Competent Learner Model (CLM) Education White Paper

Introduction: When the Education for All Handicapped Children Act (PL 94-142) was signed into law in 1975, one of the primary commitments was to ensure access to a public education for the nearly 1.8 million children with disabilities who were being excluded. Today, our public schools educate more than 6.9 million students with disabilities alongside of their more than 50 million non-disabled peers. We have come so far, yet, we still continue to struggle to meet the full promise to our nations students as our implementation of the law has been "impeded by low expectations, and an insufficient focus on applying replicable research proven methods of teaching and learning for children with disabilities" (ESSA, 2015).

Complexity: To those outside the field of education, it may seem unbelievable, that we, the educators, have not yet institutionalized effective, efficient, professional development interventions that we immediately mobilize to disseminate any newly validated content necessary to improve student outcomes. And maybe even more surprising is the lack of any systematic, universally used method to determine what gets selected for professional development. However, those of us who "teach the teachers" fully understand that professional development for educators is no less intricate than any other issue in education and as with all worthy endeavors, complexity is ubiquitous (Birman, Desimone, Porter, & Garet, 2000; Borko, 2004; Gulamhussein, 2013; Guskey, 1994; Klinger, 2004; Mason, 2014; Timperley, Wilson, Barrar & Fung, 2007).

US public education is a tangled interplay of factors that rise and fall in competition at the intersection of federal, state, and local urgencies. What gets prioritized for professional development may or may not address some of the most vexing challenges faced by most educators in most schools (Borman, Hewes, Overman, & Brown, 2003; Breton, 2010; Hustler, 2003).

The Competent Learner Model (CLM) Team Based Professional Development program addresses four complex, inter-related realities faced by most educators in most schools:

1. Increasing numbers of students with autism and other significantly complex learning and behavioral challenges are educated in general education settings.
2. Complex student needs require school based multi-disciplinary teams (MDTs) to work together to design and deliver evidence-based interventions with consistency.
3. Insufficient training and support to use empirically validated interventions with fidelity.
4. Lack of tools and training to implement programs to achieve and sustain intended effects.

The Competent Learner Model:

The *CLM* is a team based professional development program that includes tools and processes to build a bridge of consistency across all intervention efforts, contexts and team members. (Tucci, 2005; Tucci & Hursh, 1988; Tucci & Hursh, 1991; Tucci, Hursh, & Laitinen, 2004; Tucci, Hursh, Laitinen, & Lambe, 2005; Warash, Curtis, Hursh, & Tucci, 2008).

All components of the program are theoretically grounded in and designed with empirically validated methods from Applied Behavior Analysis, Direct Instruction, Precision Teaching, Personalized System of Instruction, Instructional Coaching, and Implementation Science.

Learning and Loving It:

Imagine a world where students with autism and other significant learning and behavioral challenges are instructed in core skills that facilitate successful participation in typical educational and community environments; skills that have great utility across all areas of their lives. Imagine a world where educational teams are supported, have the tools they need to teach students with complex needs and go home every day feeling accomplished and eager to return to their classrooms the next day. Imagine a world where family and community members believe in and support public educators because they notice significant improvements in the children they love.

Although, this might sound improbable at large scale, current implementations of the *CLM* are producing these exact results. During the past 30 years, the model has been developed and applied in public school settings in California, Pennsylvania, and Virginia. These implementations have allowed us to learn about and refine the intervention's necessary components to build the knowledge and skills of teams to produce positive student outcomes and sustain results over time.

Reality # 1:

There are increasing numbers of students with autism and other significantly complex learning and behavioral challenges being educated in the general education environment.

Autism used to be a little known, low incidence disability often confused with other developmental or mental health disabilities. But that was before…before autism was the fastest-growing disability, before the mainstream media was paying attention, before educators were scrambling to build quality programs and long before researchers were devoting their entire careers to unraveling the complexities of Autism.

Currently, the CDC reports autism prevalence rates of 1:68 births in the US (CDC, 2017). An estimated 3.5 million Americans are living with autism and national spending on services and research is at an all-time high of over $268 billion in 2015 with projections up to $461 billion by 2025 (Leigh & Juan, 2015).

Autism Spectrum Disorder (ASD) is a multifaceted disability that is characterized by impaired social communication and behavioral challenges. There are countless combinations of how the core deficits manifest and interfere with academic and functional success (Kucharczyk et al., 2012; Marder & de Bettencourt, 2015; NAC, 2009; NAC, 2015a; NAC, 2015b; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010)

US Department of Education data indicates that 538,000 students received special education services under the autism category during the 2013-14 schoolyear. Over 57% of those students were educated in general education settings for 40% or more of their school day. Across all disability categories, over 81% of students were educated in general education settings for 40% or more of their school day (US Department of Education, 2016). All one has to do is put these numbers into proper perspective and quickly apathy turns to alarm as we consider the complex and massive professional development challenge that exists.

Educators repeatedly report receiving inadequate preparation in evidence-based interventions during both pre-service and in-service training and feeling ill prepared to deal with the complex nature of autism (Morrier, Hess, & Heflin, 2011). In addition, students with disabilities have *"more than three times the incidence of behavior problems as typically developing students"* (Gebbie, Ceglowski, Taylor, and Miels, 2011). Lack of training and skills in managing challenging behaviors is a significant contributor to teacher burnout and stress. Burnout and stress increase turn over and then ultimately impact the sustained use of evidence-based practices with students who have the most complex instructional needs (Ingersoll, 2016; Radford, 2017).

Reality # 2:

Complex student needs require school based multi-disciplinary professionals to work together to design and deliver evidence-based interventions with consistency.

There are over one million teachers, para-educators, and multi-disciplinary school-based service providers educating students with disabilities in US public schools (US Department of Education, 2016). "Collaboration is not a stand-alone process being employed for its own sake. It is a technique designed to accomplish a goal in a manner not attainable alone" (Bauer, Iyer, Boon, & Fore, 2010; Dettmer, Thurston, Knackendoffel, & Dyck, 2005; Lawson, 2004).

Not only is collaboration between multi-disciplinary professionals in special education mandated, it has long been viewed as "best practice" and linked to student success (Barbra & Mutswanga, 2015; Bauer, Iyer, Boon, & Fore, 2012 Cross, Traub, Barnes & Turner, 2001; Pena & Quinn, 2003). Despite this, many multi-disciplinary team members continue to work parallel to each other rather than in relation to each other and to the student. Unfortunately, this fragmented mode of operation is fraught with opportunity to reduce the quality and consistency in student programming (Hernendez, 2013; Hunt, Soto, Maier, Muller, & Goetz, 2002;).

The *CLM* addresses one of the most complex professional development dilemmas faced by school systems: "the multi-disciplinary team". Specifically, how to get a group of educators (i.e., general and special education teachers, para-educators, speech/language clinicians, occupational therapists, school psychologists, etc.) consistently working together, utilizing empirically validated instructional interventions to produce positive student outcomes despite differences in experience, training, beliefs and practices (Choi & Pak, 2006; Friend, 2008; Hernandez, 2013).

The *CLM* approach to professional development incorporates vital processes and skills related to successful collaboration as a foundation for multi-disciplinary teams to function with trust, respect, and shared commitment to student outcomes. (Axford, Berry, Little & Morpeth, 2006; Hustler, 2003; Mâsse et al., 2008, National Cancer Action Team 2010).

Reality # 3:

***Insufficient training and support to use empirically validated interventions with fidelity*.**

The increasing prevalence of autism has resulted in more and better research and an urgency to analyze, synthesize and translate it for all stakeholders to consume (Wong et al., 2014; NAC, 2015a: NAC, 2015b). Resources that categorize the "state of the evidence" for intervention practices are now available to help school leaders make informed decisions regarding investment in programs and professional development. Yet, research validated interventions continue to be absent in most school programs (Burns & Ysseldyke, 2009; Hess, Morrier, Heflin & Ivey, 2008; Marder & de Bettencourt, 2015).

The *CLM* takes the complexity out of how to mix and match the evidence-based interventions with appropriate training. By wrapping the training and coaching component around the *CLM* tools used for student assessment and instruction, school teams expand their knowledge and competencies of behavioral principles and techniques while working with their own students in their own schools.

Effective professional development is defined only by changes in staff practice and improvements in student outcomes (Gulamhussein, 2013; Timperley, Wilson, Barrar & Fung, 2007). Evidence based principles for the design of effective professional development that leads to improved student outcomes are embedded throughout the *CLM* process and tools (Blank, 2013; Blank & De Las Alas, 2009; Guskey, 2002; Guskey, 2003).

Principle 1: Learning opportunities provided over extended period of time.
Principle 2: Involvement of external experts and coaching throughout implementation.
Principle 3: Active engagement in the new learning not passive listening.
Principle 4: Challenges assumptions and techniques required for effective instruction.
Principle 5: Develops a *"community of practice"* to learn and practice together.
Principle 6: Is supported by school leadership through protected time.

CLM coaching embeds behavioral-skills training, various types of modeling, written instructions, video examples and face to face performance feedback for all team members as they learn how to implement the evidence-based interventions. These training methods have been found to have statistically significant positive associations with intervention implementation fidelity (Brock et al., 2017; Brock & Carter, 2016; Chen, 2015; Hall, Grundon, Pope & Romero, 2010).

Reality # 4:

Lack of tools and training to implement programs to achieve intended effects.

It has been well documented that major gaps exist between what is known as effective practices and what is actually used and implemented in classrooms. We know this is not simply a training issue (Chor, Wisdom, Olin, Hoagwood, & Horwitz, 2015; Cook, Cook & Landrum, 2013; Elmore, 2002; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005).

Complexity and implementation scientists working in education, health, and other human service sectors are calling for cross disciplinary and concurrent multi-level approaches to solve our most complex problems in research, service, training and policy" (Choi & Pak, 2006; Cook & Odom, 2013; Fixsen, Blase, Naoom, & Duda, 2013; Fixsen, et al., 2005; Freeman, Sugai, Simonsen, Everett, 2017; Mason, 2014; Masse et al, 2008).

Mason (2014), argues that because of the innate complexity of our educational system, there are no independent professional development interventions. Any changes required at the classroom level, have implications at school and district levels and need to be supported by related interventions across multiple levels.

"Implementation" is defined as a specified set of activities designed to put into practice an activity or program of known dimensions. According to this definition, implementation processes are purposeful and are described in sufficient detail such that independent observers can detect the presence and strength of the "specific set of activities" related to implementation" (Fixsen, et al., 2005).

Creating change consists of many common factors including identifying, conveying and convincing others of a need; establishing a sense of necessity and forming alliances with others who will help generate and sustain the change effort; creating a detailed, action oriented plan of change while at the same time generating a plan to ensure the needed infrastructure for sustaining the change; educating, training and coaching the implementers of the change; and developing methods of evaluation and ongoing progress monitoring of the change effort all while being sufficiently flexible and adaptive (Fixsen, et al., 2005; Grochalska, 2013; Marzano, 2003; Nielsen, 2005; Odom, Cox, Brock, 2013; Powell et al., 2015). We believe that our collaborative consultative approach, coupled with the core components of the *CLM*, builds capacity within schools to implement evidence-based instructional and behavioral programming with fidelity and good effect.

The *CLM* Difference:

A unique and central tenet of the *CLM* is that PARTICIPATION repertoires (e.g., teacher-directed, non-directed, etc.) are critical for academic and life success. Competent Learners consistently participate and persist in a variety of instructional conditions or life circumstances and continue to work hard even when exposed to new, unexpected and/or difficult situations. Competent Learners fluently adapt to environmental demands and demonstrate the appropriate type and combination of participation, problem solving and other skills for the context (Tucci, 2005; Tucci & Hursh, 1988; Tucci & Hursh, 1991; Tucci, Hursh, & Laitinen, 2004; Tucci, Hursh, Laitinen, & Lambe, 2005; Warash, Curtis, Hursh, & Tucci, 2008).

Much like a good reading curriculum develops core repertoires that combine to produce decoding and comprehension of the printed word, the *CLM* curriculum develops fluency in core repertoires that combine to generate important skills and behaviors foundational to independent learning.

Replication Data:

From 2005 – 2010, the autism training initiative at Pennsylvania Training and Technical Assistance Network (PaTTAN), the training arm for the Pennsylvania Department of Education, Bureau of Special Education, operationalized the Pennsylvania *CLM* Training and Dissemination Project. Under the project lead of Dr. Cathy Scutta, 22 PaTTAN *CLM* Coach trainers, trained 166 local level in-house *CLM* Coaches implementing in 205 classrooms, training 2025 educational team members, impacting 1230 students. A recent survey conducted by Tucci Learning Solutions in the spring of 2017 verified 129 current *CLM* classroom implementations sustaining with only in-house *CLM* Coach support.

From 2010 – 2014, Dr. Cathy Scutta replicated the *CLM* Training and Dissemination Project in the Shenandoah Valley Regional Program, a special education consortium consisting of six county-wide school divisions. Dr. Scutta trained 3 in-house *CLM* Coordinators, 25 in-house *CLM* Coaches implementing in 40 classrooms, training over 300 educational team members, impacting 303 students. A recent survey conducted by Tucci Learning Solutions in the spring of 2017 verified 43 current *CLM* classroom implementations sustaining with only in-house *CLM* Coordinator & Coach support.

Effectiveness Research Data:

Kubina and Wolfe, (2007), conducted a small pilot research project to experimentally evaluate the effectiveness of the *CLM* on student outcomes in ten PA classrooms; (5) involved in the *CLM* Project and (5) conducting business as usual with their students. They found overall improved student outcomes in the *CLM* group with significant improvements on the Vineland scores in interpersonal relations, play, leisure and coping.

An independent evaluation done by researchers at Temple University of three ABA school based models for students with autism in Pennsylvania public school settings (Hineline & Axelrod, 2010) found the *CLM* resulted in greater improvements in student outcome measures than the other two ABA models.

To date, there have been nine doctoral research projects completed on various components of the *CLM*. In addition, we have accumulated school based data on hundreds of students that demonstrate student growth across academic, behavioral, and functional skills. These are available upon request.

CLM CORE COMPONENTS

Core Component 1:
Team Based Professional Development Training and Coaching Tools

CLM Course of Study (CoS) with Performance Task Checkouts

The *CLM* Course of Study consists of scoped and sequenced training materials designed to incrementally build MDTs who speak a common language, agree on basic methodology, and enhance their individual instructional practices. The CoS scope and sequence currently has 17 online training modules designed using programmed instruction format with embedded active student responding, video exemplars, and competency-based performance task checklists.

CLM Coaching

The certified *CLM* coach is the trusted collaborator who provides the ongoing, in-situ training and coaching around how to use the *CLM* tools and apply the interventions to every complex student within every unique educational context. All educational team members are assigned a certified *CLM* coach who works with them throughout the training and implementation process and beyond. The primary responsibility of a certified *CLM* coach is to bring team members to mastery with the theoretical and intervention competencies associated with the *CLM* Course of Study. They must always adhere to the *CLM* general rules of coaching.

Core Component 2:
Student Assessment, Instruction, Behavior Management and Progress Monitoring Tools

CLRA

The Competent Learner Repertoire Assessment (CLRA) is a curriculum based assessment typically used to assist in formulating instructional programs and demonstrating growth of repertoires after a given period of time. It is used as part of the evaluation or re-evaluation process prior to developing and prioritizing annual IEP goals. Results are graphed.

CLM Curriculum

CLM curriculum is academic content neutral and is utilized to develop seven core Competent Learner Repertoires(CLRs): observer, listener, talker, reader, writer, problem solver, and participator that form the core of all learning such that when combined with tool skills support the mastery of academic subject matter and augment the development functional life skills.

The Direct Instruction designed *CLM* Curriculum includes a placement test to quickly determine where to begin teaching. The teaching formats specify what to teach, how to teach and criteria for measuring student mastery at every lesson in every repertoire.

The *CLM* Curriculum uses generative instruction interventions by embedding evidence-based instructional procedures from Applied Behavior Analysis, Direct Instruction and Precision Teaching into a carefully scoped and sequenced set of teaching formats that incrementally build fluent component skills. Educators engineer the student day by embedding the *CLM* Curriculum instructional formats across academic and functional content within naturally occurring instructional activities. Students are provided frequent opportunities to practice newly learned component skills and encounter the real life environmental demands that recruit those skills to combine in new and complex ways. Students learn what to do, can do it well, and do it under appropriate and novel circumstances (Layng, Twyman, Stikeleather, 2004).

CLM Contingency Design Manual

CLM Contingency Design Manual is used to formulate behavior intervention plans with empirically validated interventions from Applied Behavior Analysis, Direct Instruction and Precision Teaching.

Core Component 3:
Implementation Fidelity and Sustainability Tools

CLM Coordination

The *CLM* Coordinator role is responsible for oversight of the adherence to the *CLM* Policies and Procedures derived to assure the precise application of the research based and data driven *CLM* Learning Solutions within *CLM* Implementations.

CLM Action Management

The *CLM* Action Management is a project management process to facilitate the completion of projects with others. This *CLM* process and tool is utilized along with other implementation tools from the National Implementation Research Network during all stages of implementation. It is especially useful as part of the exploration stage and combined with the Hexagon Tool to attain stakeholder involvement and build consensus with the initial implementation plan and priorities. Ultimately, *CLM* Action Management process can be used at all levels of implementation, from the highest level of strategic long-term planning for the system-wide *CLM* implementation down to student specific team planning. The *CLM* Coordinator is responsible for teaching and facilitating this process.

Implementation Accountability Process (IAP)

The *CLM* Implementation Accountability Process (IAP) details the hundreds of steps involved in fully implementing the *CLM*. It includes each of the individuals and entities involved and their unique responsibilities for the relevant steps. The intent of the IAP is to assure that everyone on the *CLM* Team knows what is happening in a *CLM* implementation and who's responsible for the tasks.

The IAP is organized in phases to represent the iterative process of change that occurs through the staff training and the implementation of the various *CLM* component tools The initial startup phase is devoted to introducing the model, getting to know the stakeholders, building rapport and other, largely administrative tasks. The four subsequent phases directly impact the educational settings to be involved in the *CLM* implementation and usually take between 2 – 4 academic school years to progress through.

The implementation process is built around five common tasks that are part of an incremental plan of change as the team moves through the training process. The *CLM* Coach is instrumental in pacing and adhering to the process as part of the team training and implementation process.

1) Setup a specific type of classroom schedule
2) Complete *CLM* Units
3) Collect specific type of data
4) Implement programming as scheduled
5) Monitor effects of programming for students and instructors

Implementation Phase Task and Time Requirements and Implementation Checklist, based on the IAP, are tools used by the *CLM* Coaches as guides for the replicable implementation tasks and also serve as data collection tools for monitoring progress of the *CLM* implementation team. (#9, Appendix C: *CLM* Implementation Checklist)

Theory of Change

CLM uses a multi-element iterative process of change across four phases of implementation. At all phases, MDT members are concurrently working on five common elements of evidence-based interventions. The *CLM* component tools and processes blend, braid and intersect to produce MDT members that collaborate to achieve student results.

By wrapping the training and coaching component around the *CLM* tools used for student assessment and instruction, the learning environment, data collection and progress and fidelity monitoring, school teams incrementally, yet immediately apply what they are learning to their own students in their own schools. As their knowledge and competencies of empirically validated instructional and behavioral interventions become fluent, they detect patterns in antecedent-behavior-consequence (ABC) relations and can identify the antecedents or consequences to drive moment-to-moment instructional decisions. Building MDTs that speak a common language, agree on basic methodology and enhance their own instructional practices increases the consistency of programming and provides more frequent opportunities for students to be successful.

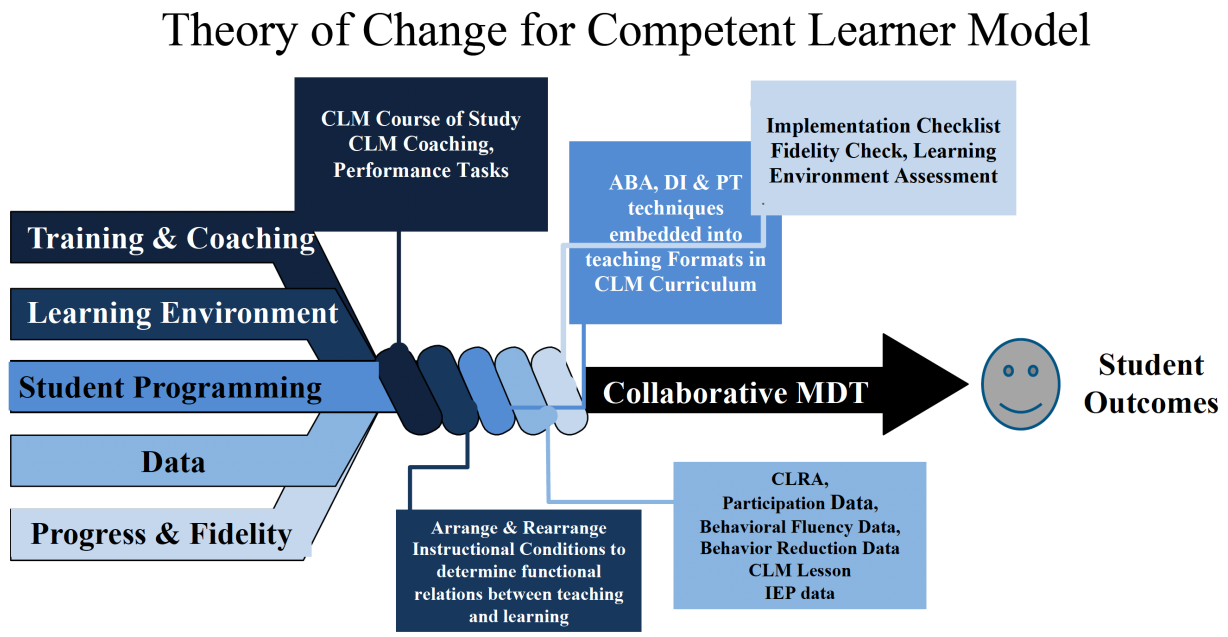

Figure 1. Theory of Change

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