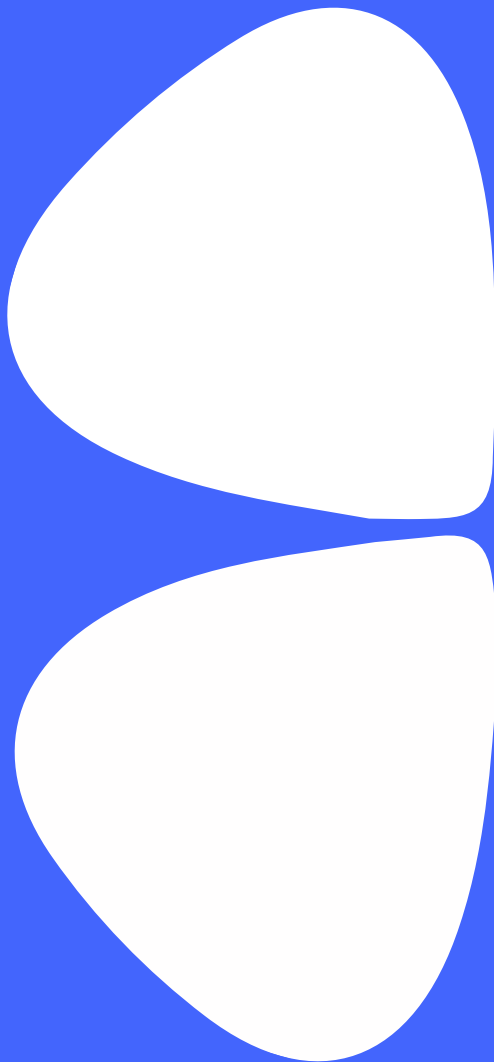
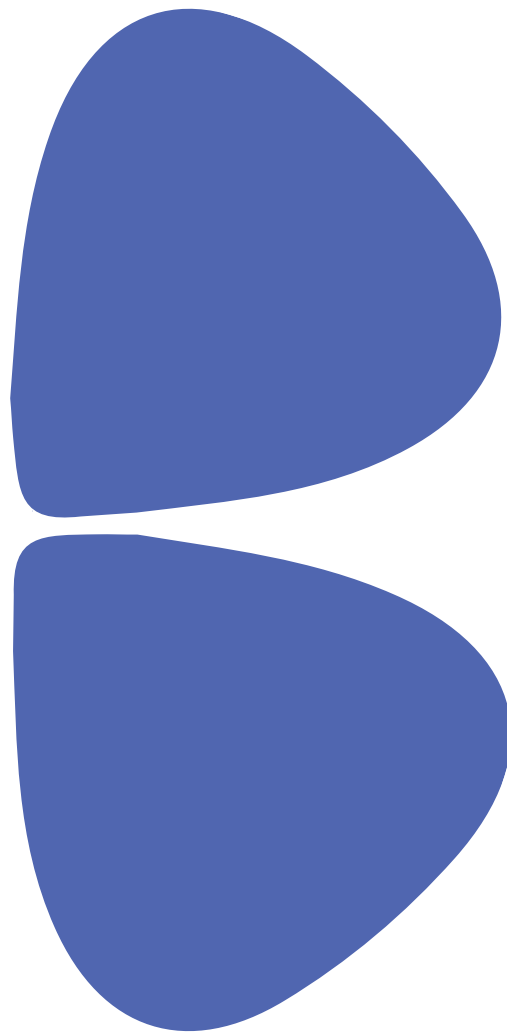


The Clover Model



A Developmental Process Theory of Social-Emotional Development



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This overview is the first in a series of publications on the Clover Model, a Developmental Process Theory (DPT) of social-emotional development, developed at The PEAR Institute: Partnerships in Education and Resilience. The Clover Model is the fruit of decades of research in response to the need for a simple model of development that is valid from birth through adulthood and not limited to a linear, stepwise view. The Clover Model is simple, research-based, functional, and flexible enough to apply to all phases of human development. It is designed for use as a unified, clear framework of youth development that can serve as a common language for youth workers, educators, and families to talk about and understand youth development.

The Clover Model is designed to provide understanding of the complexities of human development, so that we can support development at all stages of life and help people thrive. This goal has inspired many disciplines, from developmental psychologists to anthropologists, biologists, and educators. The PEAR Institute works at the intersection of developmental/clinical psychology and education.

In 1999, I founded The PEAR Institute, a translational research center based at McLean Hospital, to connect youth development research and educational practice. Translational research is an interdisciplinary field that incorporates a wide range of expertise, research, and resources to promote innovations in the field (Woolf, 2008). While this concept has its roots in medicine, in recent years the approach has expanded to include education (Burden, Younie, & Leask, 2013). At PEAR, we work to ensure that the latest findings on social-emotional development reach educators and families who then put these ideas into practice and, in turn, share their expertise with us to inform future research.

PEAR's work in education came out of my longstanding interest in social-emotional learning and development. Through my years of clinical work with young people and their families, I found that one-on-one clinical support was only a small piece of what it takes to promote mental health. The key to widespread promotion, prevention, and intervention was to reach youth where they spend most of their time: in schools and afterschool programs, and with their families. Schools and afterschool programs can work with PEAR to better understand how to implement this research in practical ways to benefit all children and youth. It is from this on-going collaboration that the Clover Model was created.

To further test and explore the strength of the Clover Model, we have used the framework over the past 10 years as we delivered training, research, and student support in schools, afterschool programs, and youth development organizations. The integration of the Clover Model into educational practice is an example of The PEAR Institute's translational research approach in action. In this overview, we will describe the Clover Model and its four domains of social-emotional development and discuss its theoretical origins and applications.

Future publications will explore how the Clover Model has been used in the field by partners, the connection between the model and mental health, its application to educational practice, the latest research based on the model, and its connection to the newest psychopathology literature.

Introduction

Imagine you're in a school meeting room in February. Around the table sit a teacher, a school counselor, a special education director, an afterschool program staff member, and a parent. They're here to talk about Jordan. Specifically, recent behaviors that create a troubling pattern: missed classes, plummeting grades, withdrawal from afterschool activities, and drugs hidden in a locker.

Every person at this table comes with a piece of the puzzle, an observation that could help explain why Jordan's behavior has changed so suddenly. They also bring their own language, understanding of the student, and priorities for intervention.

Go around the table and you'll find no shortage of ideas about what Jordan needs: tutoring to pass the upcoming state exams; a diagnostic screening to rule out depression; an evaluation to uncover an undiagnosed learning disability; an afterschool program for students

struggling with substance abuse; counseling to repair a strained family situation. And that's before we even ask for Jordan's perspective.

How can you find common ground when the views and paradigms of each member of "Team Jordan" are not only different, but also lead to friction among professionals? Often, the focus of these meetings is on what's going wrong for the student and leaves very little room to consider the young person's strengths.

We need a translation system: a social, emotional, and academic framework that can align everyone at the table, including Jordan. This paper discusses the development and application of framework currently used in schools and afterschool programs, the Clover Model (or DPT) that creates a shared language around strengths and abilities and how they can be used to address the challenges students face.

Foundation: Social-Emotional Development

A growing understanding is spreading among educators that certain non-academic factors can play an important role in both academic and life success for students (Bavarian et al., 2013; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Ferguson, 2011; Jones, Bailey, & Jacob, 2014; Oberle, Schonert-Reichl, Hertzman, & Zumbo, 2014). In recent years, many youth educators have turned to "social-emotional learning" (SEL) to better understand this interconnection (Greenberg et al., 2017, Osher et al., 2016; Weissberg, 2015).

The idea of educating the "whole child" has been germinating for decades, but a recent broadening of the Every Student Succeeds Act (ESSA) to include at least one nonacademic factor into every state's school accountability plan, has put the power of policy behind "academic success." While this decision is promising for those working in the social-emotional fields, the landscape is still confusing for educators.

While many agree that a focus on the social-emotional competencies is important, there is little clarity on

how it should be integrated into existing programming or what should be taught. To add to that confusion, a recent review of 136 social-emotional frameworks found that across frameworks, different terms are used for competencies that have similar definitions, while often the same terms are used for competencies that have different definitions (Berg et al., 2017).

One common misinterpretation of SEL is the belief that social-emotional competencies can be taught like any other academic subject. Many models narrow the focus to lists of social-emotional skills that should be taught in the classroom, overlooking the detailed developmental research that began the SEL movement. This approach pressures educators to add checklists of SEL skills on top of their academic priorities without providing the resources they need to effectively teach complex topics like empathy, perseverance, and optimism.

PEAR's approach, shared by others in the field, is to put the developmental perspective back into the center of the process (Farrington et al., 2012; Jones et al.,

2017; Malti & Noam, 2009). By understanding a child’s developmental strengths and challenges, educators can be more strategic about which competencies should be prioritized and how they should be approached to lead to the best outcomes. For that reason, PEAR deliberately uses the term “social-emotional development” (SED) but sees itself as part of the larger SEL and resiliency movements (Collaborative for Academic, Social, and Emotional Learning (CASEL), Noam & Cicchetti, 1996).

When we use the term SED, we’re referring to the growth of emotional, interpersonal, and resiliency skills and competencies essential to success and thriving throughout life. We prefer to call this process

“development,” because this term takes into account the windows of time when children and youth are most receptive to exploring and adopting certain skills, such as perseverance, emotion management, and teamwork. This process is about more than just a school-based curriculum or intervention, it is about combining social-emotional learning with developmentally appropriate timing to help youth thrive.

The Clover Model was created as part of the SED movement to explain the impact of physical, cognitive, and social development on the ways young people learn, behave, and interact with others, and how to align with their natural development to help build the social-emotional competencies they need to thrive.

The Clover Model: A Developmental Process Theory

The Clover Model (Figure 1) is also known as a Developmental Process Theory (DPT) (Noam & Triggs, 2016) that describes the experience of transitioning from infancy to adulthood (Malti & Noam, 2009; Noam, 1988; Noam, Malti, & Guhn, 2012; Noam & Triggs, 2016). The Clover Model was designed to illustrate the interconnection among four key youth development domains and describe the process a young person goes through as they grow and develop. The model is not intended to provide a comprehensive list of every competency a young person should acquire across a lifetime—it is an intentional simplification that focuses on the minimum elements needed for youth to thrive.

This model distills complicated developmental processes to the fundamental social-emotional needs of youth, which educators can use as a framework. Clover connects those fundamental developmental needs to key periods when the competencies required to meet those needs are most easily acquired (also known as “the zone of proximal development” (Vygotsky & Cole, 1978)). For example, sharing and turn taking can be covered in early childhood when the focus is naturally on identity and autonomy, while higher-level group problem-solving skills are better adopted later in adolescence when reflection and relationships are the more prominent focus.

The Clover Model has four domains of development: *active engagement*, *assertiveness*, *belonging*, and *reflection*. Active engagement represents the desire to physically engage

with the world; assertiveness, or agency, represents the development of voice and desire to express wants and needs; belonging represents the desire to build connections with siblings, peers, and adults; and reflection represents the desire for self-knowledge, understanding the meaning of existence, and identity exploration. (For more on the theoretical framework behind this model see *Research behind the Model* on page 16.)



Figure 1. The four dimensions of the Clover Model, a Developmental Process Theory.



What's in a Name?

The model is named Clover to convey growth, nurturance, and balance. The four “leaves” of the Clover also communicate an element of our natural differences and predispositions. Four-leaf clovers are rare in nature, so finding one requires cultivation and perseverance – and no two clovers are identical. Like plants, people are unique, and don’t naturally have a balance between all four “leaves.”

Clover helps us understand human developmental needs and establishes a common language for those who work with and guide children and adolescents. If you are less inclined to use horticultural metaphors, you can use a more scientific label and refer to Clover as a Developmental Process Theory (DPT).

Building from Developmental Theory

It took the field over half a century of research in many disciplines, particularly developmental psychology, to build an understanding of the evolution of emotions, thought, and meaning as they form and shift with an individual’s growth from childhood to adulthood. There is now an established body of youth development research that recognizes the physical, cognitive, relational, and emotional aspects of development. Many theorists have explored these domains, including Piaget on cognition (Piaget, 1954), Freud on the physical drive (Freud, 1967), and Bowlby on relationship formation (Bowlby, 1969), but few researchers have looked at the connections among and across domains.

While the Clover Model is inspired by the theories that came before it, we believe youth development is not like climbing a staircase with steps up at regular intervals; it is better understood as messy, vibrant growth, unique for each individual, much like the clover plant. The Clover Model focuses on the process of development, which is never a straight line forward.

The four fundamental domains of the Clover Model cannot be “climbed” like a staircase—they intersect, overlap and shift to balance one another. Moreover,

individuals are continuously developing in all four areas simultaneously. The Clover Model lets us see all of the processes at once and how they relate to each other. In this next section we will describe the three components that set the Clover Model apart.

Intersecting and Overlapping

In the Clover Model, each individual domain is meaningful, but the model focuses on how youth integrate all four domains. We must look at all four, as well as the overall combination, to understand social and emotional development. This is the Clover Model’s essential difference from the traditional stage theories of Erikson, Kohlberg, Loevinger, and Piaget and others derived from them.

The image of the clover was selected to emphasize that these domains do not occur sequentially: all domains are present at all points of development. The leaves are not distinct entities; rather, they overlap like a Venn diagram. Every individual exercises aspects of each of these four developmental processes and needs to balance them, with each domain taking prominence at specific periods of development. (For more on how the Clover domains intersect and overlap see *Using the Clover Model to Develop Social-Emotional Competencies* on page 13.)

Specializing and Updating

At certain times, one Clover domain becomes the main focus of a young person’s developmental path (e.g., a toddler in constant motion who needs to touch, taste, and feel everything, something Piaget called aptly “sensory motor,” is focused on active engagement, and a middle school student who centers her life around her friendships is focused on belonging).

While the Clover Model is not a linear, stepwise theory of development, the Clover domains are connected to specific moments in development, what we call times of “specialization.”

- **Active Engagement:** Early childhood, preschool (ages 0-5)
- **Assertiveness:** Middle childhood, elementary school (ages 6-10)
- **Belonging:** Early adolescence, middle school (ages 11-15)
- **Reflection:** Late adolescence, high school (ages 16+)

Specialization means that as a youth begins to focus on one Clover domain, the other domains experience a “developmental update” and are colored by the specialized domain (Figure 2). For example, as a child moves from middle childhood to early adolescence the focus shifts to belonging, fitting in with peers, and a preoccupation with inclusion and exclusion. The active engagement domain updates as the youth becomes

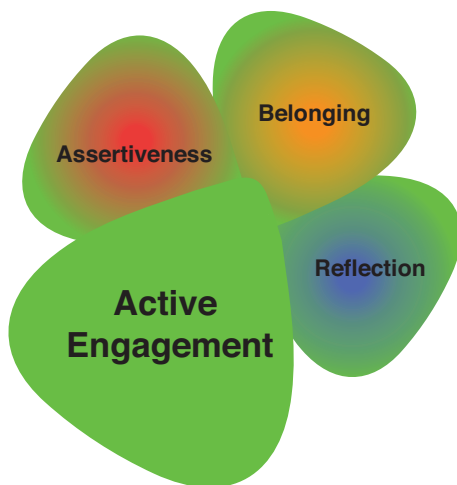
focused on how their physicality is perceived by others (the friendships made when joining a sports team, using skills and looks to “show off” to others, etc.).

Youth move along a continuum and prioritize the development of one domain before another, but that priority does not mean the other dimensions are inactive. Exceptions do occur, and some youth lag behind their peers, repress certain areas, or focus on a domain earlier than their peers. The updating process can move upward, downward, and backward, which is one of the reasons why we call Clover a developmental process theory.

Balancing

Every person’s Clover will be as different as the clovers found in nature. “Balance” within the Clover Model does not require four equally sized (or equally strong) domains. Each person has unique strengths and challenges, some of them genetically determined but often behaviorally expressed and influenced by environmental conditions and experiences. Every person seeks balance within those parameters by attending to all four domains. Even the most extroverted person needs a daily element of reflection. These skills are like muscles that must be exercised to remain strong—ignoring weaker domains in favor of strengths causes imbalances that could, if ignored, have repercussions on mental health. (For more on how the Clover domains balance see *Using the Clover Model to Develop Social-Emotional Competencies* on page 13.)

Active Engagement Specialization



Belonging Specialization

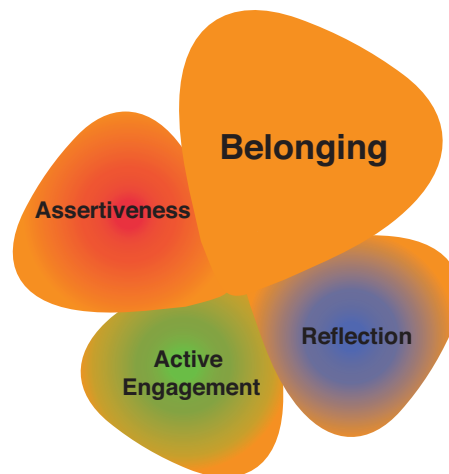


Figure 2. Two examples of specialization in active engagement and belonging, with colors blended to show how the domains interact with the specialized domain (active engagement, left; belonging, right) during developmental updates.

An Example of Balancing

Young people who have experienced school violence will often become very reflective at first about the gravity and trauma of their experience and what it says about the world they live in. But those students, given time and support to cope with the trauma, often transform that reflective period into action, drawing public attention to the tragedy and demonstrating for reform. In this way, they are moving from a reflective, philosophical stance to a physical, active stance in the world.



The Four Clover Domains

There is a large body of research on the various processes that we define as youth development, including the four domains the Clover Model encompasses. The model is not the only way to understand these processes, but we feel it is a useful tool that can guide those who work with youth, much like a guidebook for travelers seeking to understand their surroundings.



Active Engagement



Definition: Active Engagement is about physically connecting to the world. Everyone (regardless of physical ability) exists in their body—physical existence is the foundation of mental and emotional existence. The body is a significant factor in psychosomatic, eating, and stress disorders.

- **Age of specialization:** Early childhood (preschool)
- **Area of focus:** Body, impulse, executive function, and movement
- **Needs:** Hands-on activities; experiential learning; opportunities to move the body; structure; frequent short breaks; immediate rewards. To create more balance, practice reflection skills to improve impulse and emotion control.

Process: Active Engagement throughout Development

- **Early Childhood:** Preschoolers specialize in active engagement, with a focus on understanding the world through their bodies and movement. Playtime and recess are very important at this time, as are building skills around impulse control and self-regulation.
- **Middle Childhood:** The specialization shifts to assertiveness and identity formation. During this time, active engagement is updated to focus on how a youth's physical abilities help them form identity and assert themselves. Activities that showcase physical abilities, like sports and dance, can be particularly effective way for youth to use active engagement while developing their assertiveness skills.
- **Early Adolescence:** The youth's developmental focus shifts to belonging and feeling connected to peers. Active engagement updates during this period to a focus on how the body and physical abilities are viewed by peers and impact social status (e.g., athletic competitions and team sports, stage performances, etc.).
- **Late Adolescence:** Youth move into a period of specializing in reflection, with a shift toward introspection and a desire to find meaning in the world. Active engagement is a good balance for youth at this stage. Activities that encourage physical activity can help highly reflective youth learn how to live in the moment and reduce rumination. Conversely, when students have a specialization or a particular strength in active engagement, activities that build reflection skills can help youth build self-control and reduce impulsive behaviors.

Supporting Active Engagement

Whether in school, afterschool, or at home, encourage a variety of physical activities that match the youth's interests. To encourage balance, provide activities that incorporate both movement and time for reflection and self-regulation (e.g., mindfulness, stop/start games like "Red Light, Green Light" and games that require practice and perseverance to improve). In the classroom, provide opportunities for learning with movement; for instance, role-playing and drama-based activities, using math manipulatives, building models, and engineering design tasks.

Assertiveness



Definition: Assertiveness is about having agency and self-efficacy, the ability to negotiate one's self in relation to others, and make decisions. All humans feel the need to affect the world around them. Assertiveness reminds us that young people need opportunities to develop their voices, make decisions for themselves, and master internal order and executive function.

- **Age of specialization:** Middle childhood (elementary school)
- **Area of focus:** Voice, choice, and decision-making/executive function
- **Needs:** Choices and options, the opportunity to have a certain amount of control over things, being able to express an opinion and have it heard, respect and validation, opportunities to lead. To create more balance, develop belonging to learn empathy, strengthen relationships with peers and adults, and learn perspective-taking.

Process: Assertiveness throughout Development

- **Early Childhood:** Specialization in preschool is focused on active engagement and physical activity. Assertiveness often manifests in this period as the need to “do it themselves.” During this period children practice independence, particularly during self-care activities like dressing themselves and brushing their teeth. They interact with the world physically by taking what they want and often express frustration with full-body tantrums.
- **Middle Childhood:** Assertiveness is the area of specialization. In this period, it is important that youth feel their voice is heard and that they have a say in decisions that affect them. This is a critical time of identity formation with more focus on likes, dislikes, and other personal preferences. It is important to give them opportunities to express themselves through activities where they feel competent and enjoy themselves while showing off their skills, like talent shows or leading group activities.
- **Early Adolescence:** The developmental focus shifts to belonging. Assertiveness updates during this period beyond identity formation to include the youth's identity in relation to peers (i.e., leadership skills or an increased focus on social justice). Belonging and assertiveness balance one another well. Focusing on building assertiveness skills during belonging specialization can help youth maintain individual identity and resist peer pressure.
- **Late Adolescence:** The focus moves to reflection. Assertiveness updates in this time to incorporate the exercise of voice and making an impact on the world. The future looms large during this period and assertiveness can be expressed through goals set and decisions made as they move into adulthood.

Supporting Assertiveness

Don't be confused by the term “assertiveness.” This central need is not about asserting one's will over others. Support assertiveness by encouraging the child to express opinions and preferences, by minimizing power struggles, offering choices and options, and listening and validating the assertive child's experiences. Provide balance by encouraging opportunities for the child to participate in social activities that strengthen empathy and belonging.



Belonging

Definition: Belonging is about building strong relationships with peers and adults, group acceptance and group identity. The need for belonging is central to our early development in our attachment to our caregivers and continues throughout our lives in a variety of ways. Humans are social creatures, and group belonging is essential for well-being and survival.

- **Area of focus:** Friendship, empathy, trust, and support
- **Age of specialization:** Early adolescence (middle school)
- **Needs:** Connection to others and a feeling of belonging to a group. To create more balance, develop assertiveness to build a strong sense of self, personal voice, and independence.

Process: Belonging throughout Development

- **Early Childhood:** Belonging can be expressed during this time of specialization in active engagement through a focus on how relationships are formed around games, play, and other physical activities (e.g., the ability to take turns with others or share toys used in games). Also, lots of physical affection is important at this time. Little kids need physical touch and caring, and they express their connections to others that way as well.
- **Middle Childhood:** The specialization is in assertiveness, but belonging can be a good balance for youth during this time. Focusing on building belonging skills during a period of identity formation can help youth build empathy and greater connection with others. Recognizing that they have things in common with others and developing close friendships is very important. There are lots of “friendship” challenges during this time. They’re learning how to have a voice and have positive relationships, and intense in-group dynamics can start to form, especially for girls (e.g., choosing who to invite to birthday parties).
- **Early Adolescence:** Belonging is youths’ main developmental focus. The opinions of peers become of primary importance and things are viewed through the lens of the peer group. Just as focusing on belonging skills can help balance youth during their period of assertiveness, focusing on supporting assertiveness skills during belonging specialization can strengthen a youth’s sense of self and voice and can temper the others-first attitude that can come during this period.
- **Late Adolescence:** Reflection becomes the focus on development. Belonging updates itself during this period and fitting in with one’s own community and larger world becomes the focus. Romantic relationships become important during this time. Staying connected to friends as people move on to different phases of their lives is an important concern, as is creating meaningful friendships based on similar world views and purpose.

Supporting Belonging

Support belonging by building a strong relationship with the youth and encouraging them to participate in social activities and groups. Provide balance by encouraging the development of assertiveness and give them opportunities to express their voice and opinion to develop a strong sense of self. In learning there are several ways you can support belonging, including: teaching the skills of partner and group work; intentionally making groups to help youth support each other; presenting culturally relevant materials that young people can identify with.



Reflection

Definition: Reflection describes the need to create and make meaning. It involves making sense of one's own experiences, emotions and thoughts to create a sense of personal identity. Humans are conscious creatures; in fact, many philosophers have argued that the ability to reflect and take perspective is what makes humans unique.

- **Age of specialization:** Late adolescence (high school)
- **Area of focus:** Thought, analysis, insight, observation and understanding
- **Needs:** To find meaning in their lives and the world around them. To create more balance, develop the active engagement domain to help youth step outside their thoughts by engaging the body.

Process: Reflection throughout Development

- **Early Childhood:** Active engagement is the main developmental focus. During this period and throughout life for those with particular strength in active engagement, reflection can provide a good balance. To help youth think more deeply about their experiences, focus on building good reflection skills in age appropriate ways; for example, asking open-ended questions that help youth reflect and take perspective on others' experiences (e.g., during reading activities).
- **Middle Childhood:** The focus is on assertiveness. During this period, reflection competencies may express themselves through a focus on what it means to have a voice and how one can impact and influence the people around them by learning how to make inner thoughts (reflections) into outer communication (assertions).
- **Early Adolescence:** Belonging is the key area of specialization. Reflection may be expressed through a focus on what it means to connect to others and how to build deep and significant relationships with others. It can also be expressed through reflecting on conflict in relationships.
- **Late Adolescence:** Reflection becomes the area of specialization and all other Clover domains update during this time. Active engagement becomes a way to balance the internalizing and introspective aspects of this period, assertiveness is re-framed to focus on leadership and how one might have a voice in this world, and belonging is updated to a focus on deeper and more meaningful connections to others.

Supporting Reflection

Support reflection by providing tools like creative prompts and journaling. It's important to create some structured time for reflection that gives youth opportunities to share insight and observation. Provide balance by encouraging the building of active engagement capacities so the youth can live in the moment in their bodies and have breaks from their thoughts and introspective focus. The debriefing process is important during this time – even a seemingly simple activity can be followed up with reflective questions.

Using Clover to Develop Social-Emotional Competencies

Because the Clover Model's four domains exist during all phases of development, they have important connections that can help balance developmental strengths and challenges. This section discusses the interplay of the four Clover domains and how they can be used to find balance and leverage strengths to improve social-emotional competencies. The terminology described in this section often appears in other social-emotional frameworks, so it is useful to see how it applies to the Clover Model as well.

A Strengths-First Approach

The Clover Model was designed as a guide to enhance developmental balance by using youths' strengths to cultivate their less developed competencies. For example, a teacher using the Clover Model as a frame could see the active engagement strength in a student who is disrupting the classroom by drumming on the desk with two pencils. Instead of threatening punishment to quiet the student, the teacher would recognize the need to fidget and suggest that the student drum more quietly on their legs. This allows the student to continue to be active and to have choice over the activity.

A strategy that leverages strength (in this case the student's expression through physical activity) will be more successful in addressing the behavior than a punishment or a power struggle. Another approach for this situation would be giving the student a task like distributing materials that allows them to move around the classroom while still participating productively.

Beyond identifying strategies for intervention, the Clover Model is about shifting perspective and finding compromises in the classroom that encourage all youth to thrive. Youth can gain self-management skills if they are taught how to apply and grow their reflective self, move their impulses into more purposeful expression, and develop behaviors that encourage peer acceptance and positive relationships with adults. These social-emotional competencies are linked to academic success, positive peer and adult relationships, and mental health (Oberle et al., 2014; Ursache, Blair, & Raver, 2012).

The strengthening of all four Clover domains can support success for youth and avoid a negative, punitive focus on the youth's weaknesses.

Complementary Domains

The Clover Model calls domains that balance one other "complementary" (Figure 3). The skills developed in each domain can help with the social-emotional growth of their complement. For example, a youth who is very focused on belonging may weigh the opinions of their peer group so heavily that they struggle to identify their own voice, which hurts them when they put their trust in peers who do not treat them well. Strengthening the assertiveness domain can help a youth who has high belonging needs find balance by guiding them to widen their focus to include the self. In the same way, a person with strong capacities in reflection could benefit from developing skills in active engagement, where a focus on action can help balance a person who is indecisive or tends to "over-think."

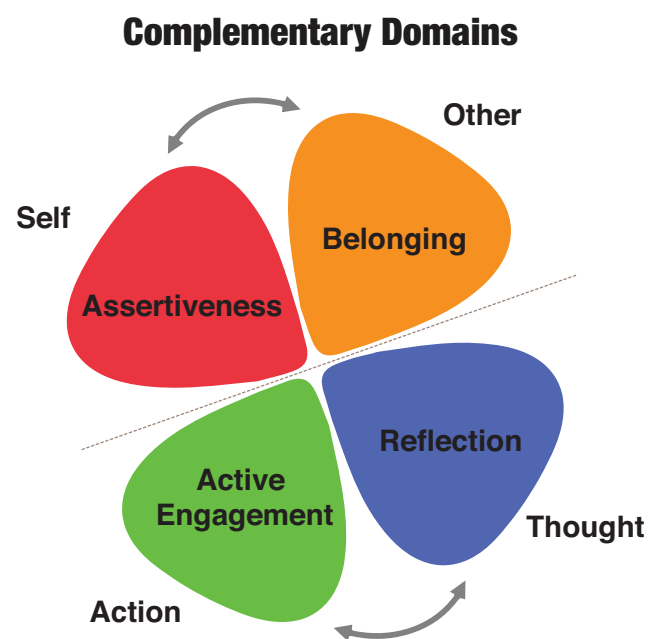


Figure 3. Complementary domains of self, other, action, and thought that create Clover balance.

Complementary domains can help determine which social-emotional capacities need support to create greater overall balance. It is important to recognize when youth have neglected certain social-emotional capacities because they are out of their comfort zone. For example, the introverted, highly reflective person still experiences social settings and relationships, the actively engaged person will experience times in life where they must find space to sit and reflect. The Clover Model doesn't presuppose that one can or must change one's essential temperament—a shy, socially reluctant person will not suddenly become extroverted by “balancing” their leaves, but they can benefit from having social experiences and finding ways to express

assertiveness and voice, even if they do so in a different manner or to a lesser degree than a highly assertive extrovert would.

In practice, the Clover Model can be used to select strategies that will help a young person balance strengths and challenges. The Clover Model can help those working with youth to identify their strengths and find activities that support those strengths while challenging them to incorporate some activities in domains where they have less natural inclination. Rather than trying to reduce or suppress Clover domains where there is a strong focus, it's important to use that energy to build complementary social-emotional competencies.



An Example of Complementary Domains

Elijah, a 16-year-old high school student, is very quiet and rarely speaks without giving a great deal of thought to what his classmates are discussing. Even then, he often has to be prompted by the teacher to participate. He's a very strong student but often has a troubled expression. Recently, with encouragement from one teacher, Elijah joined an art group in an afterschool program affiliated with a local college and staffed by professional artists. He began by applying his careful, methodical approach to his drawing technique. Slowly, the art teacher was able to guide him toward more experimentation with color. This led Elijah to explore abstract painting with a more spontaneous use of color choice. The active engagement he experienced with color, materials, and the artistic process allowed Elijah to experience movement and rhythm for a freedom of expression he had previously struggled to attain.

An Example of a Lack of Balance: High Assertiveness, Low Empathy

One of the Clover imbalances that most often causes conflict for young people is high assertiveness and low empathy (belonging). This combination is often seen in young people who have been traumatized. Their experiences sometimes lead them to feel justified in an exclusive focus on their own needs and anger about the unfairness of their life experiences when contrasted with their peers. This need for self-protection can lead them to ignore the needs of others and the lack of trust that results from trauma means they struggle to take perspective. While this is understandable, difficulty connecting with others can cause further long-term harm to a young person who is already struggling.

Often, the initial response when dealing with a highly assertive, conflict-prone student is to focus on the need for compliance and reduced assertiveness, which can lead to unproductive escalation. Instead of pushing against the youth's strong assertiveness, shifting the focus to building balance (by giving opportunities to grow through teamwork and cooperation) can help young people better understand other people's needs, which makes true loving relationships possible.



Externalizing and Internalizing Domains

When considering an individual's social-emotional strengths and challenges, it can be helpful to consider whether the relevant competencies of the Clover Model are self-focused ("internalizing") or others-focused ("externalizing"). We apply these terms reluctantly, as they are often used as diagnostic criteria in clinical settings, but there is value in recognizing that some strengths and challenges can be more visible than others. For example, a strong focus on assertiveness or active engagement will be apparent to all who know the youth, while the challenges of youth who care deeply about the opinions of others or spend their time ruminating on the meaning of their existence may go unnoticed, particularly if they are academically successful and take care to hide their struggles.

To identify the externalizing Clover domains, we split the image vertically (Figure 4). On the left are the externalizing domains: active engagement and assertiveness, on the right are the internalizing domains: belonging and reflection. The distinction between internalizing and externalizing can be a helpful frame when considering an individual's expression of Clover domains but it's important to remember that overlaps

occur across all domains. For example, a very assertive person can also be very reflective and a person with strength in active engagement can also be very focused on belonging. When applying the Clover Model, it is important to consider the overlaps of each Clover domain and how they each can complement and support each other.

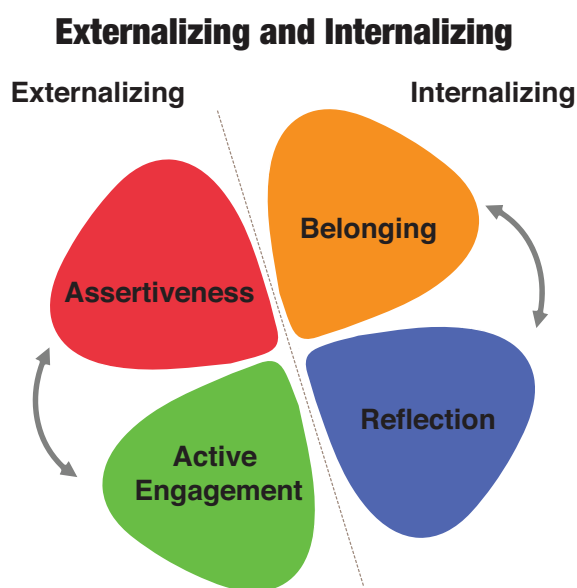


Figure 4. The externalizing and internalizing domains of the Clover Model.

Inter- and Intra-Personal Domains

Another way of looking at the interplay among Clover domains is to consider them within the framework of inter- and intra-personal skills. This is a distinction CASEL uses in its model and we view Clover as highly compatible with their work (Collaborative for Academic Social and Emotional Learning, 2017). Inter-personal skills concern relationships with others (building trust, effective communication, conflict resolution, team-building, leadership) and intra-personal skills concern the relationship with oneself (self-management, gaining confidence, critical thinking, optimism about the future).

When applied to the Clover Model, we see that the two complementary domains of belonging and reflection address the inter- and intra-personal, with the belonging domain covering the skills needed for inter-personal development and the reflection domain covering the skills needed for intra-personal growth (Figure 5). This is not a perfect distinction, as reflection can also be used for social awareness and belonging can lead to reflection about other people. For this reason we view the Clover leaves as overlapping.

Origins of the Clover Model

Research Behind the Model

The Clover Model was the result of over two decades of comparative research in various developmental models by Dr. Gil G. Noam. It incorporates attachment, functionalist, and social-cognitive developmental theory from Bowlby, Erikson and Piaget as applied to risk and resilience and normative development (Bowlby, 1969; Erikson, 1950; Piaget, 1954). Noam and colleagues presented a summary of this comparative research in Noam, Malti, & Karcher, 2013.

Noam's early work focused on adolescent ego development, how youth develop their theory of self, and the connection between mental health and education. For a selection of this work, see: Noam, 1985, 1988, 1990, 1993, 1999a; Noam & Hermann, 2002. Noam's longitudinal work with youth led him to consider the need for an integrated model of youth development. In Noam's subsequent research on developmental psychopathology, he found distinct developmental levels of self-complexity, social cognition, and emotions that are linked to resiliency and the risk of psychopathology (Noam, 1996, 1999b).

A person with a strong belonging leaf will be driven to connect, communicate, and include. A highly reflective person is drawn toward more solitary time to think, journal, and explore. But our focus is on the balance, the overlap and the connections between domains, not putting people into boxes.

Intra-Personal and Inter-Personal

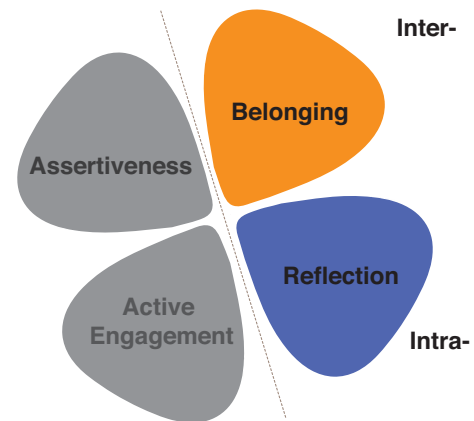


Figure 5. The intra-personal and inter-personal domains of the Clover Model.

The Clover Model builds on his previous work in adolescent psychopathology to include social-emotional development and resilience. It preserves a developmental point of view while broadening the scope from a stage-wise progression of sense-making (Piaget) or life tasks (Erikson) or a singular focus on relationships (Bowlby) (Bowlby, 1969; Erikson, 1950; Piaget, 1954). The following section provides a more detailed description of how the Clover Model was inspired by research and refined through practice.

Methodology

Noam's work to build a developmentally focused model that clearly explains students' social-emotional needs began with his work as a clinical and developmental psychologist. The process of developing the Clover Model can be broken down into three stages: initial *research* through literature reviews and field interviews, the *application* of the model to practice through partnerships with schools and afterschool programs, and the *connection* of the model to a student self-report assessment to validate and refine the theory with student data.



Stage 1: Literature review and field interviews

Beyond Stage Theory. The first phase of Clover Model development was a review of studies on youth development that investigated the relationship between personality development and social development in relation to psychological symptoms, resiliency, and well-being.

During this process, Noam began to question the widely held notion, popular with developmental researchers such as Piaget, Kohlberg, Anna Freud, and George Vaillant, that youth development is a process of reaching progressively higher stages.

While these theorists viewed certain domains as developing in sequence, Noam began to suspect they overlapped, with some elements that remain present throughout one's life. If you've ever come across a home movie of yourself as a child, you are probably familiar with the feeling that while much has changed, in some ways you're the same as you were back then.

To test this theory, Noam embarked on a longitudinal study that interviewed youth over time to learn from them what development felt and looked like (Noam, Powers, Kilkenny, & Beedy, 1990).

What You Can Learn by Talking to Youth. In 1990, Noam and his colleagues formed a new theory of self that outlined four relationship domains that they described as "adolescent worlds." This research built on a structural-developmental theory in the Piaget-Kohlberg tradition and demonstrated the need to overcome the limits of previous cognitive models. This research was the beginnings of the Clover Model as we know it today (Noam et al., 1990).

The "worlds" discussed in this chapter include:

- **The Subjective-Physical Adolescent World:**
"Guided by fantasy and a belief the world is run according to the way wishes emerge and are fulfilled."
- **The Reciprocal-Instrumental Adolescent World:**
"Needs gratification vs. acting out"
- **Mutual-Inclusive Adolescent World:**
"Inclusion vs. abandonment"
- **Systemic-Organizational Adolescent World:**
"Identity vs. identity diffusion"

To test their theory, they developed a semi-structured research instrument called "The Interpersonal Self and Biography Interview." The interview focuses on the interpersonal tasks of the adolescent phase and reviews the interview subject's perspective, choice, and reasoning concerning important relationships. The interview contained topics, questions and guidelines to guarantee the interview addressed all self-other domains.

Through the interview process, they found differences in how adolescents described their experiences. Some adolescents approached life from an impulsive perspective, others talked about power-oriented distinctions, some focused on how they fit into social groups, and others were more reflective about their quest to find identity.

The results of this study lead Noam to recognize that age and stage of development were connected, but that age wasn't the only determinant of developmental progress, because each youth had their own filter on their experience that couldn't be explained by their stage of development.

By looking at the data, it became clear that certain foundational needs and capacities exist within people throughout their lives. Noam refined the worlds defined in the study to the four domains that would form the basis of the Clover Model: *active engagement* (the physical world), *assertiveness* (the instrumental world), *belonging* (the inclusive world), and *reflection* (the organizational world).

Other Domains Considered. In selecting the four domains that make up the Clover Model, many options were not selected. Three that appeared frequently in Noam’s research were the spiritual self, creativity, and identity. Because the final four domains included in the Clover Model are focused and yet flexible enough to encompass many social-emotional skills and competencies, it was determined that all three were still represented. For example, reflection includes a focus on meaning making that can encompass spirituality, and creativity and identity are expressed to various degrees in all four Clover domains. Ultimately, Noam was confident that the four domains selected encompassed the widest range of social-emotional skills and competencies without any redundancy.

Stage 2: Creating the model and applying it to practice

The RALLY Program. After conducting longitudinal research and defining the model, the second stage of Clover’s development was to test its application to practice. The two early testing grounds for this model were Noam’s clinical psychotherapy practice and his collaboration with educational practitioners in the afterschool field through the Responsive Advocacy for Life and Learning in Youth (RALLY) Program. The RALLY Program provided a fertile testing ground for the application of the model. As part of the RALLY Program implementation, Noam interviewed practitioners to gain their perspective on the Clover Model theory. In general, the model was greeted with relief from practitioners who were glad to have a simpler way of thinking about youth development.

Building on Clover, the RALLY Program piloted three targeted intervention groups: *Ready, Set, Action* (with a focus on supporting strengths in active engagement and developing reflection skills), *Photo Justice* (with a focus on supporting strengths in assertiveness and developing belonging skills), and

StrongLinks (with a focus on supporting belonging strengths and developing assertiveness skills). The RALLY Program and Clover Groups will be discussed in more detail in a future publication and are described at length in an issue of *New Directions for Youth Development* (Noam & Malti, 2008).

Partnership with City Year. After working with school-based practitioners to apply the Clover Model to student intervention programs, The PEAR Institute embarked on a multi-year collaboration with City Year, a youth-serving organization working in 28 cities across the U.S., that helps close the gap in high-need schools by placing teams of talented young people in schools to build “near-peer” relationships with students (see Brett, Hill-Mead, & Wu, 2000). This collaboration was designed to use the Clover Model not only as a way to understand young people, but also as a tool for organizational change.

City Year adopted the Clover Model as part of their professional development for the entire organization. After receiving this theoretical research-base, City Year managers carried their new knowledge of SEL to their sites across the US. Today, every City Year manager and Corps Member is trained in the Clover Model and uses it as a guidepost to their work with young staff inside the organization, and with the thousands of students served by City Year volunteers embedded in public schools.



Figure 6. The four social-emotional curricula groups based on the Clover Model (Reflections is currently in development).

The work with City Year was an important proof-point in the development of the Clover Model to demonstrate its applicability for large-scale organizational change.

Stage 3: Connecting the model to data-creating assessment and observation tools

The next step in the continued development and refinement of the Clover Model was to connect it to assessment tools so we could measure the application of this theory to practice with quantitative data. To better understand the student perspective, Noam and the PEAR team developed the Holistic Student Assessment (HSA), a student self-report survey that measures three

key social-emotional domains: resiliencies, learning and school engagement, and relationships. PEAR has built a representative data sample that includes survey results from over 80,000 students, allowing us to create norms for youth comparison by age band and gender.

Several variations of the HSA are in development to better understand the perspectives of teachers, after-school practitioners, and family on youth's social-emotional development. Administration of the HSA in school and out-of-school time (OST) programs is accompanied by teacher and facilitator professional development on the Clover Model. Future publications will discuss the HSA and the Clover training that supports the assessment in more detail.



Scaling Targeting Interventions: *Ready, Set, Action*

The PEAR Institute's social-emotional development curricula, the Clover Groups, are designed to help youth build social-emotional competencies through their relationships with adults and peers. The Clover Groups are based on the Clover Model but are flexible enough to be adapted to the specific needs of the students and programs that use them.

For example, The PEAR Institute has partnered with an international youth-serving organization to adapt and scale the *Ready, Set, Action* curriculum, a program for 9-14-year-olds that helps youth with strength in active engagement find balance by focusing on self-awareness, self-control, perseverance, and teamwork.

**ready
set
action**



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To see how the Clover Model is currently incorporated into the presentation of HSA data, we've included an image of an HSA Data Dashboard (Figure 7). For more on social-emotional measurement, see Noam, Allen, Triggs, 2018.



Figure 7. A sample HSA dashboard using the Clover Model.

Future Directions

The next step in the further refinement and use of the Clover Model is expanded research, including longitudinal data analysis to better understand the youth experience over time. PEAR will explore whether a youth's specialization in certain Clover domains continues into adulthood or changes over time. Noam has begun the theoretical exploration of these ideas in a recent chapter for *Emerging Trends in Social and Behavioral Science* (see: Noam & Triggs, 2016), and hopes to reinforce and refine his theories with longitudinal data.

Another goal for the Clover Model is the refinement of the Clover Groups currently in pilot across the country. PEAR is also working with partners to develop a more integrated data collection and reporting system. This system will help make deeper connections across the field. By helping educators better understand the social-emotional needs of the youth they serve, they will be able to tailor learning experiences to meet individual needs. If you would like more information about the work of The PEAR Institute, you can visit us at: <https://www.thepearinstitute.org> or contact us at pear@mclean.harvard.edu.

Conclusion

Let's return to Jordan, our student presenting with missed classes, plummeting grades, withdrawal from afterschool activities, and drugs hidden in a locker. Let's imagine the meeting to discuss Jordan's needs didn't happen in February, but at the beginning of the school year. For this scenario, assume staff at Jordan's school were trained in the Clover Model and administered the HSA social-emotional survey at the beginning of the fall term.

Within a week of taking the survey, Jordan's teachers and school counselor had a clear picture of Jordan's developmental strengths and challenges. Applying the developmental process theory (Clover) helped the community of support see Jordan's behaviors as part of a process, and staff were able to provide support before Jordan's emotional health and academic performance significantly suffered.

When a youth's developmental process (and the areas in which they need extra support to find balance) are not understood, problems can escalate and become more chronic. If there is no understanding and no action until the problems manifest in rule-breaking behavior or poor academic achievement, the student suffers more than is necessary and the cost (in time, energy, money, and additional risk) is significant.

If the problem is only identified in February, and the time needed for discussion, testing, and intervention planning usually takes months, Jordan will have struggled through an entire school year without support.

At The PEAR Institute, we encounter students like Jordan every day through our work in school districts, schools, afterschool programs and youth-serving organizations. We not only "find" the individual student and suggest interventions, either existing ones or ones that we have developed, but we also provide professional development for schools and programs to help them look at the whole school/whole system level (what we refer to as "going upstream") to find ways to increase social and emotional well-being and improve the school climate. Only through these efforts can we reduce the numbers of Jordans who are suffering and are not receiving the services they need.

To get there, we need an integrating theory, a common language for all the adults involved, and assessments and interventions tied to a unified view of the process of development, learning, and thriving. It is with these goals that we have created the Clover Model (DPT) and all the tools that we make to support practitioners in this important work.



Acknowledgments

We would like to thank the entire team at The PEAR Institute for their commitment to improving the lives of children and educators across the country. We would specifically like to thank Jane Aibel, Patricia Allen, Lila Givens, Sara Hoots, Laura Lentz, and Caitlin McCormick for their contributions to this manuscript.

The Clover Model was refined over many years of working closely with strong partners interested in improving the social-emotional well-being of the youth they serve. These partnerships are essential to our work and our ability to both translate our theoretical work to practice and use practice to drive and inspire our research. The Clover Model is currently being used widely and our work with practitioners has evolved as we refined the model.

For example, the very in-depth multi-year work of our partners at [City Year](#), a large youth serving organization in [28 cities across the U.S.](#), that helps close the gap in high-need schools by placing talented teams of young people in schools to create “near-peer” relationships with students. City Year has adopted the Clover Model as part of their professional development for the entire organization. Every City Year manager and Corps Member is intensely trained in the Clover Model and uses it as a guidepost to their work.

For more about our partnership with City Year, read: [How City Year AmeriCorps members nurture students’ social-emotional growth – and their own.](#)

We’d also like to acknowledge our partners at [Sprockets](#), a network of afterschool and summer programs for youth in Saint Paul, Minnesota. Sprockets is committed to improving the quality, availability, equity and effectiveness of out-of-school time learning for all St. Paul youth. Sprockets has used the Clover Model and Holistic Student Assessment as part of their SEL Pilot work to provide professional development for youth-serving professionals and school-based educators or administrators working with middle and high school youth. To learn more about this work, read: [SEL Pilot Year 1: Lessons Learned.](#)

In this paper, we focused primarily on the research and the measurement behind the development of the Clover Model. Additional publications on Clover are forthcoming, including a deeper discussion about the research connection between Clover and the Holistic Student Assessment, the link between Clover and psychopathology, crosswalks between Clover and 21st-century skills, and a deeper exploration of how this work has been honed in real-life educational settings, among other topics.

We have presented the Clover Model as a framework that can be applied to many different educational settings -- now is the time to bring the model to places where it can support practitioners. We’d like to acknowledge all past, present, and future collaborators who are helping to bring these tools and practices to children across the country and world.



Glossary

- **Active Engagement:** Active Engagement is about physically connecting to the world. Everyone needs to live in and use their bodies, regardless of physical ability. The body is the foundation of all experience and can become a great concern in psychosomatic, eating, and stress disorders.
- **Adolescence:** The time related to the teen years, which has complicated boundaries with puberty, often beginning as early as ages 9 or 10 and with late adolescence/emerging adulthood reaching into the 20s. (For more on adolescence, see Simmons & Blyth, 2017.)
- **Assertiveness:** Assertiveness is about having self-efficacy, the ability to negotiate one's self in relation to others, and make decisions. All humans feel the need to affect and influence the world around them. Assertiveness reminds us that young people need opportunities to assert themselves; in other words, they need room to develop their voices, to make decisions for themselves, and to master internal order and function.
- **Belonging:** Belonging is about building strong relationships with peers and adults, mentorship and group acceptance and group identity. The need for belonging is central to our early development as humans in our attachment to our caregivers and continues throughout our lives in a variety of ways. Humans live in societies, and belonging to a group, a culture, a society is essential for well-being and survival.
- **Competencies:** In the social-emotional world, *competencies* and *skills* are often used interchangeably. We prefer the term *competencies* because it is a broader, more inclusive view of what components are necessary for successful development, and encourages people to consider a whole-child approach to SED over a narrower view.
- **Complementary:** Used to describe Clover domains that have a balancing effect on each other (e.g., building belonging competencies like empathy and cooperation can balance a strength in assertiveness and a focus on the individual voice and group leadership).
- **Developmental Process Theory (DPT):** A developmental process theory attempts to describe what young people experience as they transition from infancy to adulthood. This theory includes the internal priorities and focus of young people as they age, as well as how those developing competencies and needs and expressed through the physical relationship with the world, identity and voice formation, relationships with others, and internal meaning-making of the world around them.
- **Domains:** In relation to human development, the word “domain” refers to specific aspects of growth and change (Berger, 2011).

- **Externalizing:** Others-focused behaviors or competencies, often used in mental health to describe maladaptive behaviors directed toward a person's environment (e.g., hyperactivity/inattention or conduct disorders).
- **Internalizing:** Internally-focused behaviors or competencies, often used in mental health to describe maladaptive behaviors directed inward that may be harder to detect than externalizing behaviors (e.g., emotional symptoms, depressive disorders, anxiety).
- **Reflection:** Reflection describes the human need to create and make meaning. It involves making sense of one's experiences, emotions and thoughts to create a sense of personal identity. Humans are conscious creatures; in fact, many philosophers have argued that the ability to reflect and take perspective is what makes humans unique.
- **Social-Emotional Development (SED):** SED refers to the growth of emotional, interpersonal, and resiliency skills and competencies essential to success and thriving throughout life.
- **Specialization:** The time period when a Clover domain connects to a specific moment in development (e.g., in middle adolescence, the Clover domain of Belonging becomes the focus for youth and the lens through which they see all other experiences: *Do I belong?*).
- **Updating:** When a child goes through a developmental transition (e.g., from early childhood to middle childhood) they will often shift specialization (focus) from one Clover domain to another (e.g., from active engagement to assertiveness). When the shift occurs, the remaining three Clover domains "update" and are viewed by the youth through the lens of the specialized domain. For example, as a child moves from middle childhood to early adolescence the focus shifts to belonging, fitting in with peers, and a preoccupation with inclusion and exclusion.
- **Whole Child:** A focus on children and youth asserting that life success goes beyond academic success and that educators should work to support all the ways children learn, dream, and thrive.
- **Youth:** In our work, we use "youth" to refer to the time of child and adolescent development, usually encompassing the ages between 4 and 20.

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About The PEAR Institute

The PEAR Institute: Partnerships in Education and Resilience is a nonprofit organization in created to promote innovation in education. Based on a belief that high-quality programming can build youth social-emotional resiliency and contribute to school and life success, Dr. Gil G. Noam founded the institute in 1999 as a collaboration between the Harvard Graduate School of Education and Harvard Medical School before relocating to McLean Hospital in Belmont, MA.

The PEAR Institute takes a developmental approach to the study of new models of effective educational programming and incorporates educational, health, public policy, and psychological perspectives. Its programs and projects are a part of a number of schools and afterschool programs across the United States and internationally. Our staff is comprised of experienced psychiatrists, social workers, instructional specialists, school and classroom teachers, former school and out-of-school time (OST) administrators. PEAR partners with school districts, out-of-school-time programs and youth-serving organizations to promote social-emotional development in the service of student engagement, academic achievement, and life success.

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