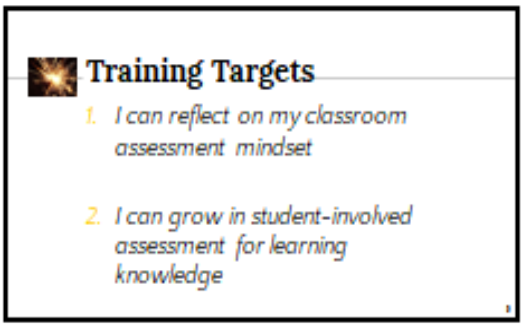


5

6

Stoke for Partner Work

Handshake review…with Corona virus twist 😉

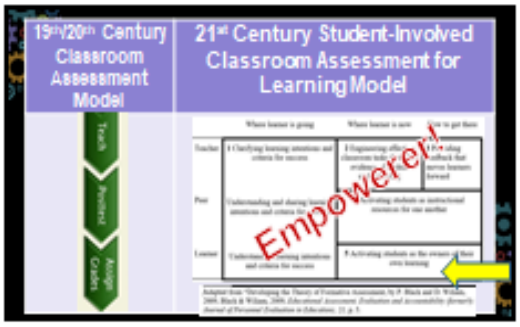
7

Big Ideas Review

How can you explain to another educator:

1. How the empowered model ties to existing
   - Research-based professional standards
   - Data-based equity and TIPs goals
2. The effects of knowing/reflecting on classroom assessment models
3. Why we talked about pipe cleaners, straws, and cards in January
4. How classroom assessment can build relationships with students

8



9

	18th/20th Century Classroom Assessment Model	21st Century Student-Involved Assessment for Learning Model
Structure and Purpose	Business management model • Students are ranked or sorted by ability, intelligence, or achievement • Assessment separates how (motivation and relationships, fixed, forms sort of limits • Focus: produce summative scores, evaluate cognitive achievement	Democratic values model • Students are not ranked or sorted • Assessment is part of a sequence, [illegible] of collectively, building and student learning • Focus: motivating students as learning [illegible] emotional, and cognitive learning [illegible] of formative feedback how learning
Beliefs	• Achievement comes on a curve; only a subset of students is capable of achievement • Student value is set or [illegible]	• All students will learn • Student value is [illegible]
Roles	• Teacher directed, hierarchical • students are passive recipients, compliant	• [illegible] and collaborative • students are active participants, co-owners
Indicators	extrinsic rewards/control and [illegible] (e.g. grades, achievement levels)	intrinsic rewards (e.g. safety, belonging, meaning, growth)
Equity & TIPs	Practices can add to disparity and/or harms	Practices can ameliorate disparity and/or harms

Empowered!

10

Professional Standards, Data, Goals

- Research-based standards
  - 15PC Standards for Competent and Ethical Practice
  - InTASC Standard 3 (learning environments)
  - InTASC Standard 6 (classroom assessment)
- Data-based goals
  - Oregon and MSD equity goals
  - Oregon TIPs goals

11

Models Review

12

Words of Wisdom

13

14

Share Your Hard Work

- **Joyce:** learning team, tracking
- **Gloria:** learning team in computer class context
- **Michele:** feedback mechanisms
- **Piet:** feedback, student choice

15

Artifact Reflection

Share

- Stoke: your super hero name
- Standards of focus
- Your adventures
- Growth/connections
- Possible next steps

Listen for "snaps" – what you'd like to celebrate/ shout out

Turn in artifact reflection. I'll make a copy and return the original.

16

Further Growth

- OEA microcredentials
- ODE OFAST modules
- *Seven Strategies of Assessment for Learning* ("the green book")
- Other?

Seeds = happy spring! And celebration of the SI AIL seeds you've planted

17

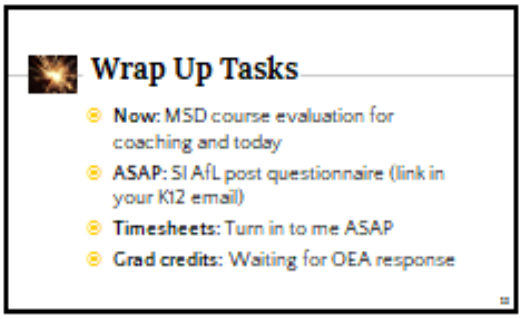
This Study

- Compiled and submitted to U of O in May
- Shared with you!

18


A Toast to You!

19


Wrap Up Tasks
Now: MSD course evaluation for coaching and today
ASAP: SI AfL post questionnaire (link in your K12 email)
Timesheets: Turn in to me ASAP
Grad credits: Waiting for OEA response

20

APPENDIX M

COACHING SESSION OUTLINE

Coaching Session Outline

Date:

Participant:

Time:

- **For trusting, non evaluative, collaborative learning relationship**
  - Bring snack
  - Hi, how are you?

- **Objectives of session:** Continue improvement science mindset modeling, learning environment building, review big ideas about SI AfL mindset and knowledge, plan support, conclude

- **Review/reflect on big ideas:** SI AfL mindset and knowledge
  - How would you describe the differences in assessment models? (purpose, roles, beliefs, connection to equity and TIPs)?
  - Have you noticed components of assessment models arise in thoughts, words, or actions since the whole group training?
  - Have you noticed any connections between issues of equity or TIPs and assessment arise since the whole group training?
  - What thoughts, questions, or concerns do you have, if any, about shifting mindsets or growing in SI AfL knowledge?

- **Review/build plan together**
  - Standards of focus for growth (alignment?)
  - Next feasible step(s) and logistics
  - Check plans
    - Support needed between now and next coaching session
    - Plans actionable? Tools needed? Practice needed first?
    - Concerns or questions?
    - Growth/shift that is expected by March

- **Conclude**
  - Me: Put understanding of participant plan in my own words; check to make sure it aligns to participant understanding
  - Schedule next coaching session if possible
  - Any remaining questions?
  - Thank you!

APPENDIX N

IRB EXEMPTION APPROVAL

UNIVERSITY OF OREGON

DATE: November 12, 2019 **IRB Protocol Number: 10242019.034**

TO: Erin Beard, Principal Investigator
Department of Educational Methodology, Policy and Leadership

RE: Protocol entitled, "Student-Involved Assessment for Learning Professional Development"

Notice of Review and Exempt Determination

The above protocol has been reviewed and determined to qualify for exemption. The research is approved to be conducted as described in the attached materials. Any change to this research will need to be assessed to ensure the study continues to qualify for exemption, therefore an amendment will need to be submitted for verification prior to initiating proposed changes.

For this research, the following determinations have been made:

- This study has been reviewed under the **2018 Common Rule (45 CFR 46)** and determined to qualify for exemption under **Title 45 CFR 46.104(d)(1).**

Approval period: November 12, 2019 - November 30, 2020

If you anticipate the research will continue beyond the approval period, you must submit a Progress Report at least 45-days in advance of the study expiration. **Without continued approval, the protocol will expire on November 30, 2020 and human subject research activities must cease.** A closure report must be submitted once human subject research activities are complete. Failure to maintain current approval or properly close the protocol constitutes non-compliance.

You are responsible for the conduct of this research and adhering to the Investigator Agreement as reiterated below. You must maintain oversight of all research personnel to ensure compliance with the approved protocol.

The University of Oregon and Research Compliance Services appreciate your commitment to the ethical and responsible conduct of research with human subjects.

Sincerely,

Chris Duy

Chris Duy
Research Compliance Administrator
Research Compliance Services

CC: Julie Alonzo

COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS • RESEARCH COMPLIANCE SERVICES
677 E. 12th Ave., Suite 500, 5237 University of Oregon, Eugene OR 97401-5237
T 541-346-2510 F 541-346-5138 http://rcs.uoregon.edu

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