The Satchel Pulse Platform: Research Foundations and Support



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The Satchel Pulse Platform: Research Foundations and Support

This brief summarizes the foundational research literature that serves as the empirical basis for the Satchel Pulse SEL Platform. Satchel Pulse SEL is a program that helps educators identify students with social and emotional skill areas that need further support and development. The platform employs a universal screener which assesses student's social-emotional development and learning across the five CASEL Core Competency areas. These areas include self-management, self-awareness, social awareness, relationship skills, and responsible decision-making. Based on data generated through this screener and subsequent diagnostic assessments, Satchel Pulse makes recommendations for student placements in MTSS/RTI tiers and provides targeted resources to support each student's specific SEL needs. This brief summarizes the research that forms the foundation of Satchel Pulse's theory of action and documents the research support for the primary components embedded within the platform.

Social-Emotional Learning (SEL): Background and Importance

Satchel Pulse seeks to serve as a key resource as it relates to the social and emotional development of K-12 students. Social-emotional learning, or SEL, as it has come to be known throughout the field of education, has proven to be a varied and complex topic of study. The vast array of research in this field, now dating back several decades (Osher, Kidron, Bracket, et al., 2016), has resulted in over 130 frameworks for understanding social emotional competencies as well as a plethora of associated vocabulary and jargon (Berg, Nolan, Yoder, Osher, & Mart, 2019). In light of this context, most policymakers and practitioners are likely most familiar with the five core social and emotional competencies identified by the Collaborative for Academic and Social Emotional Learning (CASEL) (Bryant, Crowley, & Davidsen, 2020; Dusenbury, Yoder, Dermody, & Weissberg, 2020). As outlined by CASEL (2020):

"SEL is an integral part of education and human development. SEL is the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions"

Recently, CASEL expanded upon its SEL framework to emphasize a systemic approach and to be more inclusive of equity, culture, and the key settings in which young people learn and develop. This systemic approach to SEL involves the alignment of policies, resources, and practices across the education system, as well as the collaboration of educators and families (Mahoney, Weissberg, Greenberg et al., 2020). As part of this systemic approach, CASEL outlines four overarching actions that school systems should seek to integrate: building foundational support and planning, strengthening adult SEL competencies, promoting SEL for students, and reflecting on data for continuous improvement (Reilly, Yoder, Ressel, Ross, & Morrison, 2021).

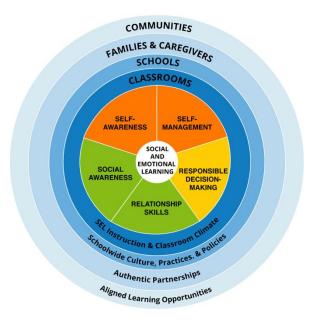


Figure 1. CASEL's framework for social and emotional learning¹

Given this comprehensiveness, CASEL's SEL framework represents arguably the defining SEL artifact within the field of education, and is among the most thoroughly validated and widely used frameworks available to researchers studying this topic.

"The CASEL 5 addresses five broad and interrelated areas of competence and highlights illustrative examples for each: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. The CASEL 5 can be taught and applied at various developmental stages from childhood to adulthood and across diverse cultural contexts. Many school districts, states, and countries have used the CASEL 5 to establish preschool to high school learning standards and competencies that articulate what students should know and be able to do for academic success, school and civic engagement, health and wellness, and fulfilling careers." (CASEL, 2021)

With these considerations in mind, SEL is clearly an important area for educators to seek to address with their students. Likewise, a bevy of research highlights the vital role that social emotional development plays in the lives of students across the K-12 age spectrum (Durlak et al., 2021; Taylor et al., 2017; Reilly, Yoder, Ressel, Ross, & Morrison, 2021). Recent research suggesting that the prevalence of mental health problems in children and teenagers is steeply increasing (Ziomek-Daigle, & Heckman, 2019), further buttresses this conclusion. Indeed, social and emotional learning has been demonstrated in research and practice as an essential ingredient of K-12 students' healthy development as learners and future citizens (Durlak et al., 2011; Taylor et al., 2017; Reilly, Yoder, Ressel, Ross, & Morrison, 2021).

¹ Image retrieved from https://casel.org/sel-framework/

Research has demonstrated the impact that well-designed SEL curricula and interventions can have on students' social-emotional development across a host of areas (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Furthermore, research demonstrates that youth learn best in environments that are well-situated within SEL learning theory (Reilly, Yoder, Ressel, Ross, & Morrison, 2021), particularly those that are identity-affirming, safe and supportive, and that feature instruction that takes into account whole child development (Darling-Hammond et al., 2019; Reilly, Yoder, Ressel, Ross, & Morrison, 2021). Given the myriad of developmental areas that SEL touches – it is not surprising that research has identified a plethora of outcomes that social-emotional development and a host of school-oriented outcomes including: behavior in school (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Sklad, Diekstra, De Ritter, Ben, & Gravesteijn, 2012), engagement in school (Valiente, Lemery-Chalfant, & Castro, 2007; Wentzel, 2009), academic achievement (Durlak et al., 2011), and post-secondary success (Taylor, Oberle, Durlak, & Weissberg, 2017; Jones, Greenberg, & Crowley, 2015), among others.

Satchel Pulse SEL

It is within the important context discussed above that the Satchel Pulse platform aims to improve outcomes for students. As outlined, the platform provides SEL assessment materials that seek to both summarize students' social emotional (SE) abilities and also identify targeted areas where students may be in need of additional instruction or support. As outlined by the platform's developers, implementation of Satchel Pulse consists of the following:

- First, students complete Satchel's 20-item SEL self-assessment. This assessment consists of items that specifically address all five of the SEL core competencies outlined by CASEL (i.e., self-awareness, self-management, social awareness, relationship skills, and responsible decision making). To augment this assessment, teachers provide observational data for each student in the form of a rating on a 10-point scale based on rubrics for each of the five CASEL competency areas.
- Once this data is collected, detailed reports are generated for each student summarizing their SE competencies across each of the five CASEL domains, as well as the subskills within these domains. For students whose total screening scores are below a given threshold, an additional diagnostic assessment is given targeting the competencies where their scores were lowest. For these same students, teachers complete similar diagnostic assessments.
- Based on this combined data, Satchel Pulse recommends a tier (I-III) for each student. Consistent with a Multi-Tiered System of Support (MTSS) approach to intervention, students are assigned differing levels of instructional support based on their placement. Tier I students are provided instructional interventions that are appropriate for all students, while students in Tiers II and III are placed in recommended groups based on locallyselected factors as well as the results from the screening and diagnostic assessments. For these groups, Satchel Pulse provides a menu of targeted interventions that are designed to specifically address the SE skill deficits identified through the Pulse screener.

• As a key component of this process, Satchel Pulse schools are provided a robust intervention library of research-based SEL resources and programs that can be used to address each of the CASEL competencies assessed through the screener. Satchel Pulse users leverage these resources to provide targeted support to students based on their SEL needs. Users then leverage the diagnostic assessments and associated tools as resources to monitor students' progress, assess their ongoing SE development, and ultimately inform instructional decision-making as students gain SE skills and graduate to less intensive MTSS tiers.

Ultimately, Satchel Pulse intends for each of these program components to work cohesively as a means of enhancing students' social-emotional development and learning in school. The logic model for how Satchel Pulse facilitates this impact is provided below:

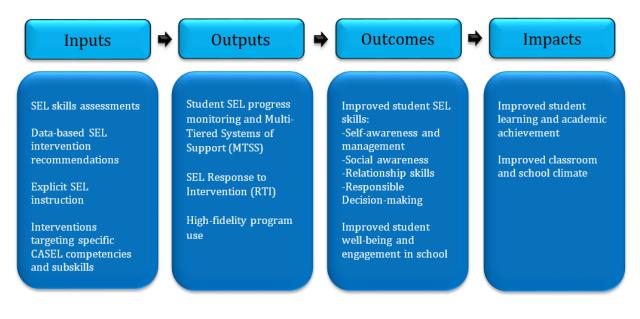


Figure 2. Satchel Pulse Logic Model

As articulated by the platform's developers, Satchel Pulse assessments and instructional materials were developed to be directly aligned with CASEL core competencies and are embedded with a bevy of research-based strategies for fostering K-12 students' social-emotional growth. The creation of the Satchel SEL screener incorporated best practices in survey development such as those outlined by The University of North Carolina's Office of Institutional Research and Assessment (2017), Joshi, Kale, and Chandel (2015), Garra, Singer, Taira, Chohan, Cardoz, Chisena, and Thode (2010), and those outlined in the Organisation for Economic Cooperation and Development's (OECD) *Practitioners Guide to Perception Surveys* (2017). Items on both the student and teacher diagnostic assessments have been reviewed for content validity and alignment with the core competencies of CASEL, as well as the subdomains within these competencies. For the full alignment between the Satchel Pulse assessment items and each of the CASEL domains, please see the Appendix.

Research on SEL Assessment

With this context in mind, the Satchel Pulse Platform helps schools address several priorities as it relates to SEL instruction. Perhaps most obviously, the platform provides a valid form of SEL assessment that can be used as both a diagnostic and progress monitoring tool – both of which have been demonstrated through research to be key factors in the successful delivery of SEL instruction (Maras, Thompson, Lewis, Thornburg, & Hawks, 2015; Kansas MTSS, 2016) and can be a key strategy in enhancing student equity (Raines, Dever, Kamphaus, & Roach, 2012). Creating a means to generate objective performance data to monitor student progress is particularly important as it relates to fostering continuous instructional improvements. As outlined by Reilly, Yoder, Ross, and Morrison (2021):

"As schools launch new initiatives, data is needed to help understand readiness levels as well as school conditions for implementation. Over time, data collection is necessary to help identify how well the initiative is being implemented and the associated adult and student outcomes that may be resulting from the efforts. Although the SEL research field recognizes that student social and emotional competence data should not be used for high-stakes decisions, researchers, practitioners, and policymakers recognize the importance of collecting student competence data from an asset-based approach. Indeed, collecting data of this type is essential in helping make informed decisions about SEL instruction and in communicating with students, families, and community partners about SEL progress" (Reilly, Yoder, Ross, & Morrison, 2021; American Institutes for Research, 2020; Assessment Working Group, 2019; McKown, 2019).

Unfortunately, a variety of research suggests that, to date, the development of SEL curricula has greatly outpaced the development of SEL assessments and diagnostics (Maras, Thompson, Lewis, Thornburg, & Hawks, 2015) and that principals and teachers alike report the desire for more robust SEL assessment tools (Atwell & Bridgeland, 2019). Put differently, while schools continue to have access to a greater and greater volume and variety of SEL-focused interventions, they are left with few options with regard to how to assess student progress or diagnose those particular areas where students may need more support. This gap persists despite research demonstrating the efficacy of a variety of simple assessment approaches in SEL, including those involving rubrics (see Pancordo, Primi, John, Santos, Abrahams, & De Fruyt, 2020; Jonnson & Svingby, 2007) and self-report surveys (Cox, Foster, & Bamat, 2019; Andrade, 2019; Ross, 2006; Brener, Billy, & Grady, 2003). Given these gaps, assessment platforms such as Satchel Pulse are clearly needed to help schools address this challenge.

Multi-Tiered Systems of Support: Research and Background

Through the Satchel Pulse Platform, educators are provided with recommendations as to the level of support each student may benefit from with regard to their social-emotional learning. As outlined, these tiers consist of Tier I, where students are provided instructional programming that is appropriate for all students, Tier II where students are provided additional interventions that target key skill areas, and Tier III where students are provided an intensive series of interventions. Consistent with a Multi-Tiered System of Support (MTSS) approach to instruction, this framework is well-situated in the contemporary research on response to intervention (RTI) (Kincaid & Batsche, 2016; Ziomek-Daigle & Heckman, 2019). Research suggests that this approach provides

an accessible and practical framework that can help educators address the needs of students who are not responding to universal interventions (Ziomek-Daigle & Heckman, 2019). Research has also found that this systemic instructional approach can have both short- and long-term benefits for student learning across a variety of subject areas (Grapin, Waldron, & Joyce-Beaulieu, 2019; Burns, Appleton, & Stehouwer, 2005). Of particular note, MTSS and RTI approaches have been found to improve student reading achievement (Grapin, Waldron, & Joyce-Beaulieu, 2019), enhance student equity (Mercado, 2018), and decrease the likelihood that students will require special education services (Burns, Appleton, & Stehouwer, 2005).

Recently, many MTSS and RTI models have begun taking social-emotional development and student behavior into greater and greater consideration (Ziomek-Daigle & Heckman, 2019; Cressey, 2019; Hoover, 2019). Behavioral RTI, as it has come to be known, presents a unique opportunity for schools to help address the needs of their most vulnerable students in a way that is highly proactive and data-driven (Ziomek-Daigle & Heckman, 2019). Not surprisingly, research is supportive of integrating the MTSS framework within the context of systemic SEL instruction (Cressey, 2019). Research highlights the importance of schools taking a multi-faceted approach when responding to student trauma (Hoover, 2019) and also suggests that MTSS models can serve as a robust framework in meeting the SEL needs of a diverse array of students (Hoover, 2019). To date, MTSS models that seek to address student behavior and social-emotional development, such as the Positive Behavioral Interventions and Supports program (PBIS), have been found to be effective in preventing student misconduct and promoting social-emotional health (Steed & Shapland, 2020; Cressey, 2019; Barrett, Eber, McIntosh, Perales, & Romer, 2018). Given this context, the MTSS approach to SEL that Satchel Pulse incorporates clearly poses advantages.

Research on SEL Interventions and Teaching Practices

While there is a clear need for assessment tools as it relates to K-12 SEL instruction -- as part of an MTSS approach to SEL, research also demonstrates the need for evidence-based interventions and curriculums (Durlak et al., 2011). While the number and variety of SEL curricula available for schools has expanded greatly in recent years (Baustani et al., 2019; Lawson et al., 2019; Hoffman, 2009), evaluation research has only recently begun to scratch the surface of understanding which interventions and strategies are most effective (Taylor, Oberle, Durlak, & Weissberg, 2017). The evaluation research that has been conducted to date, however, has produced encouraging findings that point to the utility of SEL curricula have often been found to be a cost-effective solution for schools as it relates to behavioral and academic improvements (Belfield, Bowden, Klapp, Levin, Shand, & Zander, 2015) and have been found to be particularly efficacious when they include elements related to "SAFE" instruction (Durlak et al., 2011). This concept, which arose from a meta-analysis of over 200 studies of SEL interventions conducted by Durlak and colleagues (2011), specifies that SEL interventions are typically most impactful when they include:

- A logically *sequenced* series of lessons
- *Active* forms of learning
- Instruction that is *focused* on specific topics and provides opportunities for targeted practice

• *Explicit* teaching that directly addresses key learning goals

Findings from other research studies have reinforced the importance of these features, particularly as it pertains to the explicit teaching of SEL skills and the incorporation of active forms of instruction. Indeed, among the most consistent findings derived from the research on social emotional development, is that SE skills can and should be taught to students using the same methods that are used to teach skills in subjects such as math and reading. In the same way that students can be provided lessons on how to complete multiplication problems and construct narrative essays – students can be provided lessons on how to manage their emotions and interact with others. Among a variety of findings, research has shown the benefits of:

- Explicitly teaching *communication skills* (Boustani et al., 2019)
- Explicitly teaching *social skills* (Durlak et al., 2011; Lawson et al., 2019; Boustani et al., 2019)
- Explicitly teaching general social-emotional skills (Boustani et al., 2019; CASEL, 2020)
- Providing students with ongoing opportunities to observe adults modeling social-emotional skills (Ahmed et al., 2020; Rivers et al., 2013), particularly those involving positive social interactions (Slavin, 2009)

Active forms of instruction also appear to be of key importance in fostering children's social-emotional learning. In particular, instructional activities that provide students with opportunities to practice the social and emotional skills they learn in class have been found to be especially impactful (Ahmed et al., 2020; Rivers & Brackett, 2010). These include role-playing activities where students have opportunities to observe and critique different social scenarios (Boustani et al., 2019) and engage in class theatre type exercises where they can "act out" different social situations (Boustani et al., 2019; Agley et al., 2020; Reilly, Yoder, Ross, Morrison, & Mulholland, 2021).

Additional research has identified other key features that are linked to high-quality SEL instruction. Of note, SEL instruction appears to function best when it is both developmentally appropriate and culturally relevant. While students in early elementary school are typically in the beginning stages of learning to identify emotions, control impulses, and build reciprocal relationships (Denham, 2018; Edgenuity, 2020), students gradually deepen their abilities in these areas over the course of the elementary years. By the time students are in middle and high school, they begin to comprehend more complex emotional situations, gain skills with resolving interpersonal conflicts (Denham, 2018; Edgenuity, 2020), and often "make significant gains in abstract thinking, exhibit improved social cognition, and are increasingly motivated to experiment with new interests and establish their own identities and values" (Steinberg, Vandell, & Bornstein, 2011; Williamson, Modecki, & Guerra, 2015; Edgenuity, 2020, p. 7). During the adolescent years, students often exhibit a "marked shift toward reward-seeking" behaviors and more often succumb to peer pressure and may exhibit a temporary decline in their use of self-regulation strategies (Steinberg, 2008; Williamson et al., 2015; Edgenuity, 2020, p. 7). Clearly, providing educators with SEL interventions that are sensitive to these developmental differences and can target the changing social-emotional needs of students as they progress through school is of high importance.

Research Foundations and Support

Interventions that are culturally relevant to students are also of key importance. Research shows that in order for "SEL to live to its full potential and be in service of equity and excellence, it must be inclusive of culturally responsive practices" (Reilly, Yoder, Ressel, Ross, & Morrison, 2021; Jagers et al., 2019; Cressy, 2019). Research has found that "students learn best when they can connect what happens in school to their cultural contexts and unique heritage, lived realities, and the issues they care about" (Darling-Hammond, Flook, Cook-Harvey, Barron, & Osher, 2019; Muñiz, 2019; Steele & Cohn-Vargas, 2013; Edgenuity, 2020, p. 7). Further research indicates that culturally responsive instruction that uses students' own cultural reference points to impart knowledge can help improve students' self-efficacy, self-esteem, attachment to school, and academic achievement (Edgenuity, 2020; Steele & Cohn-Vargas, 2013; Muñiz, 2019).

Given this context, it is not surprising that research has found that selecting SEL programs and interventions can be a complex and challenging task for educators (Lawson et al., 2019). Satchel Pulse provides schools with a library of evidence-based interventions that can be used to strategically target different areas of social-emotional development and explicitly teach skills related to these areas. By providing targeted recommendations based on students' SEL assessment data, Satchel is potentially able to help schools address the challenge of selecting appropriate and efficacious SEL interventions. Moreover, the intervention library within Satchel Pulse includes numerous curriculum components that specifically incorporate the features discussed in this section. The platform contains four levels of interventions that address differing student grade spans and developmental needs (primary, intermediate, middle school, and high school). According to the program's developers, the interventions are also developed with the goal of promoting culturally relevant teaching by incorporating frameworks outlined by Hammond (2014) for inclusive representations and inclusive pedagogy. Each intervention consists of a curated sequence of lessons that uniquely targets the specific SEL subskill that requires attention.

For most interventions, the first two days of lessons are grounded in the explicit teaching of SE skills. These lessons feature both direct instruction as well as discourse that the teacher models. After skills are explicitly taught, the interventions incorporate experiential instruction where students are provided the opportunity to role-play, act out different social scenarios, and observe and critique others as they practice the social emotional skills being targeted. Finally, students are provided ample opportunities to reflect on their learning, engage in introspection with regard to their emotions and behaviors, and participate in exercises aimed at taking on the perspectives of others.

Conclusion

In light of these findings, utilizing the assessment and intervention materials provided through the Satchel Pulse Platform represents a potentially efficacious option for schools seeking to develop students' social-emotional skills within the MTSS framework. By virtue of providing robust assessment materials that possess a high level of content validity and alignment with the CASEL core competencies, the platform generates diagnostic and progress monitoring data for adapting social-emotional learning support to individual student's needs. In addition, its corresponding intervention library includes a variety of research-based programs designed to flexibly target the specific skill deficits that student's exhibit. By combining these elements, Satchel Pulse appears well-designed to support schools in fostering the social and emotional development of students. Importantly, Satchel Pulse is currently engaged in conducting and planning rigorous third-party evaluation research to optimize user support, implementation quality, and student outcomes.

Appendix

CASEL Domains and Satchel Pulse Alignment

Self-Management

The ability to manage one's emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations

"This includes the capacities to delay gratification, manage stress, and feel motivation & agency to accomplish personal/collective goals. This includes capacities such as: • Managing one's emotions • Identifying and using stress-management strategies • Exhibiting self-discipline and self-motivation • Setting personal and collective goals • Using planning and organizational skills • Showing the courage to take initiative • Demonstrating personal and collective agency" (CASEL, 2020)

CASEL	Satchel Pulse Assessment Item
Sub-Domain	
Student Items	
Impulse control	
Stress management	
Goal setting	
Organizational Skills	
Self-motivation	
Self-discipline	
Sen discipline	
Teacher Items	
Impulse control	
Stress management	
Goal setting	
Organizational Skills	
Self-motivation	
Self-discipline	

Self-Awareness

The ability to understand one's own emotions, thoughts, and values and how they influence behavior across contexts

"This includes capacities to recognize one's strengths and limitations with a well-grounded sense of confidence and purpose. It includes capacities such as: • Integrating personal and social identities • Identifying personal, cultural, and linguistic assets • Identifying one's emotions • Demonstrating honesty and integrity • Linking feelings, values, and thoughts • Examining prejudices and biases • Experiencing self-efficacy • Having a growth mindset • Developing interests and a sense of purpose" (CASEL, 2020)

CASEL Sub-Domain	Satchel Pulse Assessment Item
Student Items	
Identifying emotions	
Accurate self-perception	
Recognizing strengths	
Self confidence	
Self-efficacy	
Teacher Items Identifying emotions Accurate self-perception Recognizing strengths Self confidence Self-efficacy	

Social Awareness

The ability to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, & contexts.

"This includes the capacities to feel compassion for others, understand broader historical and social norms for behavior in different settings, and recognize family, school, and community resources and supports. It includes capacities such as: • Taking others' perspectives • Recognizing strengths in others • Demonstrating empathy and compassion • Showing concern for the feelings of others • Understanding and expressing gratitude • Identifying diverse social norms, including unjust ones • Recognizing situational demands and opportunities • Understanding the influences of organizations/systems on behavior" (CASEL, 2020)

Relationship Skills

The ability to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups

"This includes the capacities to communicate clearly, listen actively, cooperate, work collaboratively to problem solve and negotiate conflict constructively, navigate settings with differing social and cultural demands and opportunities, provide leadership, and seek or offer help when needed. It includes capacities such as: • Communicating effectively • Developing positive relationships • Demonstrating cultural competency • Practicing teamwork and collaborative problem-solving • Resolving conflicts constructively • Resisting negative social pressure • Showing leadership in groups • Seeking or offering support and help when needed • Standing up for the rights of others" (CASEL, 2020)

CASEL Sub-Domain	Satchel Pulse Assessment Item
Student Items	
Social Engagement	
Relationship Building	
Teamwork	
Teacher Items	
Communication	
Social Engagement	
Relationship Building	
Teamwork	

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Responsible Decision-Making

The ability to make caring and constructive choices about personal behavior and social interactions across diverse situations

"This includes the capacities to consider ethical standards and safety concerns, and to evaluate the benefits and consequences of various actions for personal, social, and collective well-being. It includes capacities such as: • Demonstrating curiosity and open-mindedness • Identifying solutions for personal and social problems • Learning to make a reasoned judgment after analyzing information, data, facts • Anticipating and evaluating the consequences of one's actions • Recognizing how critical thinking skills are useful both inside & outside of school • Reflecting on one's role to promote personal, family, and community well-being • Evaluating personal, interpersonal, community, and institutional impacts" (CASEL, 2020)

CASEL Sub-Domain	Satchel Pulse Assessment Item
Student Items Identifying problems Analyzing situations Solving problems Evaluating Reflecting Ethical responsibility	
Teacher Items Identifying problems Analyzing situations	
Solving problems Evaluating Reflecting	
Ethical responsibility	

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