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Early Childhood Teacher's Approach to Assessment: A Look at Data Collection, Organization, and Lesson Planning Practices

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Abstract

While assessment is key in every field of learning, how it is accomplished determines the outcome. The early childhood grades present a challenge as children are young and of different abilities. There isn't a standard way early childhood programs are required to measure assessment and many programs use varied assessment approaches. Thus, information on if teachers do actually collect data and how they use that data is lacking in assessment research of early childhood programs. This study investigated how early childhood teachers approached assessment and how they used that assessment. Seven early childhood teachers were interviewed that used the TS GOLD assessment. Common and varied themes are identified in teacher data collection processes, data organization/interpretation and lesson planning and instructional use practices. Importance of assessment planning, knowledge of assessment tools, and use of assessment systems are discussed as areas of possible training and professional development.

Keywords: ongoing assessment, data collection, data organization & interpretation, early childhood education

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Introduction

One of the most complicated tasks in early childhood assessment is to find a tool that can be generalized or standardized across programs. Plenty of literature on assessment in early childhood presents information on different ways teachers approach assessment (Akers et al., 2014; Atkins-Burnett et al., 2014). Early childhood programs approach assessment individually depending on what curriculum is being used, for some though is a personal choice. About 3 years ago the Office of planning, Research, and Evaluation engaged the Mathematica Policy Research to develop Examining Data Informing Teaching (EDIT) measure to examine how teacher conduct ongoing assessments for individualization and to inform practice. The focus of this tool was to identify the process the teachers use for 1) planning what information to collect and how to do so, 2) collecting valid data, 3) organizing and interpreting data, and 4) using the data collected to inform both overall and individualized instruction (Akers et al., 2015).

At the initial phase of the development of the EDIT tool, the researchers found that teachers scored very high on the several EDIT items. In general it was evident that there were some high quality general teacher assessment practices. It was relatively easy for teachers to score highly with certain types of items. It was also evident that the teachers did regularly document information about children objectively and collected this documentation during meaningful activities and planned individualized lessons. But what was not evident is how teachers planned for assessments. This initial findings concluded that there is need to examine how assessment practices of teachers are measured.

With these gaps in the literature review, the EDIT measure was developed to address those concerns. In this project the researcher took the EDIT tool and used parts of it with some early childhood teachers. The EDIT Teacher interview questionnaire is broken into three specific strands; 1) how teachers conduct assessment; 2) how they organize and interpret data; 3) how they use data in lesson planning and instructional decisions 4) and at the end it asks about.

Literature Review: Assessment in Early Childhood Education

If there is one important thing in schools on recent times that is being focused on is the need for improved performance. Closing the achievement gap has become a common buzzword. Thus there is a continual increasing pressure in preschool and early childhood educators to document effectiveness of their methods through assessment. Many initiatives like, the National Reporting System (NRS) (Akers et al., 2014), the No child left behind (National Assessment Governing Board, 2009), President Bush's Good start, Grow smart initiative (The White House, 2002) , and now the Race to the Top (McGinn, 2012), have all focused on asking programs to show evidence that children are being prepared to be school ready. As educators continue to receive this pressure from federal, state, and local, the use of data has become more important as to how educators evaluate their practices and monitor student progress (US Department of Education, 2009).

Assessment of children from birth through the preschool years is different from assessment of older people. Not only can young children not write or read, but also young developing children present differing challenges that influence the choice of measurement strategy, or how to measure or assess the child (Wortham, 2013). Early Childhood Education programs are required to collect data about teachers, programs, and children and to use that data to monitor children's progress (Yazejian & Brayant, 2013). However, there is very little research on how or if early childhood programs use data for those purposes. Reports of discrepancies in ECE assessment show that many early childhood programs do not have the capacity to gather data and know how to use it (Yazejian & Brayant, 2013). In a study (Cichoracki, 2013) of 204 early childhood programs asking the frequency of parent teacher conferences in their programs, only 70 programs indicated holding parent teacher conference 2-3 times a year. It was also found in the study that the most frequently use of data collected by teachers was to provide feedback to parents during conferences while using data to adjust learning came second. There are about 56 unique assessments and screening tools used in ECE classrooms, but Ages and Stages Questionnaire is the most commonly used tool (Cichoracki, 2013). Though there have been concerns on the many early childhood assessment observation and growth tools, this has been counteracted by the argument that children are very varied and thus one assessment tool may not be a good fit for every child in

providing the range of skills and benchmarks for comparisons (Sosna & Mastergeorge, 2005). Also, maintaining an up to date tool that can reflect the growing and changing research base in the field has been found to be difficult.

The NAEYC position statement calls for sound assessment that reflects how young children grow and learn. This sound assessment has been described in a series of statements of principles, two of them being that; assessment of young children's progress and achievement is ongoing, strategic and purposeful, second assessment should focus on children's progress toward goals that are developmentally and educationally significant (Copple & Bredekamp, 2009, pp. 21-22). Teachers who use ongoing assessment to individualize instruction are likely to reduce the school readiness gap for children at risk. They are also more likely to deliver more effective instruction, and have students who achieve better outcomes (Akers et al., 2016).

Data Collection & Assessment

Data collection is the systematic gathering of information to be used to determine if student learning has occurred (Gunter, 2001). It's purposes can vary such as for legal, political, or educative reasons (Gunter et al., 2003). It is the foundation of informed teacher decision making. Individual Education plans IEPs are derived from data collection, data collection forms the basis of analysis of student learning, and is also used in legal issues when they arise. Clear data analysis also builds family confidence in the schools (Turnbull & Turnbull, 1996) and more importantly data based decision making is likely to produce positive student outcomes. Three educative purposes of data collection are identified as; identifying students who may need services, planning for intervention services, and to evaluate effectiveness of a program (Reschly et al.,1988a, 1988b, 1988c).

Gunter et al. (2002) discuss 4 strategies of simplifying data collection. First, teachers are encouraged to simplify the methodology as possible. This increases efficiency while reducing labor, resources and expenses of finding expertise in the complicated methods. Second, reduce the number of variables on which to gather data in. Teachers can do this by focusing on a single student behavior during assessment. Third reduce the amount of time required to collect data, and involve students in the graphic display of their formative

evaluation data. It is found that teachers tend to gravitate towards methods that are easy to use in their data collection. This was determined in a study completed by Callicott and Hanway (2003) to examine methods teachers used to monitor their behavior where teachers compared three data collection procedures (written tally marks, transferring objects as a way of counting, and using a golf stroker counter) in self-monitoring praise statements. Even though neither of the technique proofed more accurate than the other, teachers rated the technique that was easiest to use as the one they were most comfortable with.

Data Organization & Interpretation

The NACTE teacher professional standards at the national and level state and even professional standards like NAEYC agree that the ability for teachers to graph, interpret and use progress monitoring data to make instructional decisions are essential skills for teachers to develop. The NAEYC standards on assessment asserts that teachers should know about and understand the goals, benefits, and uses of assessment to positively influence the development of every child (NAEYC, 2019). Other than being proficient in data interpretation, they should also be able to make decisions, justify, and validate their data based instructional decisions to parents, students and educational settings (Wagner, et al., 2017).

Among reasons for data organization/interpretation is to evaluate how a child is performing, if child/ren need extra support, if a child/ren is progressing in the given learning objectives, and to compile a report to managers, or child progress to families. A data organization formula should be chosen that enhances understanding of the data collected. When teachers were presented with the question when engaging in a science experiment as why we use graphs and data displays in life they said to organize data, to interpret data and to show a relationship between variables (Cook & Bush, 2019). Engaging teachers in the process of understanding different graphs e.g. bar charts, pie charts, scatter plots, and line graphs is key. Research has shown that when teachers are given opportunities for collaboration, with constant feedback and encouraged to go through decisions without being given prescribed learning steps they become confident and competent in data analysis and interpretation (McDuffie & Morrison, 2008).

Lesson Planning & Instructional Decisions

The most valuable process in teaching is making instructional decisions based on data collected to modify instructional goals, activities and pedagogies (Black et al., 2004; Heritage, 2007). Even though teachers take a significant amount of time collecting data it is found that they do not take time or perhaps know how to organize data to use it effectively in decision making of their instructional practices (Mokhtari et al., 2007). While some teachers say data documentation is overwhelming and time consuming they also say they do not have the skills and knowledge of developing a system for assessing and documenting student progress.

A common method used for making decisions of data after it is gathered is to analyze to find patterns of learning strengths and weakness. Graphic organizers also allow students to map their own learning and assessment. Teachers are advised to make a list of the types of data that they would typically use for making instructional decisions, then asking themselves the question as to how much of this data is classroom based and will provide them with a direction for their teaching rather than simply indicating a need for further or different instruction. Teachers should begin by asking themselves what data they will need to make better instructional decisions for their students, and then how they and other professionals working in the classroom/program can gather this data efficiently (Watts-Taffe et al., 2012).

Theoretical Framework Curriculum-embedded approach

Most assessment practices used in the early childhood programs use the curriculum embedded approach framework. The framework is comprised of 4 stages. Stage one is the selection of the target and assessment method. While in most programs the choice of the assessment system is done by teacher programs, the selection of what to assess and how to asses is done mainly by teachers. Using end of year outcomes and standards teachers normally gauge what to assess. Their goal is to collect data, interpret, and reflect upon it so as to inform their instructional decisions through the year. The second stage is the implementation of ongoing assessment of child progress where teachers are expected to find ways to weave assessment into their instructional activities. Teachers should consider

children's ecological contexts as they decide on the assessment activities with children. They should use tasks that relate to child's daily activities both at home and at school. The most important aspect in this stage is that teachers document progress objectively, accurately, and with relevant contextual information (Atkins-Burnett et al., 2014).

Stage 4 is applying instructional decisions and individualizing that proposes Individualization is key to enhancing child progress. Teachers are required to plan and deliver high quality instruction that targets individual children. It is important that teachers use evidence based strategies that are responsive to the data they have collected and consider using this in an ongoing manner. It is also important that teachers consider individualizing their lessons with use of a variety of approaches that build children's strengths and interests (Atkins-Burnett et al., 2014).

The following research questions guided the study:

1. How do early childhood teachers collect data in their classrooms?
2. How do they organize and interpret data?
3. How do they use the data to inform instructional decisions?

Methods

Participants

Seven early childhood teachers participated from two early childhood programs in one school district in the state. The two early childhood programs requested to participate had 5-10 teachers. Two teaches agreed to participate from one program and five from the other program. Early childhood programs are those programs that take care of young children ages 0 – 8 years old. Using TS GOLD assessment platform and receiving the state's quality rating standards was used as a participating criteria in the study. The programs that participated had adopted the TS GOLD (Teaching Strategies LLC, n.d.) assessment as their assessment platform and had received the state's quality rating pass. The Teaching Strategies GOLD (TS GOLD) is one of the most widely used assessment in early care and education programs in the United States and it is also the most frequent assessment used in state funded Pre-K

programs (Ackerman & Coley, 2012). The TS Gold is broken into 5 developmental domains that are assessed; cognitive, language, literacy, physical, mathematics and social emotional (Teaching Strategies, 2013).

To receive the state's Bright and Early quality rating indicator, programs had to show use of a curriculum to plan activities and guide their teaching and also implement an observation based assessment system to ensure children are making progress toward the goals outlined in the curriculum. Some of the programs were using the creative curriculum that comes with the TS GOLD assessment and others were using the emergent curriculum.

Measures

The interview questions in the Examining Data to Inform Teaching (EDIT) tool that focuses on the process teachers use for data collection, data organization and interpretation and using data to inform instructional decisions (Monahan et al., 2016) was used for data collection. The questions in the tool are grouped into three areas; data collection, organization and interpretation, and lesson planning and instructional decisions.

Data collection

The study used a qualitative methodology that used in depth interviews and teachers completing a survey. Directors of each program were sent invitation letters explaining the study and requesting permission for their teachers to participate. Informed consent forms were sent to the center where they were passed to teachers by directors and those who accepted to participate signed the consent form that was sent back to the researcher. Program A had 4 teachers and two teachers agreed to participate. Program B had 7 teachers and 5 agreed to participate. interviews were scheduled for each of the teachers. On the interview day, teachers were released from classroom duties and met with the researcher in a private room. Data was collected over a six months period through semi-structured and audio recorded teacher interviews. The same questions were asked every teacher and audio recordings were used at the same time of the interview. These two methods helped support the triangulation of findings (Mathison, 1988). Interviews were approximately 40-60 minutes

of length and focused on how teacher's conducted assessments, how they organized and interpreted data and how they did lesson planning and instructional decisions. At the end of the interview teachers filled a brief questionnaire on demographics and training background.

Results

The data was thematically (Patton, 2002) analyzed within the three cycles of assessment-data collection, organization and interpretation, and lesson planning and instructional decisions.

Participant Demographics (See Table 1 in the following page)

Theme 1: Teacher Data Collection

Teachers collected a variety of information on children. They used either the curriculum guides such as the Creative Curriculum Teaching Strategies chart or the TS GOLD to guide them on what information to collect. The social emotional developmental domain was the most collected domain information followed by language development. Teachers frequently mentioned beginning with social emotional domain in data collection then other domains followed. Teacher Nancy said she had resources that helped her know what to look for, where the children were and what to plan for. She was referring to the Creative Curriculum Teaching Strategies chart. Teacher Amy, Brea, Molly, Deb, Masha, and Kayla referred to the TS GOLD goals for what to collect information on. These same resources were also used to guide teachers in deciding which learning objectives to collect information on. For example, teacher Nancy said "we do have a chart from our program - this is where the child needs to be – we look and see where they are at and needs to be".

Teacher decisions on which learning objective to collect information was based on curriculum guidelines, the time of the year, expectations of program and quality rating system the programs followed. Teacher Deb said,

Table 1. *Participant Descriptions*

	Nancy	Amy	Brea	Molly	Deb	Masha	Kayla
Staff Development							
Trainings hours on assessment and/or instructional practices	13	5	13	13	16	13	6
Supervision meetings about assessment	Once every 2 months	A few times a year	Once a month	A few times a year	Once a month	A few times a year	Once a month
Have a mentor	Yes	No	Yes	N0	Yes	Yes	Yes
Parent communication							
Discussions with parents on children's performance formal & informal	Daily	Daily	Once or twice a week	Daily	Only at parent teacher conf.	Daily	Daily
No. of formal parent teacher conferences	Twice a year	Twice a year	Twice a year	Twice a year	Twice a year	Twice a year	Twice
Employment	Full	Full	Full	Full	Full	Full	Full
Full/Part Time	5	10	10	5	3	1.8	8.5
Years in current setting	2	7	7	1	2	1.8	1.8
Years in current classroom	lead teacher & supervisor	Lead teacher and assistant director	Lead teacher & assistant director	Lead teacher & program supervisor	Lead teacher	Lead Teacher	Lead Teacher
Role							
Education							
CDA	No	Yes	No	No	No	No	No
Education level	Associate	GED	GED	Associate	College courses	Bachelors	Bachelors
Field of Degree	ECE	No degree	No degree	ECE	No answer	ECE	ECE
College courses in child development/assessment	No answer	No answer	30/20	9/12	0/0	2/4	2/3
Years worked with preschool aged children	2	0	0	1	0	3	8

"typically depends on what time of the year – at the beginning I collect things that stick out – things that stand out. We are part of Bright and Early (the state's evaluation rating system) and we use TS GOLD. We have to have specific categories for each area – if I find I don't have many collections then I start collecting."

The TS GOLD framework seemed to provide guidance to the teachers and helped to focus their assessments to the expected outcomes.

Teachers did have goals for data collection, what was not clear was what their goals were for. Collection of data for the purpose of meeting program's requirement or the state's evaluation quality rating system was commonly mentioned by the teachers as some of the reasons they collected data for. In some teachers, data was completed because they saw issues in a child or children. Teachers mentioned that it was common for them to find that they had collected many assessments on one developmental domain than others because data collection was done on the go as it happened. For some, collection of assessment in other developmental areas was when they realized they didn't have assessments in them e.g. in the cognitive domain. Most teacher's assessments were on social emotional development. Teachers looked for opportunities when looking for what to assess as they happened.

There were varied views on how teachers chose what information they were going to collect on. Two out of the seven teachers indicated basing their plans on what the students needed to work on, and five assessed based on the information they collected from the other assessments e.g. the Ages and Stages Questionnaire (ASQ). Teachers who used the ASQ heavily relied on this assessment data as they planned for what to assess in their children.

How often did teachers collect information about a child on a specific learning objective?

Teacher's judgment of how many times they collected information on a specific objective or how many pieces of evidence they collected for an objective depended on what the program mandated or if the requirements for program evaluation were met. The two programs where teachers Nancy, Amy, Brea, Molly, Deb, Masha and Kayla were teaching both followed a specific curriculum (emergent and creative curriculum). They also used the TS GOLD and both programs had received the Bright and Early quality rating indicating they had undergone an evaluation to get the rating. To continue meeting the Bright and Early

quality rating standard, teachers were required to show a collection of at least three assessment data in each domain per a year for each child. Teachers from these programs quantified the number of assessments they completed in their classroom. For example, teacher Deb said "Well we don't really make a whole big decision on it – we do conferences and for those we want to have a wide variety of observations on different areas so we know where they are. With Bright and Early they want us to do 3 times a year that is what we aim for. For conferences we have these sheets that we do twice a year – and that is when we do really assessment – but it is normally random like we are playing e.g. plan a patterning activity and observe." Teacher Brea said, "each child has at least 2 observations each week- observe twice a week for each child; I use a general list of objectives – I try to have them hit those objectives." Teacher Molly said, daily basis- we do 2 observations per a week every week – but some kids may have more than we say oh we need on others- it depends on how many observations children have."

There wasn't a standard number of pieces of evidences collected by teachers for children in the different objectives. Teachers were more likely to use one or two observational records to document evidence of a child's skill, knowledge, or behavior. Here is what one teacher Molly had to say

> "daily basis- we do 2 observations per a week every week – but some kids may have more then we say oh we need on others- it depends on how many observations children have I find collecting more on social emotional development – when am going through my observations I find a lot of social emotional problems so yes I find myself collecting more observations on this".

What Tools did teachers use to assess children?

The most commonly used tools to collect data were anecdotal records, work samples, and pictures. This were mentioned frequently while checklists and time sampling techniques were rarely discussed. Teacher Nancy said she used anecdotal records, pictures, and work samples and not checklists. Teacher Brea said she used work samples, photographs, videos, but was not sure about checklists when she was prompted about it. Teacher Amy said, "…we do some anecdotal records a few of those, if I catch them doing something, I take pictures and put into their profile, we use work samples and show how they utilize space etc. I don't use checklists." Also, teacher Nancy said, "…we do observations every week of the child; - it is

just what you see in observations, we do pictures e.g. making a puzzle, we have a binder for conferences so we keep pictures, we don't use standardized tests."

Assessment Variation

Teachers were asked if they varied their assessment practices by for example assessing skills or knowledge with different tasks or activities. Teacher Amy said she varied activities when her children were not getting what she had planned for them. Teacher Brea said she made it flexible if someone could not do it and made it easier or she usually tried to do things differently like read different books.

How did teachers use anecdotal records?

Teachers were asked when they took notes and how much time they spent documenting and taking notes for anecdotal records. Teachers reported completing them at different times, during different activities or after school. Teacher Nancy said she completed her observations in a kindle and put in the system later. Teacher Amy said she normally took quick notes when she's sitting with children and at the end of the day puts it in teaching strategies. She said she documented as it happened. Teacher Brea took them during nap times or when something happened, she put it on a sticky note and wrote it down later. Teacher Molly took them when walking around either during free play, during drop off and pick-ups and also during nap time. She said observation did not take time away from her teaching. Teacher Deb also took them throughout the day, she also sometimes pulled them aside or played with the children to get information. During nap time was a good time for her to record things she had seen during the day. She said she leaves her-self notes to remember to record in the TS GOLD assessment computer program.

How often to teachers enter data into assessment systems?

Teachers were asked how often they entered data into the TS GOLD computer system, when they entered data, and if they received help entering the data. Teacher Amy said they could add data anytime whenever they needed to. She said she usually does it on Friday and co-teachers help put in the data. She has trained her co-teachers on how to do them and shown them how to categorize the data. Teacher Brea said she completes them several times a week like 6-7 times. She goes in during nap time, or center time or when she has

supervisory time which is about 1 hour at end of the day when kids have gone home to put in data. Teacher Brea said she completes them once a week where she puts in all her observations. She has developed a checklist on her web where co-teachers, initial which observations they have completed and on what child. This way it avoids some children having more observations while others do not. Teacher Molly said it takes her one hour and 30 minutes once a day to enter data into the computer. She enters data for all the teachers. While they are expected to do this by themselves, sometimes they don't get to doing it then she does it for the program. For her the data is put in depending on how much time she had each week and when the data is written. Teacher Deb does it weekly on her planned time on Friday when she has scheduled to enter information onto her computer. She leaves her-self notes to remind her to put the data later in the computer. she asks her staff to write it all and then they all put it into the computer. For her, afternoon is better when most kids have gone home or are resting as she has a quiet time to put the data in.

Theme 2: Data organization and interpretation

Teacher interviews were analyzed for how they organized or displayed children's data. The analysis looked for if they organized data according to groups, by age, classrooms and how they used the information e.g. to inform their instructional goals or planning. Teachers Nancy, Amy, Brea, Molly, Deb, Masha, and Kayla mentioned that data organization was done for them in the program once they entered the information in the TS GOLD system. In the TS GOLD computer-based program, teachers could access graphs or organized displays of data at the child, subgroup (most often by age), and/or classroom levels. In TS GOLD, the displays of data include criteria for expected levels of performance at different ages. Teachers reported using information from these data displays to inform their selection of goals and objectives for individual learning plans. The positive aspects of TS Gold assessment are that the planning of what to collect, the objectives, the standards, and activities to follow up are set up for teachers that they can readily select and use and assess. Teachers can then transfer that information to the computers where it is readily plugged into what objective it is meeting and can generate summary data that teachers can use to compare child's performance across standards and other children.

Table 2. *Data organization, interpretation & lesson planning practices*

Data organization & interpretation practices	Lesson Planning & Instructional Decision Practices
▪ Assessments e.g. work samples, charts are printed, analyzed to see where children are and shared with parents, ▪ Teachers use TS GOLD charts to rate the child ▪ use TS GOLD to know if a child needs additional or extra support, ▪ Use the TS GOLD charts & ASQ to review information and make comparisons to child's age, domain & objectives to be met and give parents resources to help ▪ Teachers use the information to communicate child progress with families and identify problems that need extra support e.g. need of speech therapy	▪ Lesson planning done at least weekly, ▪ Draw information from TS GOLD curriculum goals and resource books in planning, ▪ Used established curriculum (creative or emergent curriculum) ▪ Rarely used adaptations or modifications designed to meet specific child needs, ▪ Minimal evaluation of the success of their instructional plans like having a method of documentation and keeping track of whether individual interventions were successful for specific children, ▪ Conferred with other teachers about how to work with specific children or sought guidance on lesson planning

Theme 3: Teacher Lesson Planning and Instructional Decisions

This section looked to understand how teachers were developing their lesson plans, how often, what sources they used for instructional strategies/approaches/activities, how they evaluated the success of their instructional plans and how they communicated with other co-teachers on how children were doing. Teachers mentioned completing lesson planning at least weekly using the Teaching Strategies creative curriculum goals as their main sources of planning. Teacher interviews were analyzed for how they made classroom or instruction modifications based on children's skills. It was evident across the programs that both rarely used adaptations or modifications designed to meet specific child needs, and there was minimal evaluation of the success of their instructional plans like having a method of documentation and keeping track of whether individual interventions were successful for specific children. However, both conferred with other teachers about how to work with specific children and sought guidance on lesson planning.

Discussion

There are a couple of things that came out from the analysis of teacher interviews. One is the planning of assessment in ECE programs. Planning enhances accountability. Teachers need to strictly align their teaching objectives with standards and assessment and focus on looking at those objectives and document them systematically. There is lack of uniformity in the way teachers plan for assessment and for those who do there is a wide diversity of what teachers emphases on in the planning processes (Sullivan et al., 2012). This suggest that professional training workshops should help teachers to find ways to make their planning processes better. This finding is also supported by Akers et al. (2016) who concluded that more research is needed to look at what impact intentional planning by teachers could have on their data collection procedures.

Second, is knowledge of using assessment tools. About 49% of the programs use screening tools for assessment (Cichoracki, 2013) and anecdotal records, work samples, pictures. There is need for further training on the use of other assessment tools like checklist. Checklist development though not an easy task it does train teachers to focus on what to assess. Training on how teachers can develop simple checklists will help teachers to focus their assessments to clear objectives. There is lack of research on if use any of each tools has impacts.

Third, using assessment systems like TS GOLD helped teachers to focus their assessment activities to clearly stated objectives expected in ECE. The fact that the tool is designed to measure child assessment in each of the developmental and content area of children birth to kindergarten, it allows teachers to focus on the required objectives as they are laid out for them (Lambert et al., 2011). This systems also make the documentation, data analysis and organization easier as it is a computerized system that is adapted to early childhood programs. Fourth is the frequency of assessment. There needs to be a more definitive way teachers can do this so that assessment does not happen just when it is felt like or because they haven't had assessments in that domain area. How many pieces of evidence each child should have on each objective or domain is also important – this should be goal focused e.g. that the assessment pieces show growth or performance in different periods of time rather than just collect randomly three pieces (Akers et al., 2016).

Conclusion

The results above are from an interview on teachers about how they conduct assessment in their classrooms. There are some important implications for early childhood programs. While there are a lot of similarities in the ways teacher's approach assessments there are some diversities in assessment planning processes in the responses reported above. This suggest that any professional development learning opportunity should start from processes teachers use to decide on what objectives they are going to collect data on, methods to use to collect that data, how to vary assessment and how to think about the results and what they mean. It also seems that teachers are confident in the types of assessment data to assess, they use meaningful activities to assess these concepts and work together with parents and co-teachers to collect this data to increase the learning of their students. Therefore, program centers can find ways to provide support to teachers in their data collection processes to even make it better for every early childhood class teacher.

Data collection in early childhood classrooms is generally an important practice. Early childhood education being a very unstructured field, often teachers are left to decide on the curriculum they would like to use, what if any to assess and when to do the assessments. The nature of early childhood programs in that accountability is left at the program level means that programs do not have a huge burden to focus on assessment as a standard practice cross the country. It is not uncommon/surprising if one were to visit many early childhood programs and ask for their assessment schedule and very few teachers would clearly lay it down for you.

Record keeping techniques help teachers of young children to work toward the goal of understanding children's behavior and enhancing their ongoing planning of curriculum that is related to children's interests and abilities (Cohen et al., 2008). So how should early childhood teachers decide on what information to collect? The five key developmental domains are given as a framework that guides what children should be able to do at different ages and developmental levels. Those are cognitive development; language development; social emotional development; physical development & creative/arts development. It is up to teachers to understand these developments to plan for what to collect. This work looks at how teachers approach the question; how do you decide what data/information to collect.

Assessment, methods must be matched with the level of mental, social, and physical development at each child's stage. Developmental change in young children is rapid and there is a need to assess whether development is progressing normally. If development is not normal, the measurement and evaluation procedures used are important in making decisions regarding appropriate intervention services during infancy and the preschool years (Wortham, 2013).

Proper assessment process in early childhood settings should follow the following. First ongoing assessment has to be complemented with periodic assessment for reporting periods. Assessment begins with pre assessment at the beginning of the year and then throughout the year and then ongoing assessment which is conducted almost continuously throughout the year.

How do early educators address the assessment of young children to meet expectations and accountability in state standards? Teachers face challenges in answering the call for greater accountability and the emphasis on achievement of skills. Standards require teachers to be more intentional in how they assess young children. In their planning for teaching and assessment, they need to make the link between the learning experiences and the standards very clear. Standards will need to be integrated into the existing curriculum and assessments that are proven to be of high quality for young children. Otherwise teachers might find themselves narrowing the curriculum, depending on direct teaching, and using inappropriate testing methods (Cress, 2004; Gronlund, 2006; Oliver & Klugman, 2006).

There have been increased academic standards and assessment mandates with K-12 classrooms due to the increased accountability context of public education (US DOE, 2009). Early childhood programs especially the federally supported Head Start program is in continual radar or scrutiny as to how the children are being prepared for school readiness. A number of empirical research on classroom assessment has squarely focused on upper years of learning while the effects of accountability for the lower grades such as pre-K and kindergarten have started in the recent years (Roach et al., 2010). The expectation now is that teachers need to integrate assessment into their instruction and at the same time monitor student achievement and then use those to guide decisions to meet mandated standards (Gullo & Hughes 2011; Stiggins & Chappuis, 2005).

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