



# DIMENSIONS

## of Early Childhood

Volume 45, Number 1, 2017

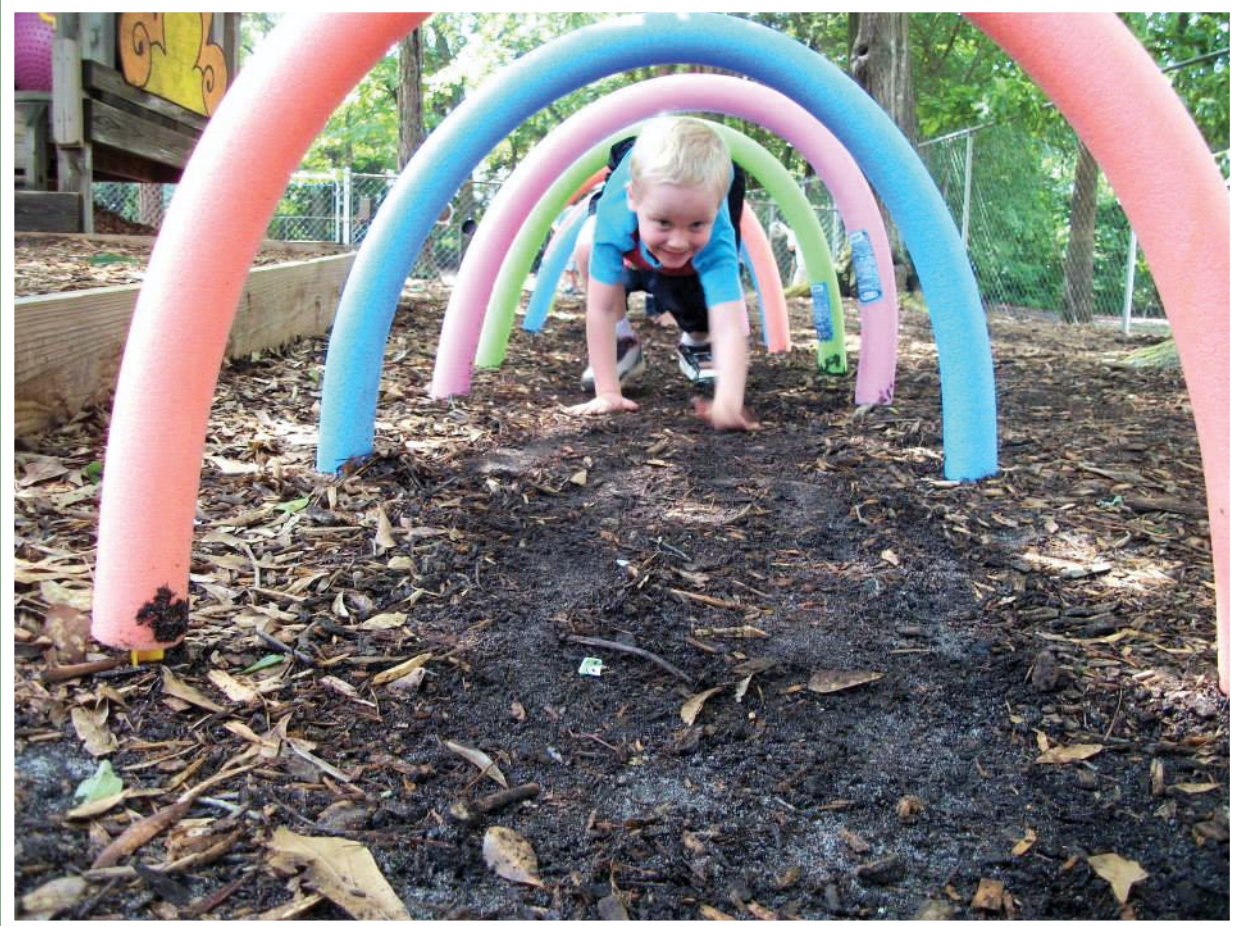
Watching the Babies:

The Why, What, and How of Observation as Assessment

Using Concrete Manipulatives in Mathematical Instruction

The Power of Secret Stories

Response to Intervention and Authentic Assessment



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# Southern Early Childhood Association

Editor - Mari Cortez, Ph.D.

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## Dimensions of Early Childhood

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SECA serves the interests of early childhood educators concerned with child development, including university researchers and teacher educators; early childhood, kindergarten, and primary-grade teachers; and early childhood program administrators and proprietors. The association has affiliates in 13 Southern states. Non-affiliate memberships are available to anyone living outside the 13 affiliate states. For information about joining SECA, contact the executive offices at P.O. Box 55930, Little Rock, AR 72215-5930, (800) 305-7322. Members receive a one-year subscription to *Dimensions of Early Childhood* and discounts on SECA publications and conference registration fees.

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# President's Message

Carol Montealegre

## Moving Forward to Make a Difference

As I have indicated in previous “*Dimension Messages*,” the Southern Early Childhood Association (SECA), is experiencing the challenge of working through two (2) major transitions. The first transition has involved re-affiliation with our state affiliates. The second transition SECA is facing is the challenge of hiring an Executive Director, due to the upcoming retirement of our current Executive Director, Glenda Bean.

During the past year SECA has worked with diligence and persistence to assist the *dual-affiliated* state affiliates; Florida, Texas, Virginia, Tennessee, Georgia, Oklahoma, West Virginia, Kentucky and Alabama, as they struggled with the restructuring issues of re-affiliation with the National Association for the Education of Young Children (NAEYC). For the last fifteen years these nine (9) states have been affiliates of both NAEYC and SECA, resulting in a *coupled membership*. “*Coupled Membership*” has meant that in each of the dual-affiliated states, when you became a member of one (1) association, you actually became a member of four (4) associations. These four associations are your local chapter/affiliate, your state affiliate, your regional association (SECA), and the national association (NAEYC). You did not have a choice of membership. With re-affiliation you will have a choice. The “*uncoupling of membership*” in dual-affiliated states will begin in September 2017.

You may be wondering where these 14 Southern states are in their re-affiliation process! The current information indicates that Florida, Oklahoma, Texas, Virginia, and Georgia meet NAEYC and SECA’s new criteria and will continue to be “*dual-affiliated*” states. Kentucky, Tennessee, and West Virginia are *now* affiliated only to SECA. Arkansas, Louisiana, Mississippi and South Carolina *continue* to be affiliated only to SECA. Sadly, Alabama does not meet the affiliation criteria for either NAEYC or SECA.

SECA has reenergized and moved forward, working closely with their affiliates in the following ways:

1. To *update* charters signed many years ago. In early 2016 SECA provided their 14 affiliates with a draft charter agreement for their review and input.
2. During 2016, 11 of the 14 states signed new charter agreements with SECA: Arkansas, Florida, Kentucky, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.
3. SECA continues to provide ongoing support to its membership by reaching out to them through the *SECA Reporter Blog*, *Dimensions*, *Leadership Newsletters*, and initiatives such as the *Family Engagement Contest*.
4. SECA’s 2017 Conference; “*Strategies for the New South: Equipping Professionals for the Realities of Generational Poverty*,” in Biloxi, Mississippi, was focused on policies and strategies that can avail young children trapped in poverty. As I have stated in past discussions with you, this is an alarming issue in the South.
5. A new “*Group Membership*” has been created to meet the needs of early childhood care and learning centers.

*President’s Message continued on page 38*



# Words from the Editor

Dr. Mari Cortez

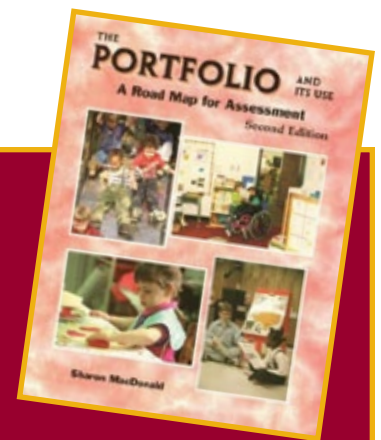
Dear Readers:

The word interdisciplinary has different meanings. In early childhood we often use an interdisciplinary approach because children learn many different concepts in different contexts. *Dimensions of Early Childhood* strives to provide early childhood educators an interdisciplinary lens to what others in the field are doing. In this issue we would like to share articles that focus on infants and toddlers, appropriate assessment, math and literacy. I encourage you to reflect on how the ideas that these articles provide can be of benefit for the children and families in your context.

*Queridos lectores:*

La palabra interdisciplinar tiene diferentes significados. En la primera infancia usamos a menudo un enfoque interdisciplinario porque los niños aprenden muchos conceptos diferentes en diferentes contextos. Nuestra revista académica *Dimensions of Early Childhood* se esfuerza por ofrecer a los educadores de la primera infancia un objetivo interdisciplinario a lo que otros están haciendo en el campo. En este número nos gustaría compartir artículos que se centran en los bebés y niños pequeños, la evaluación adecuada, las matemáticas y la alfabetización. Les animo a reflexionar sobre cómo las ideas que estos artículos proporcionan pueden ser de beneficio para los niños y las familias en su contexto.

Best/Deseándoles lo mejor,  
Mari Riojas-Cortez, Ph.D.  
Editor



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Watch for announcements in the coming months about new e-books available through SECA.

# Watching the Babies: The Why, What, and How of Observation as Assessment in Infant and Toddler Care

*Observation is a useful tool, even in infant and toddler classrooms. Applied correctly, observation and assessment can help lay a foundation for a successful education throughout life.*

**Douglas D. Bell Jr.**

*You are entering a childcare center during the break time of a few of the infant and toddler careteachers. You overhear their conversation about their children. One teacher says, "I was watching Julia the other day. She just seems to keep banging the toys. I wonder when she will start using them right." Another teacher says, "When I put out the soft blocks the toddlers just kick them around. I hope they don't break them. I wonder why they keep doing that." Just then a third teacher enters the room and seems exasperated. She interrupts and says, "I just left the director's office and she says that everyone in the building had to start assessing their children because of the accreditation requirement." "Even we infant and toddler teachers have to assess the children, can you believe that?" The first and second teacher state that they already know their children well enough, they don't need assessments.*

This scenario is becoming more of a reality in many programs. As appropriate practices are researched and policies change, teachers and caregivers of the youngest children (referred to as careteachers for this article) find themselves in the middle of the assessment challenge. Many early childhood programs and teachers struggle with implementing observation and assessment practices. With increasing demands of families and administration, the careteacher's plate can be very full. However, appropriate practices suggest that an ongoing assessment system should be implemented for all children in-group care settings (Bredekamp & Rosegrant, 1992; Copple & Bredekamp, 2009). Accreditation criteria from the National Association for the Education of Young Children or NAEYC (2006) require a systematic and authentic

assessment program be implemented for all children. This system should include observation, screening, and criterion based strategies. Many schools are implementing these practices for their preschool programs but infant and toddler programs can benefit from them as well. This article will briefly address the why, what, and how of observation as assessment with infants and toddlers.

## **Why Observation as Assessment with Infants and Toddlers**

Infant and toddler careteachers are able to meet children's needs because they know them well. Much like mothers, careteachers have watched the babies and gained a deeper understanding of who they are. This observation helps to create a deeper knowledge of the child's development and strengthens the relationship with the teacher (Jablon, Dombro, & Dichtelmiller, 2007). This deeper understanding of the infant and toddler development is very important in order to provide appropriate programs including the environment (Dichtelmiller & Ensler, 2004). Utilizing systematic and formal techniques of recording information helps to ensure a better match of experiences and the likelihood of developmental progress (Forman & Hall, 2005; Martin, 2004; Morrison, 2009). Observation can be used to help assess developmental skills and milestones and be utilized to gather data as part of developmental screening.

The benefit of using a systematic and formal approach to observation as assessment of infants and toddlers is mainly to reduce the likelihood of missing information (Early Head Start National Resource Center, 2000) and

paint a more comprehensive picture of their development. Infant and toddler careteachers are extremely busy people. They have to meet a great number of demands, often at the same time. Some babies are hungry, others need to play and be stimulated, while others need rest. A systematic and carefully planned approach to observation, screening, and assessment ensures that these experiences are maximized and utilized for understanding the child (Dichtelmiller & Ensler, 2004). It also ensures that information will be gathered over time and across settings about the child and therefore be more comprehensive, inclusive of changes in development (Gullo, 2005; NAEYC, 2006).

Another reason observation is useful as an assessment tool with infants and toddlers is it is an authentic form of assessment. Authentic assessment is when information is gathered from activities the children naturally engage in (Gullo, 2005) and can be conducted by using direct observation techniques with infants and toddlers. Consider the following example:

*Mario is fourteen months old. He is on the floor playing with the large pop beads. Ms. Amanda notices that he takes the chain of pop beads and pulls one off. He does it again. He then picks up one of the loose pop beads and pushes it at the last bead on the chain. The chain moves.*

In the above example, the teacher did not have to set up a task for the child to complete; she simply had to observe the child's play. From the observation she could gain and document a good deal of information about the child's developmental skills. For example, Mario had sufficient strength of grasp to remove



*“Observation and assessment has to be appropriate for a toddler’s stage of development.”*

Our Neighborhood Outdoor Classroom Submission

the pop beads. However, perhaps he did not yet have the cognitive understanding to know that he had to hold the bead chain in place to put them back. This type of observation can provide information about the child's developmental skills and milestones, and when combined with a developmental screening tool, it can help identify possible red flags in development (Cohen, Stern, Balaban, & Gropper, 2016).

### **The What of Observation as Assessment with Infants and Toddlers**

The first piece of information careteachers need to know in sifting through all of the assessment rhetoric is what exactly is meant by the various terms and jargon used by the profession. The largest differentiations that should be understood the terms developmentally appropriate practices, observation, screening, and assessment. Some of these terms get used interchangeably by careteachers

but actually mean different things. Understanding the terminology of assessment helps to clarify the relationship observation has with assessment.

### **Developmentally Appropriate Practices**

First let us address developmentally appropriate practices. Often when the topic of assessment is mentioned people get an image of sitting down and taking a test or a professional sitting down and administering a battery of tasks for a child to complete or respond to. While these images do accurately capture assessment they do not depict assessment practices for infant and toddlers (Mindes, 2007). There are many assessment practices that are developmentally appropriate for infants and toddlers. These practices include discovering what the children already know or can do, exploring what they should do next, and monitoring development for possible signs of difficulties. Developmentally appropriate practices,

as it pertains to assessment, implies that the methods and strategies being used to obtain information about the child's development match the child's age, developmental abilities, highlights the child's strengths, and utilizes natural contexts (Copple & Bredekamp, 2009). The term also suggests that the strategies used will match the language, culture, and unique qualities of the child being assessed. Finally, the term implies that all practices will be carried out to benefit the child. In short, developmentally appropriate practices as it relates to assessing infants and toddlers means careteachers are observing and assessing in ways that match the child and for purposes that will support the child (Dichtelmiller & Ensler, 2004).

### Observation and Screening

The next term to explore is observation. Careteachers need to have an understanding of the meaning of observation for infants and toddlers. Observation itself is not assessment. It is actually a means or method used in assessment. The actual act of observation can be defined as watching children with care and purpose as to better understand them (Jablon, Dombro, & Dichtelmiller, 2007). The use of the term as it relates to assessment implies that the observation itself will usually, or at least sometimes, be documented in some way. Any observation that is to be counted as a formal form of assessment is to be documented.

Screening is the next term that we will address. The term screening, like observation, is not actually interchangeable with assessment; it is only a piece of the assessment puzzle. However, stand-alone screenings are not a complete picture of the child's abilities, needs, and strengths

(Early Head Start National Resource Center, 2000). It does not give that desired picture of the *whole child*. It only gives a brief picture of what is going on in a particular period of time. Screening is a formal periodic look at the child's development in an effort to monitor developmental progress as well as identify any *red flags* that may lead to potential difficulties. Careteachers are the best people to administer developmental screenings because of the number of waking hours they spend with children in the early childhood settings, as well as the various engagement experiences for the child. Developmental screenings should be implemented by careteachers periodically over time. Due to the dramatic changes in development in such short time periods, most screening tools follow the rule: the younger the child, the more frequent the screening. These developmental screenings should be conducted across developmental domains. Most screening tools require teachers to present a battery of developmentally appropriate tasks for the child to participate in, while utilizing direct observation of the child.

**Infant Toddler classrooms can also benefit from observation and assessment.**

The important part of the "what" of observation as assessment is, understanding the role observation plays in the assessment process. Understanding the terminology in the

world of assessing infants and toddlers helps delineate the relationship observation has with assessment.

### The *How* of Observation as Assessment for Infants and Toddlers

Getting the job done is the toughest part on careteachers of infants and toddlers. Most careteachers agree to the need, usefulness, and purposes of observation as assessment once they hear the theory behind it. Observation involves the use of a variety of strategies that the careteacher can use to understand the development of the infants and toddlers, in particular very young children (Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007; Giardiello, McNulty & Anderson, 2013).

The first step that infant and toddler careteachers should do is, familiarize themselves with the goals and objectives for their infants and toddlers. Careteachers can do this by reading and revisiting developmental milestones of their age group, reading and revisiting any early learning benchmarks or standards set by their state or governing agency, and by having conversations with the families of the children (Cohen, Stern, Balaban, & Gropper, 2016; Dichtelmiller & Ensler, 2004).

Reviewing child development milestones for the specific age group is useful because it helps careteachers become familiar with the developmental expectations that can and should be held for the children (Copple & Bredekamp, 2009; Mindes, 2007). This knowledge serves two important purposes in relation to assessment. Child development milestones can be observed for in the infants and toddlers, and



when they are observed the teacher can use upcoming milestones that have not been mastered yet to set as curriculum goals. Knowledge of the milestones is also useful for screening purposes. All developmental screens use developmental milestones to monitor typical development and the possibility of delays. Knowledge and familiarity with the milestones helps the screening process go smoother and decreases the chance for errors in the observations during the screening process.

Reading and reviewing early learning standards can also help with the observation and assessment process. Careteachers should visit the standards that their state and their curriculum have set for their particular age group. Familiarity with the standards allows careteachers to effectively observe and assess the children and gives some guidance as to what to look for to improve their program particularly for infants and toddlers.

The second step the careteacher takes in implementing a developmentally appropriate and effective observation and assessment system for infants and toddlers is to become familiar with good observation as assessment practices. These practices can and should involve the careteacher's delivery and role in the observation, the recording of the observation, and the scheduling of the observation (Cohen, Stern, Balaban, & Gropper, 2016).

## Observation and Assessment Practices Related to the Delivery and Careteachers Role

### Assessing and teaching

One practice that is helpful is to separate observation from teaching.



Photo courtesy of Nancy Alexander

*"Careteachers are great at observation because they really get to know the children as individuals."*

When the careteacher intervenes to scaffold the children's understanding, the outcome cannot be documented as the child's ability. Careteachers are often urged by their nature to support and scaffold their children's abilities, which is a positive attribute. However, it must be remembered that when observing or assessing it is the child's actual natural ability that should be recorded. Otherwise the information, or data, is invalid and inaccurate.

### Participation on the part of the careteacher

Participation in observation on the part of the careteacher can be in four ways (Gullo, 2005; Wortham, 2001). First, it involves direct participation. Second, it involves if the children know you are observing or not. Participant observation is the most common used in infant and toddler programs. This is when the careteacher is an active part of the

class by interacting with the children. Non-participant observation is when the care teacher is off in a corner or behind a one-way window observing and recording, and not interacting with the class. Overt observation is when the children know you are watching and writing down what they are doing. Covert observation is when the children do not know you are writing down what they do and it is kept a secret. Each of these can be used in whatever combination is most conducive to the situation.

## Observation and assessment practices related to the recording of the data:

### Objective and subjective

Another important observation skill is to be able to separate objective information from subjective information within the observation itself (Bentzen, 2009; Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007). Keeping objective and subjective information separate within the observations helps the observation and assessment to be more accurate and also helps prevent teacher bias from contaminating the data. Objective information is the actual behavior that occurred, it can be seen, heard, and measured. An example of objective information may be: *Juanita picked up the puzzle piece with her left hand. While smiling, she banged the piece on the top of the toy mailbox.* She then put the puzzle piece in the slot of the toy mailbox. Subjective information is more opinionated and less factual. While the information may be true, it also may not be. Often subjective information includes inferences, or conclusions

drawn based on the observation. An example of subjective information that would be recorded in an observation may be: *Juanita has developed strength of grasp. She is excited about playing with the puzzle. She is developing good eye hand coordination.* It is important to state that sometimes subjective information is important in understanding the child and what is happening and can be included. However, it should be included separate from the objective information, such as in the comments section of the observation tool.

**Assessment looks very different for infants and toddlers.**

### Shorthand in recording notes

With all the writing involved in observing and recording for assessment with infants and toddlers, careteachers find themselves needing to create a sort of shorthand to make it go faster and be more usable (Bentzen, 2009; Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007). Teachers will write the observation notes as the observation takes place, and then later when things calm down they will transcribe. Try to transcribe as soon as possible, because it is easy to forget what you meant. Each careteacher has their way of note taking. Practicing will help you develop your own style.

### Usable system of recording and storing

Another practice related to observing and recording is developing a usable system (Martin, 2004).

Usability is important because if the system is too overwhelming the careteacher will not observe and record. Systems can include keeping a note pad or observation cards in the pocket of your apron so you can pull it out and record when the moment presents itself (Martin, 2004; Wortham, 2001). If this is your system, you will need to frequently look over observations to be sure there is adequate representation over time and domains. Additionally, storage should be considered. Where will you keep the observations? How will you stay organized so they are easy to add to or revisit? How will you ensure confidentiality? There are so many systems they cannot be discussed here. Some examples may be a folder or portfolio for each child in a box (Gullo, 2005; Martin, 2004). Other careteachers have a notebook per child. Other teachers keep a digital portfolio on their computer. Whatever system you choose, it shouldn't be too elaborate or you will end up losing things. You do not want your system to take up too much of your time for upkeep and use.

## Observation and Assessment Practices Related to the Scheduling

### Data collection over time

One important practice in relation to scheduling observation and assessment with infants and toddlers is conducting a variety of observations over time. A periodic observation gives a careteacher a clear picture of changes in the child's development and ensures that a more accurate picture of change is accounted for. It is important that careteachers select observations over time (preferably monthly) that can give a look at the

child's ability both at different times of day and various times of month (Jablon, Dombro, & Dichtelmiller, 2007; Mindes, 2007).

### Data collection across areas

Careteachers also do well to collect information through observations across areas (Jablon, Dombro, & Dichtelmiller, 2007; Wortham, 2001). This includes developmental areas, or domains, as well as activity areas. Careteachers should be collecting observations for assessment purposes that include gross and fine motor ability, cognitive ability, language skills, social and play development, and emotional and temperament information. Additionally, samples of observations should be taken from time to time in the following activities: meals, arrival and departure, play time inside, and playtime outside. Observing and recording over these domains and activities will give careteachers an idea of holistic development for the child. A final word about the key practices is practice (Bentzen, 2009; Jablon, Dombro, & Dichtelmiller, 2007). Practicing observing and recording infants and toddlers leads to improved skill. The more you do it, the better you get at it.

The third step careteachers should take in implementing observation as assessment for infants and toddlers is select observation tools to gather and record information (Gullo, 2005; Martin, 2004). There should be a variety of tools that will best match the types of information gathered. When selecting tools, careteachers should be familiar with the uses and purposes of the tools and the way they must be implemented. The careteachers should consider the dynamics of their daily program operation, the time they

have to conduct observations, and the type of information they need prior to choosing an observation tool (Cohen, Stern, Balaban, & Groppe, 2016). The following are brief descriptions of observation tools that lend themselves nicely to infant and toddler programs.

### Anecdotal record

The anecdotal record is a brief snapshot in words. It briefly describes what is happening in a brief scenario (Bentzen, 2009; Mindes, 2007; Nissen & Hawkins, 2008). They are detailed enough to see the scene in your head as you read the record. An example may be taking down an observation of a child on the playground because you wish to get an idea of his motor skills.

**Careteachers can use developmental milestones to set goals.**

### Descriptive-interpretive or running record

The descriptive-interpretive observation is for a longer period of time. It is a collection of scenarios. This tool requires two columns. In one column you write the descriptive observation. This is usually in more specific detail than the anecdotal record. You mark each scenario with a date or a time. Once all of the scenarios are documented, you go back at the end of the day or during a break and write in your interpretation of each scenario. The interpretations should be next to the respective observation of the scenario so they visibly line up. If the documentation

is at various times during the day it is a descriptive-interpretive. If it is a collection of scenarios chronologically ordered over various days, then it is being used as a running record (Bentzen, 2009; Mindes, 2007). An example of this tool being used would be to see what social play stage the child is engaged in during free indoor play (descriptive-interpretive). Another would be if you used the tool over the course of a week to see how the child's fine motor skills change during center time (running record).

### Frequency count or event sampling

This tool is not narrative in nature like the first two tools (Bentzen, 2009; Mindes, 2007). This tool has a few predetermined behaviors the careteacher would like to observe written in rows. The teacher then decides the time frame for the observation. The time frame creates a sample of the child's program day or week. Whenever the child is observed engaging in the predetermined behavior, the teacher makes a tally on the appropriate row. When the predetermined time frame is at an end the careteacher goes back and writes in comments and interpretations at the end of the document.

### Checklists

The checklist is another non-narrative tool. The checklist has preselected behaviors that the careteacher would like to keep track of and observe. When the child exhibits that specified behavior, a mark is written on the tool to show the presence of the behavior (Bentzen, 2009; Mindes, 2007). The mark used can be a check mark, an x, or even a date. Checklists can be organized around a specific topic. For

example, the careteacher can have a checklist that is for book exploration behaviors, or a checklist that revolves around the eating process. Careteachers can design their own checklists to meet the observation needs of the program.

## Conclusion

Observation as assessment is an integral part of offering a high quality program for infants and toddlers. Careteachers of these children can implement observation for screening and assessment purposes in ways that are developmentally appropriate for the children and usable by the careteachers themselves. The careteachers are in the best position to do the observing and assessing of the infant and toddler because they get to see them in the most play and social situations. As careteacher implement the strategies discussed in this article, they will find assessment of infants and toddlers is doable and important. Observation can help you get to know your children better than ever before. All you have to do is use these strategies and watch your babies.

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# Vigilando a los Bebés: El Porqué, el Qué y el Cómo de la Observación como Evaluación de Cuidado Infantil

*“La observación es una herramienta útil, incluso en los salones de clases para bebés y niños pequeños. Aplicada correctamente, la observación y la evaluación pueden ayudar a sentar las bases para una educación exitosa a lo largo de la vida.”*

**Douglas D. Bell Jr.**

*Entrás a un centro de cuidado infantil durante el tiempo de descanso de los maestros. Oyes por casualidad su conversación sobre los bebés. Una maestra dice, “Vigilaba a Julia el otro día. Golpea los juguetes. ¿Me pregunto cuando los utilizará adecuadamente?” Otra maestra dice, “Cuando introduzco los bloques blandos, los niños los patean. Espero que no los rompan. Me pregunto porque actúan así.” En ese momento una nueva maestra entra al aula exasperada. Interrumpe, diciendo, “Acabo de salir de la oficina de la directora y me dijo que cada persona aquí tiene que empezar las evaluaciones de sus alumnos según los requisitos de acreditación.” “Hasta los maestros de los niños pequeños tienen que evaluar, ¿lo crees?” Las otras maestras responden que ya conocen bien a sus alumnos y no necesitan evaluarlos.*

Este ejemplo es la realidad en muchos programas. Mientras se investigan las prácticas apropiadas y cambian las políticas, los maestros y los cuidadores de los niños más pequeños (referidos en este artículo como maestros de cuidado) se encuentran en medio del reto evaluativo. Muchos programas y maestros que se enfocan en la primera infancia luchan con aplicar las prácticas observacionales y evaluativas. Con las exigencias crecientes de familias y administraciones, están los maestros de cuidado hasta el cuello de trabajo. Sin embargo, las prácticas apropiadas sugieren que un sistema regular de evaluación deba estar implementado para todo niño bajo tutela (Bredenkamp & Rosegrant, 1992; Copple & Bredenkamp, 2009). Los criterios de acreditación de la Asociación Nacional para la Educación de Niños Pequeños o NAEYC (2006) mandan que un programa de evaluación sistemático y auténtico sea implementado para todos los

niños. Este sistema debe incluir la observación, la prueba diagnóstica y las estrategias basadas en criterios. Muchas escuelas ya implementan estas prácticas para sus niños preescolares pero los programas para infantes y niños pequeños pueden beneficiarse también. Este artículo se dirige brevemente al porqué, cuando y cómo de la observación como evaluación de cuidado infantil.

## **Por Qué la Observación como Evaluación con los Infantes y Niños Pequeños**

Los maestros de cuidado de los infantes y niños pequeños pueden responder a las necesidades de éstos porque los conocen bien. Como las madres, los maestros de cuidado han vigilado a los bebés, apreciando mejor quienes son. Esta observación los ayuda a conocer mejor el desarrollo del niño y fortalecer la relación con la maestra (Jablon, Dombro, & Dichtelmiller, 2007). Este entendimiento más profundo del desarrollo infantil es importante para el suministro de programas adecuados que incluyen el ambiente (Dichtelmiller & Ensler, 2004). El uso de técnicas sistemáticas y formales para anotar información asegura tanto el pareo mejor de las experiencias como la probabilidad de desarrollo (Forman & Hall, 2005; Martin, 2004; Morrison, 2009). La observación puede contribuir a la evaluación de marcadores y destrezas de desarrollo, y también para la adquisición de información como parte de la prueba diagnóstica.

El beneficio de utilizar un enfoque sistemático y formal de la observación como evaluación de los bebés y niños pequeños es principalmente para reducir la probabilidad de falta de información (Early Head Start

National Resource Center, 2000) y pintar un cuadro más completo de su desarrollo. Los encargados de cuidado de bebés y niños pequeños son personas extremadamente ocupadas. Tienen que cumplir un gran número de demandas, a menudo al mismo tiempo. Algunos bebés tienen hambre, otros necesitan jugar y ser estimulados, mientras que otros necesitan descansar. Un enfoque sistemático y cuidadosamente planeado para la observación, el cribado y la evaluación asegura que estas experiencias sean maximizadas y utilizadas para entender al niño (Dichtelmiller & Ensler, 2004). También asegura que la información se recopile en el tiempo y en los entornos sobre el niño y, por tanto, sea más integral, incluyendo los cambios en el desarrollo (Gullo, 2005, NAEYC, 2006).

Otra razón de la observación es útil como herramienta de evaluación con los bebés y niños pequeños es que es una forma auténtica de evaluación. La evaluación auténtica es cuando la información se obtiene de las actividades en las que los niños se involucran de forma natural (Gullo, 2005) y se puede realizar usando técnicas de observación directa con bebés y niños pequeños. Considere el siguiente ejemplo:

*Mario tiene catorce meses. Él está en el suelo jugando con las grandes cuentas pop. La Srta. Amanda se da cuenta de que toma la cadena de cuentas y saca una. Lo hace de nuevo. Luego recoge una de las cuentas y la empuja por delante de la última cuenta en la cadena. La cadena se mueve.*

En el ejemplo anterior, no era necesario que la maestra organizara una tarea para que el niño la terminara; solo tenía que observar el juego del niño. De la observación podía lograr y documentar mucha



*La observación y la evaluación deben de ser apropiadas para la etapa de desarrollo de un niño pequeño*

Our Neighborhood Outdoor Classroom Submission

información sobre las destrezas de desarrollo del niño. Por ejemplo, Mario tenía la suficiente fuerza en la habilidad de agarrar o apretar para sacar las cuentas. No obstante, quizás no tenía el entendimiento cognitivo para saber que tenía que sujetar la cadena para recolocarlas. Este tipo de observación puede proveer información sobre las metas y destrezas del desarrollo del niño y combinado con una prueba diagnóstica, puede ayudar a la identificación de puntos de preocupación en el desarrollo (Cohen, Stern, Balaban, & Gropper, 2016).

## El Qué de la Observación como Evaluación con los Infantes y Niños Pequeños

El primer dato que deben saber los maestros de cuidado en cuanto al retórico evaluativo es el significado exacto de los términos utilizados con frecuencia en su profesión. Las disparidades más importantes para saber se figuran en los términos ‘prácticas apropiadas para el desarrollo’, ‘la

observación’, ‘la prueba diagnóstica’ y ‘la evaluación’. Algunos de estos términos están usados indistintamente por los maestros de cuidado pero en realidad tienen significados distintos. El entendimiento de la terminología evaluativa aclara la relación que tiene la observación con la evaluación.

## Prácticas Apropriadas para el Desarrollo

Primero reconozcamos las prácticas apropiadas para el desarrollo. A menudo, cuando el tema de la evaluación se menciona la gente obtiene una imagen de sentarse y tomar un examen o un profesional de sentarse y administrar una batería de tareas de un niño para realizar o responder. Si bien estas imágenes capturan con precisión la evaluación, no representan las prácticas de evaluación para bebés y niños pequeños (Mindes, 2007). Hay muchas prácticas para los infantes y niños pequeños de acuerdo con su nivel de desarrollo. Estas prácticas incluyen el descubrimiento de lo que ya saben o pueden hacer los niños, la exploración de lo que

deben hacer más y el monitoreo de posibles señales de dificultades. Las prácticas apropiadas para el desarrollo, en lo que respecta a la evaluación, implican que los métodos y estrategias que se usan para obtener información sobre el desarrollo del niño coinciden con la edad del niño, las habilidades de desarrollo, destacan los puntos fuertes del niño y utilizan contextos naturales (Copples y Bredekamp, 2009). El término también sugiere que las estrategias utilizadas coincidirán con el idioma, la cultura y las cualidades únicas del niño evaluado. Finalmente, el término implica que todas las prácticas se llevarán a cabo en beneficio del niño. En resumen, las prácticas apropiadas para el desarrollo en lo que respecta a la evaluación de bebés y niños pequeños significa que los maestros de cuidado están observando y evaluando de manera que coincida con el niño y con propósitos que apoyarán al niño (Dichtelmiller & Ensler, 2004).

**Las aulas para los bebés también pueden beneficiarse de la observación y evaluación**

### La Observación y la Prueba Diagnóstica

El próximo término a explorar es la observación. Los maestros de cuidado deben entender el significado de la observación en cuanto al infante y al niño pequeño. La observación en sí no es la evaluación. Es en realidad una manera o un método utilizado en la evaluación. El verdadero acto de observar se puede definir como la

vigilancia de los niños con cuidado y con el propósito de entenderlos mejor (Jablon, Dombro, & Dichtelmiller, 2007). El uso del término en cuanto a la evaluación implica que la observación en sí será – usualmente o a veces – documentada de alguna manera. Cualquier observación que está contada como una forma formal de evaluación será documentada.

Dirijámonos al próximo término, la prueba diagnóstica. Este término, como la observación, no es intercambiable con la evaluación; es solo una parte del rompecabezas de la evaluación. Sin embargo, la prueba diagnóstica autónoma no presenta una vista completa de las habilidades, necesidades y solidesces del niño (Early Head Start National Resource Center, 2000). No provee esa vista deseada del *niño entero*. Solo pinta un retrato incompleto de lo que pasa en un dado momento. La prueba diagnóstica es una mirada formal y periódico al desarrollo de un niño; es un esfuerzo para monitorizar el progreso de desarrollo e identificar toques de atención que pueden conducir a dificultades potenciales. Los maestros de cuidado son las mejores personas para administrar las pruebas de detección de trastornos del desarrollo porque llevan horas con los niños en ambientes de primera infancia y en las experiencias de compromiso para éstos. Las pruebas de detección de trastornos del desarrollo deben estar implementadas por maestros de cuidado periódicamente a través del tiempo. Debido a los cambios dramáticos en el desarrollo durante cortos períodos de tiempo, la mayoría de las pruebas diagnósticas cumplen la regla: lo más joven el niño, lo más frecuente la prueba diagnóstica. Las pruebas de detección de trastornos del desarrollo deben llevarse a cabo a través de campos de desarrollo. La mayoría

de las pruebas diagnósticas requieren que los maestros presenten una batería de tareas apropiadas para el desarrollo para que el niño participe mientras que utilizan la observación directa del niño al mismo tiempo.

La parte importante del “qué” de la observación como evaluación es, el entendimiento del rol que la observación juega en el proceso de evaluación. Comprender la terminología en el mundo de la evaluación de bebés y niños pequeños ayuda a delinear la relación que observación tiene con la evaluación.

### El Cómo de la Observación como Evaluación para los Infantes y Niños Pequeños

Completar el trabajo es la parte más ardua para los maestros de cuidado de los infantes y niños pequeños. La mayoría de maestros de cuidado están de acuerdo con la necesidad, la utilidad y los propósitos de la observación como evaluación cuando oyen la teoría que la apoya. La observación supone el uso de varias estrategias que el cuidador pedagógico puede utilizar para entender el desarrollo de los infantes y niños pequeños, en particular de los niños muy jóvenes (Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007; Giardiello, McNulty & Anderson, 2013).

El primer paso que deben hacer los maestros de cuidado de bebés y niños pequeños es familiarizarse con las metas y objetivos para sus bebés y niños pequeños. Los maestros de cuidado pueden hacer esto leyendo y revisando las etapas del desarrollo de su grupo de edad, leyendo y revisando cualquier punto de referencia de aprendizaje temprano o estándares establecidos por su estado o agencia

gobernante, y teniendo conversaciones con las familias de los niños (Cohen, Stern, Balaban, Gropper, 2016, Dichtelmiller & Ensler, 2004).

El repaso de las etapas de desarrollo del niño en cada edad es útil porque ayuda a los maestros de cuidado a familiarizarse con las expectativas de desarrollo que pueden y deben ser aplicadas al niño (Coppie & Bredekamp, 2009; Mindes, 2007). Este conocimiento sirve dos propósitos importantes en relación a la evaluación. Las etapas de desarrollo del niño pueden observarse con los infantes y niños pequeños, y cuando están observados la maestra puede utilizar marcadores inminentes no dominados como metas curriculares. El conocimiento de los marcadores es útil también para el proceso de la prueba diagnóstica. Cada prueba de detección de trastornos del desarrollo utiliza marcadores de desarrollo para monitorear el desarrollo típico y la posibilidad de retraso. El conocimiento y la familiarización con los marcadores facilita el proceso de prueba diagnóstica y disminuye la posibilidad de errores observacionales durante este mismo proceso.

Como primer paso, leer y revisar las normas de aprendizaje temprano también puede ayudar con el proceso de observación y evaluación. Los maestros deben revisar las normas que su estado y su currículo han establecido para cada nivel en particular. La familiaridad con los estándares permite que los cuidadores observen y evalúen con eficacia a los niños y dan una cierta dirección en cuanto a qué buscar para mejorar su programa particularmente para los infantes y los niños pequeños.

El segundo paso que lleva a cabo el cuidador al implementar un sistema de observación y evaluación efectivo para los bebés y niños pequeños es



Photo courtesy of Nancy Alexander

*Los maestros de cuidado son grandes expertos en la observación porque realmente llegan a conocer a los niños como individuos*

familiarizarse con la buena observación como prácticas de evaluación. Estas prácticas pueden y deben implicar la entrega y el papel del cuidador en la observación, el registro de la observación y la programación de la observación (Cohen, Stern, Balaban y Gropper, 2016).

### Prácticas de Observación y Evaluación Relacionadas

### con la Función de Entrega y Atención

#### La evaluación y la enseñanza.

Una práctica que es útil es separar la observación de la enseñanza. Cuando el maestro de cuidado interviene para ayudar la comprensión de los niños, el resultado no puede ser documentado como la capacidad del niño. A menudo, los maestros de



cuidado son instados por su naturaleza a apoyar las habilidades de sus niños, lo cual es un atributo positivo. Sin embargo, es importante recordar que cuando la observación o evaluación es la habilidad natural real del niño la cual debe ser registrada. De lo contrario, la información o los datos son inválidos e inexactos.

### La participación del cuidador pedagógico.

La participación en la observación por parte del cuidador puede ser de cuatro maneras (Gullo, 2005; Wortham, 2001). En primer lugar, implica la participación directa. En segundo lugar, implica si los niños saben que están observando o no. La observación de los participantes es la más comúnmente usada en los programas para bebés y niños pequeños. Esto es cuando el maestro de cuidado es una parte activa de la clase interactuando con los niños. La observación no participante, en tercer lugar, es cuando el maestro de cuidado está en una esquina o detrás de una ventana de un solo sentido observando y grabando, y no interactuando con la clase. La observación abierta es cuando los niños saben que están viendo y escribiendo lo que están haciendo. En cuarto lugar, la observación secreta es cuando los niños no saben que están escribiendo lo que hacen y se mantiene en secreto. Cada uno de estos puede ser utilizado en cualquier combinación es más propicio para la situación.

## Las Prácticas de Observación y Evaluación Relacionadas a la Anotación de los Datos

### Objetivo y subjetivo.

Otra destreza observacional importante es la de poder separar la infor-

mación objetiva de la información subjetiva en la misma observación (Bentzen, 2009; Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007). La separación de la información objetiva de la información subjetiva en la misma observación facilita las exactitudes de la observación y la evaluación; también previene la contaminación de los datos a causa de sesgo de la maestra. La información objetiva es el comportamiento que ocurrió; puede ser visto, oído y medido. Un ejemplo de la información

**La evaluación parece muy diferente para bebés y niños pequeños**

objetiva puede ser: *Juanita recogió la pieza de rompecabezas con la mano izquierda. Sonriendo, pegó la pieza encima del buzón de juguete. Luego colocó la pieza en la ranura del mismo buzón.* La información subjetiva es más sesgada y menos basada en los hechos. Mientras que la información se crea verdadera, igual podrá no ser. Muchas veces la información subjetiva incluye inferencias o conclusiones basadas en la observación. Un ejemplo de información subjetiva que podría anotar durante una observación es: *Juanita ha desarrollado fortaleza en el apretón o agarre. Se emociona con jugar con el rompecabezas. Está desarrollando buena coordinación oculo-manual.* Es importante declarar que la información subjetiva es a veces importante en conocer el niño y en lo que ocurre y puede estar incluido. A pesar de esto, uno debe separarla de la información objetiva, poniéndola en la sección de comentario de la herramienta observacional.

### Taquigrafía en la anotación.

Con la cantidad de escritura asociada con la observación y anotación en la evaluación de los infantes y niños pequeños, los maestros de cuidado se encuentran con la necesidad de crear una taquigrafía para aumentar la utilidad y escribir más rápidamente (Bentzen, 2009; Cohen, Stern, Balaban, & Gropper, 2016; Jablon, Dombro, & Dichtelmiller, 2007). Las maestras escriben los apuntes observacionales mientras tiene lugar la observación, y luego los transcribirán cuando está más calmado el ambiente. Se debe de transcribir lo más pronto posible, porque es fácil olvidar el significado original de los apuntes. Cada cuidador pedagógico tiene su propia manera de tomar apuntes. La práctica te ayudará crear tu propio estilo.

### Un sistema usable de anotar y guardar.

Otra práctica relacionada con la observación y registro es desarrollar un sistema utilizable (Martin, 2004). La usabilidad es importante porque si el sistema es demasiado abrumador el maestro de cuidado no podrá observar y registrar. Los sistemas pueden incluir mantener una libreta de notas o tarjetas de observación en el bolsillo de su delantal para que pueda sacarlo y grabar cuando se presenta el momento (Martin, 2004; Wortham, 2001). Si este es su sistema, necesitará revisar con frecuencia las observaciones para asegurarse de que hay una representación adecuada en el tiempo y en los dominios. Además, el almacenamiento debe ser considerado. ¿Dónde guardará las observaciones? ¿Cómo permanecerá organizado para que sean fáciles de agregar o revisar? ¿Cómo garantizará la confidencialidad? Hay tantos siste-

mas que no pueden ser discutidos aquí. Algunos ejemplos pueden ser una carpeta o portafolio para cada niño en una caja (Gullo, 2005; Martin, 2004). Otros maestros de cuidado tienen un cuaderno por niño. Otros maestros mantienen un portafolio digital en su computadora. Sea cual sea el sistema que elija, no debe ser demasiado elaborado o terminará perdiendo cosas. Usted no quiere que su sistema tome demasiado tiempo para su mantenimiento y uso.

## Las Prácticas de Observación y Evaluación Relacionadas a la Planificación

### La recopilación de datos con el tiempo.

Una práctica importante en relación con la programación de la observación y la evaluación de los bebés y niños pequeños es el de llevar a cabo una variedad de observaciones a través del tiempo. Una observación periódica le da a un cuidador una imagen clara de los cambios en el desarrollo del niño y asegura que se tenga en cuenta una imagen más precisa del cambio. Es importante que los maestros de cuidado seleccionen las observaciones a lo largo del tiempo (preferiblemente mensuales) que pueden dar una mirada a la habilidad del niño tanto en diferentes momentos del día como en varias épocas del mes (Jablon, Dombro y Dichtelmiller, 2007; Mindes, 2007).

### La recolección de datos sobre áreas.

Los maestros de cuidado también hacen bien en recolectar información a través de observaciones a través de áreas (Jablon, Dombro, & Dichtelmiller, 2007; Wortham, 2001). Esto incluye áreas de desarrollo, o dominios, así como áreas de

actividad. Los maestros de cuidado deben recolectar observaciones para propósitos de evaluación que incluyen habilidad motora gruesa y fina, habilidad cognitiva, habilidades de lenguaje, desarrollo social y de juego e información emocional y de temperamento. Además, las muestras de las observaciones se deben tomar de vez en cuando en las actividades siguientes: comidas, llegada y salida, tiempo del juego adentro, y tiempo del playtime afuera. La observación y el registro sobre estos dominios y actividades darán a los maestros de cuidado una idea del desarrollo holístico para el niño. Una última palabra sobre las prácticas clave es la práctica misma (Bentzen, 2009; Jablon, Dombro, & Dichtelmiller, 2007). Practicar la observación y el registro de bebés y niños pequeños conduce a una mejor habilidad. Cuanto más lo hagas, mejor lo lograrás.

**Los maestros de cuidado pueden usar las etapas de desarrollo para establecer metas**

La tercera etapa para los maestros de cuidado en cuanto a la implementación de la observación como evaluación es la selección de las herramientas observacionales para la recolección y anotación de información (Gullo, 2005; Martin, 2004). Debe haber una variedad de herramientas que mejor empareja con los tipos de información seleccionados. En seleccionar herramientas, los maestros de cuidado debe familiarizarse con los usos y los propósitos de estas herramientas, y también las maneras en que pueden ser implementadas. Antes de escoger

una herramienta observacional, los maestros de cuidado deben considerar la dinámica de la operación diaria de su programa, el tiempo que tienen para llevar a cabo las observaciones y el tipo de información que necesitan (Cohen, Stern, Balaban, & Gropper, 2016). A continuación hay descripciones breves de herramientas observacionales que se prestan bien a los programas para infantes y niños pequeños.

### La anotación anecdótica.

La anotación anecdótica es una imagen sucinta en forma escrita. Describe brevemente lo que ocurre en un escenario corto (Bentzen, 2009; Mindes, 2007; Nissen & Hawkins, 2008). Son suficientemente detalladas para columbrar mentalmente el escenario mientras lees lo escrito. Un ejemplo es la anotación de una observación de un niño en el patio de juego para mejor entender sus habilidades motoras.

### La anotación descriptiva-interpretativa registro continuo.

La observación descriptiva-interpretativa dura un período más largo. Es una recolección de escenarios. Esta herramienta requiere dos columnas. Es normalmente más detallada que la anotación anecdótica. Marca cada escenario con una fecha o una hora. Cuando están documentados todos los escenarios y tienes un momento de descanso (o al terminar el día), escribe tu interpretación de cada escenario. Para asegurar una conexión visible, cada interpretación debe estar al lado de la observación del escenario correspondiente. Si la documentación ocurre varias veces al día es una observación descriptiva-interpretativa. Si es una colección de escenarios ordenada cronológicamente sobre

varios días, es un registro continuo (Bentzen, 2009; Mindes, 2007). Un ejemplo del uso de esta herramienta (descriptiva-interpretativa) sería el descubrimiento de la etapa de juego social que disfruta un niño cuando juega libre adentro. Otro ejemplo del uso de esta herramienta (registro continuo) sería la crónica del cambio dentro de una semana de las habilidades motoras finas del niño durante el tiempo en centro.

## La distribución de frecuencias o el muestreo de eventos.

Esta herramienta no es intrínsecamente narrativa como las primeras dos herramientas (Bentzen, 2009; Mindes, 2007). Esta herramienta indica en filas unos comportamientos que el maestro de cuidado quiere observar. Luego el maestro de cuidado decide el período de tiempo para la observación. El período de tiempo crea una muestra del programa diario o semanal del niño. Cada vez que se observar el niño haciendo el comportamiento prefijado, la maestra marca una cuenta en la fila apropiada. Cuando termina el período de tiempo prefijado, el maestro de cuidado añade comentarios e interpretaciones al final del documento.

## La hoja de verificación.

La hoja de verificación es otra herramienta no narrativa. La hoja de verificación ha seleccionado en avance esos comportamientos que el cuidador pedagógico quiere dar seguimiento y observar. Cuando el niño muestra el comportamiento especificado, una marca está escrita en la herramienta para demostrar la presencia del comportamiento (Bentzen, 2009; Mindes, 2007). La marca utilizada puede ser un tilde, una 'x', o hasta una fecha. Las hojas de verificación pueden organizarse en base a un tema específico. Por ejemplo, el cuidador

pedagógico puede tener una hoja de verificación para los comportamientos de exploración de libros, o una que se enfoque en el proceso de comer. Los maestros de cuidado pueden diseñar sus propias hojas de verificación para juntarse a las necesidades observacionales del programa.

## Conclusión

La observación como evaluación es una parte integral de ofrecer un programa de alta calidad para bebés y niños pequeños. Los maestros de cuidado de estos niños pueden implementar la observación para el cribado y los propósitos de la evaluación en las maneras que son apropiadas para el desarrollo de los niños y usables por los propios maestros de cuidado. Los maestros de cuidador están en la mejor posición para hacer la observación y evaluación de los bebés y niños pequeños porque pueden verlos en la mayoría de las situaciones sociales y de juego. Cuando los maestros de cuidado empiezan a implementar las estrategias discutidas en este artículo, van a descubrir que la evaluación de los bebés y niños pequeños es factible e importante. La observación puede ayudarle a conocer a sus niños mejor que nunca. Todo lo que se tiene que hacer es usar estas estrategias y vigilar a tus bebés.

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# Using Concrete Manipulatives in Mathematical Instruction

*“A little creativity and enthusiasm are as effective as cutting edge tools for teaching mathematics to young children. Physical mathematics teaching aids can engage children’s minds in valuable ways that result in high retention of the information.”*

**Dr. Julie P. Jones  
Margaret Tiller**

With the ever-increasing shift in the accountability movement, teachers and parents are constantly in search of the “key” to high-quality mathematical instruction. Teachers and parents believe they must compete with lively television shows, faddish computer applications, and popular video games in order to capture student attention and interest; however, using concrete manipulatives in math instruction can generate student interest in mathematics (Moch, 2001; Moyer, 2001). This truth applies whether instruction is being performed in a formal learning setting, such as a classroom, or an informal learning setting, such as a family’s kitchen.

Manipulatives are “physical objects that are used as teaching tools to engage students in the hands-on learning of mathematics” (TeacherVision, 2009, p. 1). Manipulatives can be particularly effective in further developing conceptual understanding in mathematics (Witzel and Allsopp, 2007), because they help students relate concrete ideas to abstract ideas, as well as link informal approaches with formal approaches (Uribe-Flórez & Wilkins, 2010). Using hands-on, concrete manipulatives throughout math instruction can lead to higher retention rates and a more positive student attitude toward education in general. The early childhood years, from ages 0-8, are critical in terms of development (McGuire, Kinzie, & Berch, 2012), so it is important to explore instructional strategies that align with and cater to the young child’s growing understanding of the world. As Smith (2009) writes, “A good manipulative bridges the gap between informal math and formal math. To accomplish this objective, the manipulative must fit the developmental level of the child” (p. 20).

## Concrete, Representational, Abstract Instruction

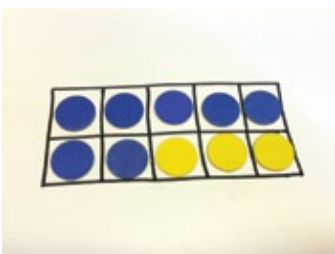
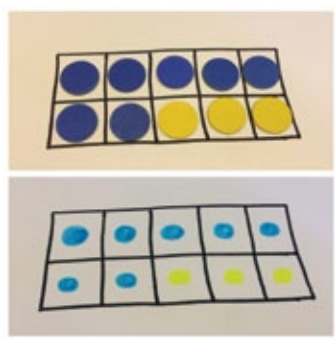
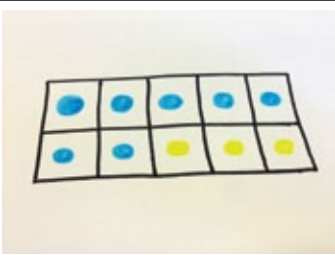
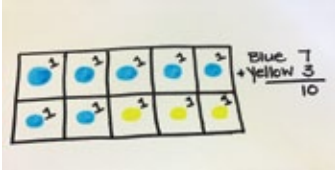
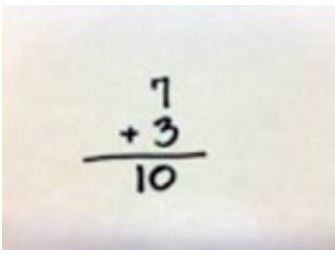
Concrete, Representational, Abstract (CRA) instruction is a process for teaching and learning mathematical concepts. Starting with manipulation of concrete materials (counters, beans, Unifix cubes), the process moves students to the representational level (tallies, dots, stamps), and peaks at the abstract level, at which numbers and symbols are used to demonstrate understandings (Witzel, 2005). With the purpose of giving students a thorough understanding of math concepts, CRA instruction allows students to make associations from one stage of the process to the next. When students are allowed to first develop a concrete understanding of the math concept/skill, they are much more likely to perform that math skill and truly understand math concepts at the abstract level. Specific information for the stages of CRA can be found in Table 1 (*next page*).

**Children  
understand math  
better when they  
can see and touch it**

## Student Engagement and Accessibility using CRA Instruction

Witzel, Smith, & Brownell (2001) suggest that interactive experiences with concrete manipulatives can increase

Table 1: CRA instruction materials and practice.

Stages	Key Elements	Sample Problem	Explanation
Concrete	Chips, Unifix cubes, base ten blocks		Here, a ten frame with colored counters is used to show the equation $7 + 3 = 10$ .
Transition to Representational	Use of concrete and representational materials together		Once the concrete materials have been used, students begin to draw their own ten frames using the concrete model as a guide.
Representational	Tallies, dots, circles, stamps		At the representational level of CRA, the student is comfortable using pictures to solve the problem.
Transition to Abstract	Use of representational and abstract materials together		Students now start using abstract symbols (numbers in standard form) with their drawing to explain their reasoning.
Abstract	Numbers, mathematical symbols		Students at the abstract level of CRA no longer need pictures or manipulatives to solve the problem.

the relevance of mathematical material for students. Instead of delving straight into an abstract concept, the use of hands-on interaction with concrete manipulatives allows students of all mathematical levels to begin instruction on a level playing field. Accessibility for students is of utmost importance: students must be able to connect and engage with the mathematical concepts through

direct, hands-on participation (Witzel et al., 2001; Devlin, 2000; Maccini & Gagnon, 2000). Recognizing that abstract concepts can be illustrated and manipulated using everyday objects gives students easier access to mathematical knowledge (Witzel et al., 2001; Devlin, 2000; Maccini & Gagnon, 2000).

## Do-It-Yourself Math Manipulatives

While CRA instruction can seem like an arduous task, teachers and parents, as primary instructors, do not need to purchase expensive, commercially produced manipulatives in order to impart quality CRA instruction. Rather, everyday objects found around an average classroom

or household can be used as convenient and effective mathematical manipulatives. Popular manipulatives used in mathematical instruction include: blocks, Popsicle sticks, toothpicks, Styrofoam cups, containers, Geoboards, candies, and various other counting objects. While the use of concrete manipulatives can be an effective instructional strategy, the use of manipulatives is not limited to

the classroom setting alone; parents and family members can also reinforce abstract mathematical concepts with their children through the use of everyday household items.

The size of objects can be determined by the age of the child— consider developmental levels and choking potential for small items-- or the quantity you intend to add. Because

the intent for manipulative use is the development of number fluency, the grade and age levels for the following activities (1-6) are early-childhood levels (prekinder to second grade); however, if a student continues to demonstrate difficulty with the skills of addition or subtraction, these manipulatives can be utilized at any grade level.

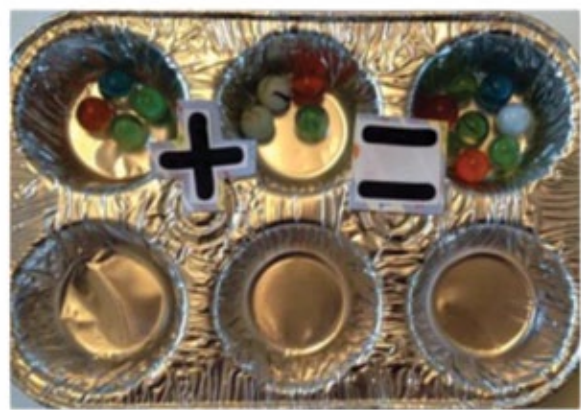


### The Amazing Addition Apparatus

**CRA levels:** Concrete & transition to representational

**Materials:** Pool noodles, poster board or cardboard (I used a cutting board), marbles, adhesive, basket/bowl/or box.

**Description:** The *Amazing Addition Apparatus* serves as a visually appealing manipulative to get the early childhood student excited about the concept of addition. The student simply drops his/her desired number of marbles through the first pool noodle and then drops more marbles through the other pool noodle. The student then adds together the two numbers by counting the number of marbles that have fallen into the collection plate. This interactive concrete manipulative allows children to simultaneously have fun and develop a sense of basic addition concepts.



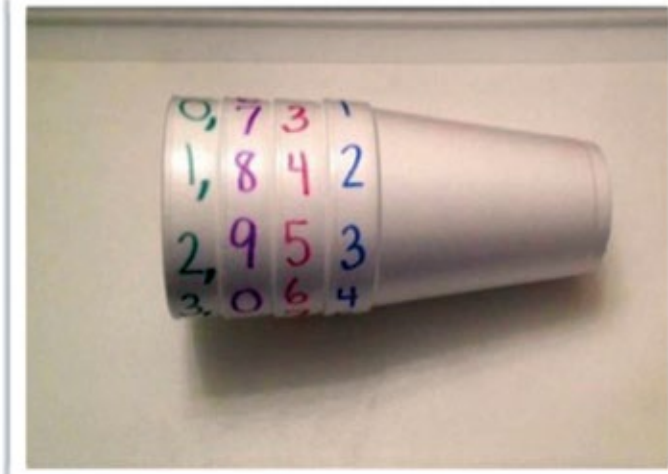
### Addition/ Subtraction Muffin Tins

**CRA levels:** Concrete & transition to representational

**Materials:** Muffin tin, marbles (or other small countable objects, such as pennies), paper or foam addition, subtraction, and equal signs

**Description:** This simple DIY manipulative would work well for individual students in a classroom setting because of its low cost and lack of noise. It can also work well in a home setting. The beauty of this manipulative is that any small, countable object can be used in the muffin tin to practice basic addition and subtraction skills. To personalize the learning process, the early childhood learner could use his/her favorite candy as a countable object in the muffin

tin! To reinforce the concept of two parts being combined, a student would need to place the object in the addend muffin holes, then move both to the equal muffin hole for counting. Note the error in Figure 2 where each muffin hole contains marbles. The teacher would want to be sure to illustrate clearly the concepts of addition by moving the marbles from the addends cups – left and center-- to the total cup at the far right. This concept can also be used for subtraction, but teachers are cautioned to ensure the concept of removing items from the first muffin hole to result in the difference.



## Place Value Cups

**CRA levels:** Transition to abstract & abstract

**Materials:** Styrofoam cups (the number of cups depends on the place value being studied), permanent marker(s)

**Description:** This manipulative is an inexpensive and fun way to teach the concept of place value. The instructor (whether it be the parent or the teacher) gives the student/class a number, and the student would need to be able to manipulate the Styrofoam cups using their understanding of place value to illustrate that number. This manipulative would also be a fun partner activity in the class; each student could challenge their partner to create

the number that he/she supplies. When combined with drawings, students in transition from representational to abstract levels can be rewarded by the game of creating the abstract number on the cups. If students have yet to demonstrate conceptual understanding of place value, it is best to start with pool noodle manipulatives or base-ten blocks before moving to the Styrofoam cups.



## Place Value Sliders

**CRA levels:** Transition to abstract & abstract

**Materials:** Scrapbook paper, (or paint chips), two rulers (or two paint stirrers), permanent marker.

**Description:** This manipulative is perfect for frugal parents and teachers because it costs nearly nothing to create (assuming that paint chips are free at your store of choice). If you do not have access to paint chips lying around the house or if you are not able to make it to the home improvement store, you can improvise with scrapbook paper instead. Likewise, without access to paint stirrers, you can choose to use rulers. If you choose to use rulers instead of paint stirrers, you will need some paper and tape to cover up the pre-existing numbers on the rulers. If your goal is to create a manipulative that will survive years of classroom use, choose something sturdy (paint stirrer or ruler) as the backbone of this manipulative instead of something more flimsy, like construction paper. Simply write numbers 0-9 on each ruler and make sure that

you cut two square windows in your scrapbook paper or paint chips. In use, students are given a number and must demonstrate their understanding of place value (ones and tens) with the given number on their manipulative. This slider could also be used as students are transitioning from representational to abstract stages of CRA by having students first draw the base-ten pictures, then create the abstract number on the slider.

## Cards & Erasers

**CRA levels:** All

**Material:** Playing cards, any small countable items that are approximately the same size (The image shows dinosaur erasers from the local dollar store).

**Description:** What a versatile manipulative to utilize. If building conceptual understandings, you can have students create a pile (ten or less) of the same type of item. Then, find the playing card with the same number of pictures.

The abstract number on the card reinforces the student's cognitive transition to the abstract level of CRA.

To assess one-to-one correspondence, students can choose two playing cards and flip them over. Next, the students line up the correct number of small objects (in this case, the dinosaur erasers) to match the number displayed on their chosen playing cards. If placing the students in partner groups, one student can be the number creator and the other can be the number checker.



## Mr. Alligator

**CRA levels:** All

**Materials:** Green construction paper, printed number cards (or small countable objects, such as pom poms), printed addition sign, printed subtraction sign, printed equal sign

**Description:** Before using this fun manipulative, the instructor will need to come up with a background story about Mr. Alligator. For example: *Mr. Alligator's favorite activity is eating, and he is ALWAYS hungry. Do you think he wants to turn his mouth towards the bigger number or the smaller number?*

Students who have not yet studied place value may need to use the countable objects (such as the pom poms in the bottom image) or tally marks to make number comparisons. While this manipulative can help children practice their greater than/less than skills, it can also be used as an effective tool to reinforce place value concepts.





**Table 2: CRA levels of manipulatives.**

Manipulative	Stage of Instruction in the CRA Sequence				
	Concrete	Transition to Representational	Representational	Transition to Abstract	Abstract
The Amazing Addition Apparatus		✓			
Addition Muffin Tin	✓	✓			
Place Value Cups				✓	✓
Place Value Sliders				✓	✓
Cards & Erasers	✓	✓	✓	✓	✓
Mr. Alligator	✓	✓	✓	✓	✓

## Conclusion

The push for inclusivity in recent years has led to a wide variety of student academic abilities in classrooms. While this diversity provides wonderful opportunities for students to become more aware, mindful, and respectful of each other's learning differences, it can also unfortunately leave teachers feeling lost in terms of which direction to take to meet each student's individual learning needs. CRA instruction; however, has been shown to benefit students in an inclusive setting, regardless of the individual ability (Witzel, 2005). In other words, it is probable that students with various levels of arithmetic understanding will increase their knowledge of mathematical concepts by way of CRA instruction. The manipulative ideas offered in this article are useful across the spectrum of CRA (see table 2). Teachers are encouraged to employ these ideas and continue to utilize household materials in the CRA instructional sequence for math. While it is unrealistic and highly impractical for a teacher to assume that all students will advance at the

same pace, each student is likely to make advancements in mathematical understanding at his/her own pace if CRA instruction is directed in the appropriate manner.

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# The Power of Secret Stories: Constructing Mental Patterns During the Reading-Writing Process

*Children's young brains take in information in a totally different way than adult brains. Secret Stories are a new, innovative way to teach children the grammar rules of English in a way that is tailored to their growing minds.*

**Meredith Krisell &  
Shelly Counsell**

The brain is a complex organ with an intellectual capacity that is unique to humans. As educators, we would be wise to study the brain's many attributes and how it functions to help guide, inform, and improve teaching practice. Learners' brains are particularly sensitive to certain kinds of stimuli— that is social, physical, cognitive, and emotional stimuli (Jensen, 2005). Brain development and cognition is further enhanced with continuous exposure to high quality learning activities and methods, particularly those that help children use mental patterns to make sense of their learning. *Secret Stories* (Garner, 2012) is a program that calls on brain research to help emerging readers make sense of the English language.

## **Brain Development and Literacy Acquisition**

Garner (2012) specified that the ongoing constructing and reconstructing of certain activities/methods is at the heart of children's knowledge progression. As the human brain grows and develops, children become very adept at using mental patterns to organize information, which enables the brain to complete higher order mental tasks and activities such as reading comprehension. Organizing data using in this way offers children the significant, pertinent, and reasonable networks needed to efficiently store and access data as needed. After all, there are no universal letter-sound relationships that apply across all languages. Hence, children must learn the letter-sound rules specific to their native languages.

## **Brain Plasticity**

Sparks (2012) demonstrated that even beginning readers can comprehend and appreciate basic concepts

related to brain plasticity. According to Sparks, young children's "brains are malleable and will change as they practice something" (p. 17). Helping young children to understand how their brain works encourages them to appreciate the role that mistakes (and learning to correct them) play within the learning process. Teachers can use brain exercises to relay the importance of getting ready to learn a new concept or preparing to take an assessment. Crossing the midline is one such activity that stimulates both the left and right hemispheres of the brain and as such they use both sides of the body together. Most people have one hemisphere that is more dominant than the other and it is essential that lateralization (localization of function or activity on one side of the body in preference to the other) is established. If it is not established, a person may have difficulties in various areas that include writing, reading, language development, and organization skills.

Human brains, according to Willis (2008), are considered "plastic" in the sense that brains can "change in both growth and reduction of the nerve fibers that connect neurons to one another (dendrites) in response to learning and conscious manipulation of information or from neglect of stimulation" (p. 35). By definition, young children's brains are flexible and will alter as they learn and use new information. The need for appropriate repetition and continuous practice are key components when educating young children. Ensuring that children receive the necessary allowance of time to learn according to their individual rates of development has long been a central tenet in early childhood education (as the term developmentally appropriate practice indicates) and the unchallenged assumption that adequate time is always guaranteed, cannot be taken for granted.



Photo by Jan Brown

*Children learn differently than adults, and understanding how to teach them is the key to early literacy.*

Garner (2010) pointed out that traditional teaching and schooling emphasized what she refers to as “conscious learning” that is all too frequently hurried, inactive, and results in repeatedly shallow, superficial achievement (e.g., memorization of isolated facts). This alarming trend is evident in the expanse of literacy-skill training. As noted by Jensen (2008), “research shows that more than 99 percent of learning occurs at the non-conscious level—visual cues, sounds, experiences, and feelings” (p. 107). Brain research confirms that teachers can bind the power of learning with instructional practice. Similarly, Garner (2010) argues that learning is painless and spontaneous when it takes place at the unconscious level. The flow of learning happens logically, irrespective of a student’s academic performance rank, linguistic background, ability, talent, or level of involvement.

### The Brain and Visual Tracking

Vision and visual processing plays a critical, influential role that directly impacts early learning and development. Frey and Fisher (2010) recognized that not all visual material is the same. As a general rule, illustrations are easier to recall and are a considerably more effective way to store and retrieve information. How exactly is visual information stored and retrieved? By understanding the neural basis of reading, teachers can better select instructional routines and cognitive strategies that promote reading and language acquisition.

On the surface, reading may seem almost mystical or overly simplistic as the reader focuses on a single written word, and the brain processes the visual letter sequence and configuration in order to supply (recall) the word’s diction and meaning (Dehaene, 2009). However, a child’s

recognition and recall of a single written word is quite complex.

**Young children’s brains are flexible.**

Lyons (2003) concluded that the synchronization of left-to-right movement of the eyes when following words on a page while attending to stories is a significant, essential skill children must master as they learn to read and write. Their brains are ready, eager, and capable of cultivating these competencies. In other words, the brain develops into what can best be described as a “natural pattern seeker and synthesizer” (p.22) during highly engaging cognitive

processing activities like reading. As young children read, they enthusiastically hunt for patterns to classify, consolidate, manufacture data, program into memory and then reclaim what is understood.

### Mental Imagery

Zull (2011) described mental pictures as “electrical patterns on the surface of our brain” (p. 117). Multiple pictures in multiple combinations form meaningful patterns or schemas of understanding (organized patterns of interrelated information). The human brain is continuously constructing patterns of information based on the stimuli perceived and gathered from the immediate surroundings (Garner, 2012). As more data is collected, analyzed, and synthesized with the old data, information systems or schemas are continuously expanded, or completely new patterns of information are constructed, in an ongoing, spiraling fashion. Every time the brain constructs a new pattern, that pattern has to be successfully incorporated and integrated into the already existing system of patterns (and overall schemas of mental relationships). As the brain develops, young children become increasingly skilled in their ability to construct prolonged and intricate pattern systems.

### Secret Stories: Bridging Non-conscious and Conscious Learning with Emergent Readers

Garner (2012) uses the construct “non-conscious” on several occasions in her book, “The Secret Stories.” For Garner, non-conscious refers to how children’s are unaware of (or conscious attending to) specific information as it is mentally pro-

**Figure 1: The “Sneaky y” Secret Story Poster**



cessed. Furthermore, she noted that in order for children to successfully transfer skill-based, academic content that was consciously learned to that which can be effortlessly (non-consciously) acquired requires a specific instructional context. This type of learning can best be described as deep learning in which students become energetic and insightful as they process information. “The Secret Stories,” a method created by Katie Garner (2012), provides systematic, visual images used to help emerging readers to mentally construct letter-sound relationships. Secret Stories can underscore and complement any existing reading and writing curricula and instructional practices across the elementary grade levels (PreK-5) and can even extend into the higher-grade levels, if needed.

*The brain is a  
natural  
pattern-seeker.*

The Secret Stories provide effective phonics models (or cues) used by students to construct patterns of meaning (letter-sound associations) that young children must recall and apply as they read. Garner created Secret Stories to help explain the English spelling rules within meaningful, relevant contexts that young

children can easily understand. In the example of the sneaky “y” secret story, the secret is that the “y” character grew tired of always saying, “y-y-y.” The “y” discovered that other letter characters (the long vowels) could say their names, so the “y” decided to steal the superpowers from the vowels “e” and “i.” The letter “y” knew “he” would not be noticed at the end of a word. As a result, the letter “y” could use these superpowers whenever needed, as in the words “mommy,” “daddy,” “my,” and “July.” If the letter “y” is at the beginning of a word, the letter “y” behaves and uses the “regular y-consonant” sound. The letter “y” does not want anyone to know that “he” is sneaky (see Figure 1).

By helping emergent readers to embed arbitrary phonemic rules into meaningful frameworks (stories that serve as pattern systems), these pattern skills emerge from the non-conscious into the conscious (accessible) schemas of knowledge and understanding. In other words, children can recall the stories when they encounter the letter patterns in their reading more easily than having to recall the decontextualized rules.

During interactive writing activities, children in kindergarten and first grade who struggle or are considered emergent readers and writers, can employ the “sneaky y” secret story to support and guide how to spell words as they write. For

example, a kindergarten teacher can introduce the “sneaky y” secret story to help children read, and later write about the nursery rhymes, “Humpty Dumpty” (see Figure 2). In this instance, the teacher told the “sneaky y” story and demonstrated how it was used at the end of words, like “Humpty Dumpty,” according to whether the “sneaky y” chose to wear the “e” or “i” cape. Children working

in small group settings can likewise apply the “sneaky y” secret story to steal the “e” or “i” cape to use at the end of high frequency words, like the word “my” (see Figure 3).

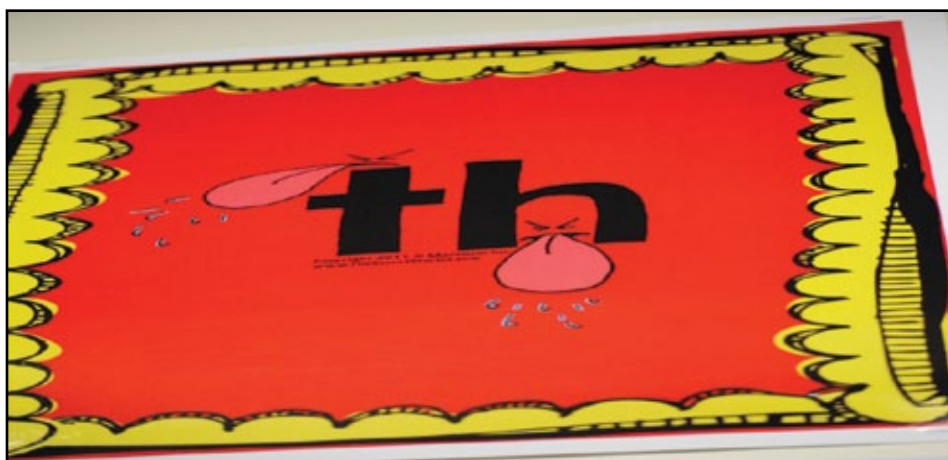
In the case of “th,” the “t” and “h” letter characters (according to Secret Stories) do not like each other at all, yet they often appear together in written words. Whenever the “t”

and “h” are side-by-side within a written word, the letter characters always stick their tongue out at each other (Garner, 2001), thus making the “th” sound (see Figure 4). This secret story is particularly helpful to emergent readers as well as Dual Language Learners (DLLs), who tend to pronounce the /f/ sound for the /th/ sound. During small group writing instruction, kindergarten and first grade children can apply the “th” secret story to support and guide their writing (see Figure 5). Children who tend to confuse the /f/ sound with the /th/ sound can likewise benefit from using the “th” secret story during independent writing (see Figure 6).

### Figures 2 & 3: “Sneaky y” Secret Story Applications During Writing Activities



Figure 4: The “th” Secret Story Poster



**Children learn spelling better as stories than boring rules.**

Willis (2008) found that procedures, activities, and materials (like those used with Secret Stories) can be utilized to help learners process instructional material and information in a gradual progression from external short-term working memory into stored memory as children construct mental patterns and relationships that subsequently increase their overall abilities, skills, and proficiency needed to stay focused throughout the learning process. Every time the brain constructs a new pattern, that pattern has to be successfully incorporated and integrated into the already existing system of patterns (and overall schemas of mental relationships). As the brain develops, young children become increasingly

skilled in their ability to construct prolonged and intricate pattern systems (Copples & Bredekamp, 2009).

### Using Secret Stories in Meaningful Contexts

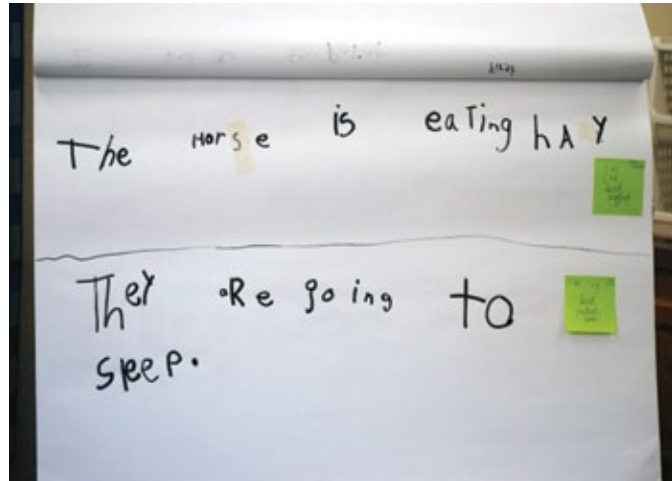
The Secret Stories, based on Garner's experience, are "most effectively introduced when offered 'in context' of the existing daily curriculum and activities and NOT as a designated 'phonics-lesson' for the purpose of teaching isolated skills" (Garner, 2012, p. 22). In other words, phonics rules are largely meaningless when taught without a meaningful context. Secret Stories provide emergent readers with a meaningful context needed to help them construct letter-sound relationships.

"Mommy e" is one example of a Secret Story that emergent readers can use to better understand and apply the "silent e rule" as they read and write. The "Mommy e" character tells all the vowel characters to say their name. The "Mommy e" closes her mouth and does not make a sound. Mommy "e" does her job when she is one or two letters away from the vowels, but sometimes the vowels do not hear the "Mommy e" (as in the word "have"). During independent writing, first graders can apply the "Mommy e" secret story to help spell the words "like" and "slide" (see Figure 8).

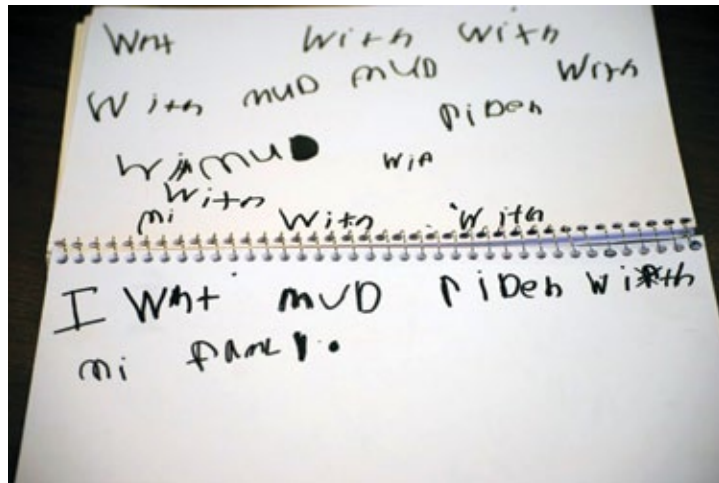
### Conclusion

Armstrong (2003) observed that most of the research on the brain, particularly in relation to reading and writing tends to disregard or neglect the impact that emotions play in learning and developing important reading and writing skills. Armstrong insists there is a "small but emergent literature that links

**Figure 5: Small Group Writing Using the "th" Secret Story**



**Figure 6: Independent Writing Using the "th" Secret Story**



**Figure 7: "Mommy e" Secret Story Poster**



reading and writing to areas of the brain that process emotions” (p.83). Using emotions to inspire, motivate, and help children regulate learning in ways that personally connect to children’s lives can be powerful. Background knowledge can serve as an extremely important starting point for teaching students new material.

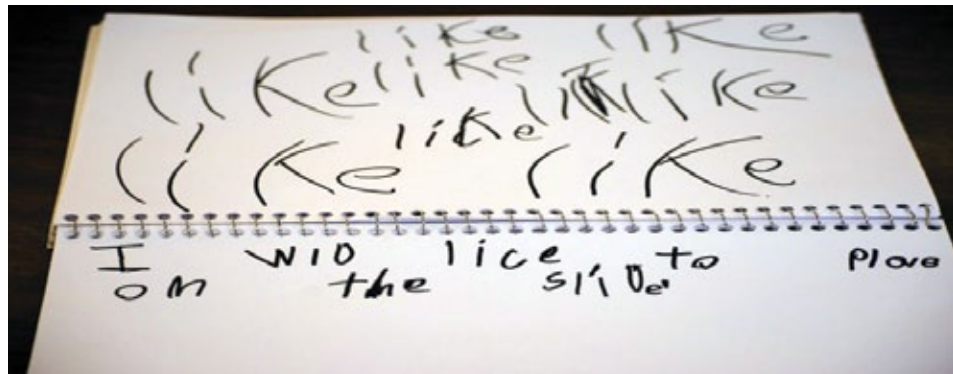
Teachers need to consider all aspects of how the brain constructs meanings when teaching new material and information. Traditional instruction focuses on conscious learning that is all too frequently hurried, inactive, and results in repeatedly shallow achievement of arbitrary, intangible material (Garner, 2010). Nowhere is this alarming trend more apparent than in the expanse of literacy-skill training. Nearly 100 % of knowledge happens at the involuntary stage- prompts that are graphic, reverberations, occurrences, and sensitivity (Jensen, 2008). The flow of learning happens logically, irrespective of a student’s rank, linguistic background, ability, talent, or involvement, and free from diversified teaching that is mandatory (Garner, 2010). Zull (2002) indicated that, “learning is best when it truly matters in a person’s life” (p.226). Connecting learning activities to children’s real life experiences enhance the significance of the activities (and strategies) used, and in this instance with the Secret Stories, can increase children’s overall reading ability, confidence, and success.

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## Figure 8: “Mommy e” Application During Independent Writing



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# Response to Intervention and Authentic Assessment

*Early intervention with children from less privileged socio-economic backgrounds can lead to long term success in education. This article outlines a detailed method of meeting these children at their skill level and giving them the attention they need to excel.*

**Donna McCrary Ph.D.,  
Dr. David L. Brown,  
Jennifer Dyer-Sennette Ph.D.,  
& Tami Morton Ph.D.**

*Jackson is a five-year old boy who lives in a “lower socio-economic” financially insecure home. His care-takers are his grandparents whose primary income is the grandfather’s disability social security income. Jackson does not have siblings and rarely plays with other children. There are no books in the house and Jackson’s primary form of entertainment is watching television. When Jackson entered kindergarten he had not experienced a group setting with other children, was unfamiliar with a structured schedule, and had little exposure to literature or language experiences. At the end of the kindergarten year, Jackson’s teachers suggested that he repeat kindergarten because his academic and behavioral development lagged behind his peers. His teachers feared that he did not have the skills to be successful in first grade.*

This brief description of a real child highlights some of the obstacles faced by many children in the United States today, particularly those who come from low-income homes. There is an increasingly large chasm between the number of children who are on target for success in school and those who need extra help to close challenges in behavioral and academic development. In fact, evidence suggests that the trend is irreversible if these gaps are not closed by 3rd grade (Neuman, 2006).

There is, however, an effort to ensure that all children, such as Jackson, start school ready to learn. Families, teachers, administrators, and policy makers are seeking ways to intervene early in the lives of young children to understand what young children know and what they can do in the early years to ensure success across the child’s school career (National Head Start Association, 2014).

One method that has emerged as a way of reversing this trend is the use of early intervention services (EIS) within early childhood education. Early intervention is emphasized in the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) and No Child Left Behind (NCLB, 2002). The goal of early intervention is to provide the necessary support a child may need to succeed before gaps in learning become too large to overcome without intensive and specialized help (National Head Start, 2014).

Early intervention usually begins with an assessment of the child’s academic or behavioral performance to determine where strengths and weaknesses occur. During the initial phase, assessment may reveal that the child has a particular skill that must be addressed before he or she can move forward. Teachers will also use assessment data to determine how far a child’s performance deviates from other peers of the same age group or within the same classroom. Early intervention services may then use this assessment data to set appropriate and individualized goals and plan instruction based on ways that best meet the child’s strengths and weaknesses.

## **Aligning Assessment with Recommended Early Childhood Practices**

The task of the early childhood educator is to view assessment as a useful tool that helps teachers achieve long-term and short-term goals with children, it occurs as children work, and provides information to teachers about how children learn best (Johnston & Costello, 2005). Appropriate assessment is based on what teachers know about the children they teach, the culture and abilities of the child, and the basic components of development (Wasik, 2012).





*Early intervention can help every student achieve success in their educational journey.*

Photos Courtesy of JKnollwood Preschool Community Church

To achieve this end, a system of support has emerged that guides teachers who embrace appropriate use of assessment in the early grades. Aptly named, Response to Intervention (RTI) is an early intervention practice offering all students access to high quality instruction, based on students' academic needs (Department of Education, 2007; McLnerney & Elledge, 2013). The RTI model is built on a multi-tier system of support designed for K-12 students. The first level is defined as primary instruction (Tier I) in the general education classroom with the regular class-wide curriculum. Those who are not successful at Tier I level may move to more intensive evidenced-based interventions at the secondary level or Tier II. This may be conducted in or out of the general education classroom. The highest

level of intervention or Tier III is reserved for targeted individualized instruction among students who demonstrate negligible response to the interventions used in Tier II (Gentry & Windfield, 2010; McIntosh et al., 2011; McLnerney & Elledge, 2013). Tier III students may be part of general or special education based on results from progress monitoring and individualized special education assessment (Ervin, 2014).

Within Tiers I, II and III, RTI serves as an integrated service delivery system that works across general education and special education. Common agreements about the core suppositions of RTI provide a foundation for teachers, parents, and administrators who collaborate and plan for their students. Five core suppositions of RTI are described below with accompanying descriptions.

## Core Suppositions of RTI

The RTI method emerged as a way of supporting students who struggle in school. Understanding of the RTI model differs among local school districts due to the slowly evolving understanding and varying fidelity to the model (McLnerney & Elledge, 2013). The RTI approach seeks to provide a comprehensive approach to educational planning (Brozo, 2010; McLnerney & Elledge, 2013). The core suppositions of RTI are described in this article with examples for classroom use.

### **Supposition One: The educational system can effectively teach all children.**

When teachers use a scientific, research-based curriculum with con-

sistent implementation all students can be successfully served by the education system. When instruction is matched to the learning needs of individual children, success occurs.

Snow, Burns, & Griffin (1998) describe scientific, research-based curriculum as precise instruction in phonemic awareness and phonics integrated with many reading and writing experiences. Programs based on these principles will include four core practices: (a) instruction in sound structures, (b) familiarity with spelling-sound correspondences, (c) sight word recognition, and (d) independent and reading aloud experiences.

For example, a child who does not successfully develop fluency skills in a core reading program with his or her peers may become successful when receiving supplemental intervention in a small group of students to practice one of the principles listed above. Example: *During a class read aloud, Jackson may move to a small group to work with two other students. His teacher provides a separate activity that uses a matching game to help Jackson recognize high frequency sight words in the text the class is reading. The read aloud continues with the small group after the sight-reading activity.* This example clearly illustrates how Supposition One may be addressed in classroom practice.

### **Supposition Two: Early intervention prevents later problems.**

Early screening and regular monitoring of academic skills will help identify problems before they progress. Students will receive intervention early and be able to build a strong foundation for future academic success (McLnerney & Elledge, 2013). Standardized

screeners are produced for both math and reading and have been developed as brief assessments that help to identify students who may face challenges in their academic outcomes. One example of a screener designed for Kindergarten is the FAST: earlyReading English Screener (FastBridge Learning, 2016). This screener can be administered in two-three minutes and will assess reading skills such as concepts of print, phonemic awareness, phonics and decoding. Teachers may administer the FAST: earlyReading English Screener at the beginning of the academic year to the whole class and at multiple times throughout the year to monitor student progress. As a result of using the screener, children can receive intensive support quickly. This will increase the likelihood that the child's reading skills will improve at the same rate as his or her peers.

## **Early Intervention can help underprivileged kids succeed.**

Example: *As a result of using the FAST: Early Reading English Screener at the beginning of the school year, the teacher realizes that Jackson has trouble identifying the number of sounds in one-syllable words. Jackson receives small group instruction that helps him repeat nursery rhymes to practice sound repetition. Jackson's teacher uses the screener again in December to monitor the progress of the student's in her classroom. The screener reveals that two other children have trouble with syllable segmentation. Intensive support is provided through the use of a*

*game using tokens to count syllables.*

### **Supposition Three: Multi layers of intervention must address academic problems.**

Three levels of support (Tiers I, II, and III) within the RTI framework gradually increase in intensity and provide a guide for delivering interventions to children with academic issues. Most children within a classroom will achieve academic success with the same type instruction. This initial layer of instruction is known as Tier I of the RTI model. However, a small percentage of children in a classroom may need extra support in a small group. This is referred to as Tier II in RTI. An even smaller percentage of children may need help that is individualized for their specific learning needs. This layer of intervention is known as Tier III. When all three approaches are used in the classroom and school, the student who struggles will get the help they need and experience success early (McLnerney & Elledge, 2013). Example: *Jackson has been receiving support in Tier II with other children as they develop better phonemic awareness skills. Jackson's teacher gives weekly assessments to the small group and determines that two children in the group have made progress. Jackson, however, has not made progress with the intervention provided by the teacher. Tier III, independent one to one instruction, is now provided to Jackson. This intervention is very intensive and focused on specific sounds that Jackson does not hear. Instead of repeating nursery rhymes, Jackson's teacher allows him to match blocks with the sounds in a word. This technique allows Jackson to use both auditory and physical modalities to recognize the word sounds.*

### **Supposition Four: Academic**

**Dimensions of Early Childhood**

## interventions emerge from a collaborative problem solving approach.

Teachers work together to examine academic problems that children encounter. Rather than relying solely on a standardized score to plan instruction, or one teacher deciding upon the course of intervention, teachers work together review a student's response to instruction. Decisions are then made concerning further implementation of an instructional method. Problem solving with other professionals help teachers identify the student's strengths and choose alternative interventions based on those strengths (McLnerney & Elledge, 2013). For example, it may be noted by one teacher that a student is not successful with a particular learning strategy. This teacher will notify the other teachers who work with the child to determine how this child learns best. They may review different assignments, teaching methods, personal observations, anecdotal notes or other assessments to come to a conclusion about the student's capabilities. The team of teachers will then devise a plan together that uses the child's strengths to plan instruction. Example: *Jackson's teacher analyzes her notes concerning Jackson's progress in phonemic awareness. She has used different instructional techniques with Jackson. However, as she looks at her notes and reflects on Jackson's work, she realizes that Jackson has made little progress. She calls a meeting of other teachers who work with Jackson and asks these teachers to help her identify Jackson's learning strengths. They realized that Jackson's high activity level and willingness to participate in dramatic play at school could be viewed as two overlooked strengths. The group suggested using nursery rhymes in a*



Teachers work together to examine academic problems that children encounter.

*dramatic play scenario. Jackson could memorize the words to the rhyme and create a play based on the rhyme. As Jackson learned the words to the rhyme he would be instructed to clap out the syllables. After learning the play, Jackson could perform the play for his friends.*

### **Supposition Five: Instruction is based on frequent monitoring of student outcomes.**

Regular assessments that monitor the child's progress alert the teacher to academic difficulties, enabling a shift in instructional methods to quickly occur. Progress monitoring is also the tool that can highlight the need for the secondary and tertiary (Tier II and Tier III) services and

provide an entryway into Special Education placement (McLane, 2016; McLnerney & Elledge, 2013). For instance, implementation of progress monitoring begins with measuring the student's current level of performance. Long-term academic goals are identified and the student's academic performance is measured on a weekly or monthly basis. This is demonstrated when a student who is screened for vocabulary knowledge three weeks after entering an early childhood program may demonstrate poor expressive vocabulary skills. Small group instruction is provided and the student's expressive vocabulary skills will be assessed each week to determine growth. If no growth is noted through the weekly assessments, the student may receive intensive supports. At each phase of the plan, regular assessments are used to determine if the student is responding to the extra support and progressing in expressive vocabulary knowledge. Example: *Jackson's teacher uses a running record to assess his progress each week. At the end of three weeks, the running records are analyzed to determine if progress is being made in phonemic awareness.*

## Monitoring Student Progress within the Multiple Layers of RTI

RTI is driven by examining the progress of individual children through the use of frequent tests that assess a child's demonstration of a specific skill. Progress is measured by comparing the teacher's expected rate of learning for the child with the child's actual rates of learning (McLane, 2016). Issues such as the child's attention span and interest can make an assessment score vary from one day to the next. In addition,

many children in today's early childhood classrooms are English language learners who are learning a first and second language simultaneously. Full understanding of an assessment question may be difficult if the child does not completely comprehend the language of the assessment instrument (Gottlieb & Hamayan, 2007; Malone, 2011; Wasik, 2012).

**RTI provides a toolbox of assessment methods.**

### Using Appropriate Assessment Methods

One way of overcoming these issues while assessing children within the varying RTI layers is the use of authentic assessment to monitor academic progress. Authentic assessment is based on the assumption that students and teachers participate in assessment in ways that enable and encourage students to assume more control over their learning and to provide teachers with information for improving instruction (Layton & Lock, 2007; Lidz, 2009; Wortham & Hardin, 2016). Authentic assessment provides practice-based evidence that has become recognized as "more developmentally appropriate, representative, accurate, functional, and strengths based" (Bagnato, McLean, Macy, & Neisworth, 2011, p. 246). For example, teachers may use writing to assess content knowledge or develop a portfolio of student work to assess reading, writing or math growth over time (Bag-

nato, McLean, Macy, & Neisworth, 2011). Use of these types of assessment artifacts helps teachers understand growth within children and the metacognitive skills children use to complete the assignments. Both outcome data and metacognitive understanding can help students and teachers plan more effective instruction in the future. Authentic assessment benefits teachers, students, and families in substantial and equitable ways (Serafini, 2010).

The following assessment practices describe a variety of authentic assessment practices that could be used in an RTI framework. They are included in this paper because they have been widely accepted as part of a balanced literacy system by early childhood practitioners in an effort to monitor the ongoing developmental milestones of every child. Appropriate ages for individual use of assessment practices are also noted within.

**Anecdotal records.** (subhead) Observation is an important technique for making academic assessments. Teachers are actively observing as children engage in classroom activities. Teachers often doubt if they have the ability to assess the strengths and the needs of children by simply observing them. Gullo (1987, 2005), however, has shown that teachers' evaluations based on observations correlate highly with objective measures of children's academic performance. Although traditional assessment focuses on what children have learned, observation allows teachers to assess learning processes as children actively engage in behaviors such as problem solving. Anecdotal records enable teachers to understand the behaviors of children. Brief, objective narrative descriptions of specific events

are recorded as children interact in reading, writing, class discussions, or other activities. Observations are made of academic, emotional, social, and physical behaviors. These records are useful in noting changes in developmental behaviors. Questions such as the following could provide information concerning the developmental growth of individual children.

- *“What would happen if...?”*
- *“How do these activities show that Miguel is . . .?”*
- *“What is James’ thinking in regards to...?”*
- *“Are these age appropriate behaviors for Contessa?”*

**Checklists.** (subhead) Checklists are often used by teachers to assess the academic development of children. Using checklists, teachers can record and examine a series of behaviors and responses, which can help determine children’s skills and developmental characteristics. Categories may include descriptive and specific statements of traits, social or emotional behaviors, developmental characteristics, interests, academic skills, knowledge, or concepts. These instruments are useful in preparing children’s progress reports and for providing specific information to parents.

## Conferences

Conferences are an indispensable assessment method of teachers. Reading and writing conferences provide children with the opportunity to participate in their own journal writing and is a good source for determining progress in skill development and evaluation. Teachers have the opportunity to note concerns and interests, as well as invented spellings, grammatical errors, and

usage errors. This information can be used to form instructional groups. Although journals should not be graded, they give teachers insight into children’s conceptual understanding of mathematical, scientific or literacy-based information.

## Story retelling

Story retelling is a popular activity with both teachers and students. As children retell a story in their own words, teachers can assess their comprehension of what was read. Some teachers like to take a retelling for later comparison or assessment. When not limited to only answering questions, children have the opportunity to recall as much of the content as possible, yielding a more thorough assessment. The teacher can use a beneficial procedure by asking children to retell a story as if they were telling it to a friend who had never heard the story before. If necessary, teachers can prompt children by suggesting a beginning such as “Once upon a time . . .”, asking what comes next, or asking relevant questions, such as “What was the problem in the story?” Looking beyond small details of recall, teachers can examine retelling holistically. In addition, teachers can often see how children relate the story to their lives.

## Running records

Teachers record exactly the words children read to assess children’s reading behavior (Clay, 2007). Running records are easy to use and do not require much teacher preparation. Teachers record everything a child does or says as they read a passage of at least 100 words. Running records help make teachers aware of the types of miscues a child is making and provide some evidence

of why the miscue was made. These records also help teachers estimate the child’s reading level. After the running record, comprehension is also evaluated.

## Child observation

Child observation has been used for many years in early childhood classrooms to monitor children’s development. Moreover, observation is a method accepted by practitioners as a way of gathering authentic and useful information regarding children’s development. The Preschool Child Observation Record (COR) is one example of an observation-based assessment instrument designed by High Scope for children ages two and one-half to six years old. To use the COR, the trained teacher assesses each child’s behavior in six key developmental indicators (KDIs): (a) initiative, (b) social relations, (c) creative representation, (d) movement and music, (e) language and literacy, and (f) mathematics and science (High Scope, 2010).

## Self-assessment

Self-assessment enables older students to benefit greatly as they assess their own work in reading and writing. The children have opportunities to determine their strengths and needs, evaluate their progress over time, think about ideas in their work, and feel ownership of their work. Self-assessment helps students assume ultimate responsibility for their own learning.

Teachers can help students discover options for improvement. When assessing their writing, the children make decisions about what to change. Students can help each other with self-assessment by learning to co-edit and listen to fellow classmates. Sentence frames, which



Photos Courtesy of Nancy Alexander

*Observation is a great tool for gathering authentic and useful information about a child's development.*

are useful in establishing dialogue, may include phrases such as: (a) *"This is an interesting story about . . ."*, (b) *"Can you tell me about . . ."*, (c) *"Give us more details about how it looked (sounded, smelled, tasted, felt, etc.)?"*, (f) *"Explain how . . ."*, (g) *"What happened to the . . ."*

## Portfolios

Portfolios involve a systematic collecting of children's work. The work includes process samples and product samples. Process samples are works-in-progress that show how a student thinks, emphasizing strategies, and uses procedures. Product samples are finished, revised works that show a student's achievements. Product samples can include a variety of items such as stories, reports, projects, surveys, letters, journal

writing, literature extensions, logs of books read and comments, responses to literary components, unedited first drafts, revised first drafts, writings in progress, interesting thoughts to remember, audio tapes of reading, a list of favorite books and authors, and self-evaluations.

There are various types of portfolios which allow teachers many options for finding what works best for their students. When using portfolios, the teacher and child assess and evaluate together. Both the teacher and student choose samples for the portfolio. The teacher adds other records such as checklists, anecdotal notes, running records, and conference notes. Chen and Martin (2000) assert that the aforementioned "represent evidence of the child's performance and development" (p. 1). The

strength of the working portfolio is that it represents the most accurate picture of the children's progress, and it includes process and product samples showing daily progress. Teachers must be careful not to dominate the decision-making involved in placing materials in the portfolio. The portfolio should be kept in a central place to encourage the children's involvement and to ensure a sense of ownership.

Portfolios can serve as the basis to examine effort, improvement, process and achievements. Students and teachers can work together to understand student's strengths, needs and progress. Bredekamp (2011) cites seven values of an ongoing assessment that occur through the use of portfolios: (a) represents the range of reading and writing in which

children are engaged, (b) engages children in assessing their progress and accomplishments, and in establishing continuous learning, (c) measures each child's achievement while allowing for individual differences, (d) represents a collaborative approach to assessment, (e) has a goal of child self-assessment, (f) addresses improvement, effort, and achievement, and (g) links assessment and teaching to learning.

**The RTI method supports struggling students.**

## Summary and Conclusions

The increased concern over closing the achievement gap among all children in the early childhood years has prompted the creation of a fresh approach to the instruction of young children. RTI is considered an early intervention tool for closing these gaps by identifying weaknesses early before the learning or behavioral chasm becomes too wide. The core suppositions of RTI (i.e., schools can teach all children effectively, early intervention prevents later problems, multiple layers of intervention is necessary, collaboration is required, and instruction is based on frequent monitoring) provide a way to plan appropriate instruction and embed needed supports within varying levels of intervention. For RTI to accomplish this mission, assessment techniques are necessary that help teachers understand the full depth and breadth of the child's knowledge.

Effective authentic assessment strategies as described above can achieve this goal by providing a holistic picture of the child's level of functioning through a rich pool of data that captures a student's deep knowledge and understanding within an authentic context. Authentic assessment will create a powerful force to identify strengths and weakness of all children, aiding teachers in designing more successful interventions. Moreover, the effect will also ensure a stronger RTI model and, thereby, achieve the overall goals of early intervention.

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### *President's Message, continued*

6. SECA and Kaplan have partnered to create a new annual award, the "Phil Acord Award," that will recognize and honor a "male" in the field who has distinguished himself in his work for the well-being of young children in the South. This award has been created in honor of Phil Acord, a native from Tennessee and past SECA President, who has tirelessly advocated for young children across the South. Dr. Floyd Creech, from South Carolina, was recognized at the SECA Conference in Biloxi as the first recipient of this award!

As you've now heard, SECA and affiliates have their work cut out for

them. But the list is organized, the tasks are clear, and the commitment is strong! Together we will *move forward* and we will *make a difference!*

SECA's second transition involves the challenging process of hiring an Executive Director. Glenda Bean will be retiring in May 2017. She has been an exemplary Executive Director, having guided our association forward for many years! Words can't begin to express our heartfelt gratitude and appreciation for her many years of service!

The Succession Committee, chaired by Dr. Janie Humphries and comprised of devoted SECA Past Presidents and Affiliate Presidents, has worked dili-

gently *reviewing* applications for the SECA position of Executive Director and *interviewing* prospective candidates. On behalf of SECA, I thank the Committee for their commitment and arduous work on carrying out these tasks. An announcement will be forthcoming

I invite you to enjoy this edition of *Dimensions*. The articles reflect a wide range of topics that are at the forefront in the field of Early Care and Education.

Sincerely,  
Carol C. Montealegre, M.S.  
SECA President



# The SECA Reporter Becomes a BLOG!



The summer 2015 issue of *The SECA Reporter* will be the last in the form of a newsletter. With the advance of technology, there are new ways to provide information that enhance the member experience and provide for interactive communication among our members throughout the SECA states. We'll continue to produce our e-newsletters such as *The Leadership Letter* and *Public Policy Notes*, but we think that changing *The SECA Reporter* to another information format will allow us to keep you updated more frequently and provide another avenue for you to participate professionally. ***The SECA Reporter* will now come to you in the form of a BLOG post** with a new post at least once a month.

During the last couple of years, we've moved from "print and mail" to 24 hour on-line access and in the process have increased the resources and content that we can provide. You can now go on-line and access your copy of *Dimensions of Early Childhood*, the e-mail archives, public policy information and other resources anytime it fits your schedule. You no longer have to wait for these resources to appear in your mailbox.

We're looking for innovative and creative ways to serve you better and to provide member value. You've probably noticed the change in the way the monthly member e-mail looks. That's just one of the changes that we've initiated to make our member resources more relevant and useful.

You'll receive notification when the posts are made and we hope you'll share your thoughts and ideas with your colleagues. *Let us know what you think about this new adventure at SECA!*

*The Board and Staff of the Southern Early Childhood Association*

## To Our Home Visiting Colleagues

On July 1, 2016, the Southern Early Childhood Association (SECA) began offering a membership that is designed especially for our home visiting colleagues. We want to share the wonderful resources and member benefits that we provide to our early childhood professional colleagues every day.

The Home Visiting Membership will include:

- *Dimensions of Early Childhood* for Home Visitors: Selected articles from our refereed journal, *Dimensions of Early Childhood*...6 issues per year
- *Dimensions Extra* for Home Visitors: Additional resources to support professional development and parent education on the topic of the article from *Dimensions of Early Childhood* for Home Visitors...6 issues per year
- A Specialized Page on the SECA website that will be devoted to issues of interest to home visitors and a blog platform that will allow members to interact with colleagues from throughout the region and nation
- Member discounts on attendance at the annual SECA conference with specialized content for home visitors and SECA publications and resources.

This limited membership will be available for only \$30 per year; however, for just a few dollars more, you can join your state association and enjoy the full benefits of SECA and state membership.

For more information, contact [info@southernearlychildhood.org](mailto:info@southernearlychildhood.org) or give us a call at 1-800-305-SECA (7322)

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# SECA's Commitment to Play and Outdoor Learning

## A Wealth of Professional Resources

### From *Dimensions of Early Childhood* & *Dimensions Extra*

The 2013 and 2014 issues of *Dimensions of Early Childhood* and *Dimensions Extra* featured articles on the programs recognized for Exemplary Outdoor Classrooms. Each issue of the journal highlighted programs and *Dimensions Extra* provided additional resources that could be accessed to assist in developing outdoor classrooms.

Copies of these journals are archived at [http://www.southernearlychildhood.org/members\\_only.php](http://www.southernearlychildhood.org/members_only.php) for SECA members.



### From Our Monthly Membership E-mail Articles

These e-mails are archived on the SECA website and available on the “members-only” section of the website. You’ll find them under the section, **Members E-mail Articles**. There is an informational article and either a parent or staff flyer (or maybe both!) about the topic. Look for these specific e-mail articles on the topic of play and outdoor learning.



October 2014



June 2012

# SECA 2018

## 69th Annual Conference



**March 1-3, 2018 • Lexington, Kentucky  
Hyatt Regency-Lexington & Lexington Center**