RESEARCH NOTE

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Measuring Teacher Facilitation of Playful Learning

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Summary

The research note discusses various classroom observation tools used in early childhood classrooms and the degree to which they capture the facilitation of playful learning. We note that while all tools capture some aspects of play facilitation especially the preconditions for play, few tools directly measure techniques that solely facilitate learning within play. We identified two tools that do measure these to a greater extent. However, the challenge remains in capturing the dynamic nature of teacher-child interactions during play throughout the day and even within the same play activity. We propose that time-sampling tools may provide detailed information on the frequency of facilitation techniques used across different activities and settings and how they relate to individual child characteristics and professional development experiences. This type of tool would also allow researchers to understand the differences in learning outcomes between play-based and non-play-based activities.

Introduction

Education as a field, policymakers, researchers, teachers, administrators, parents, taxpayers want to know whether the teaching practices implemented in classrooms and schools effectively enhance students' learning outcomes. This has prompted multiple efforts spanning decades to define and measure effective teaching. In some instances, these efforts have relied entirely on student assessments which can be problematic in a number of ways[i]. Other efforts focus on the inputs, developing methods to measure teaching itself[ii].

These questions about how to identify effective practices are even more difficult to grapple with in early education. Assessing young children's learning is costly, time-consuming, and limited in the aspects of learning and development which can be validly measured. Structured classroom observation instruments vary widely in how they are administered and in the measurement focus. For example, some measures rely on teacher self-report of their practices, some are criterion-referenced, and others use an eco-behavioral time sampling method. Some tools directly observe child behaviors, while others observe teachers, and either of these may also focus on teacher-child interactions and include environmental (or structural) characteristics. Additionally, the tools can vary in content focus from domain-specific, to comprehensive to general teaching practices with no specific content focus. Other tools may be tailored to measure supports for particular populations of children (e.g., dual language learners or children with disabilities).

Collecting observational data in classrooms also serves various purposes which include informing professional development efforts through teacher self-evaluation, with a coach conducting the observation, or for formal teacher evaluations. In early childhood education, classroom observation results are regularly used to identify entire centers or programs for additional funding or remediation (e.g., state quality improvement rating systems or Head Start Performance Reviews). A related use of classroom observation is to evaluate the implementation of a public policy such as publicly funded pre-K or a specific policy initiative such as improving teacher qualifications. Another common use of classroom observation assessments is to assist in answering research questions, such as whether teaching differs by curriculum model (e.g., Barnett et al., 2008[iii]) or whether length of day impacts teaching (e.g., Francis & Barnett, 2019[iv]). In the Paths 2 Play study, we were trying to find a

measure of teacher's play facilitation to determine if professional learning inputs in a multi-site ECE provider in Colombia resulted in changes in teachers' facilitation of playful learning.

In our attempt to find an appropriate measure for our research, we reviewed over twenty observation tools from multiple countries. Our search was limited to those written in English or those that had English translations. The tools included global measures of classroom practices with items assessing the environment, materials, routines, and interactions and those focused exclusively on teacher-child and child-child interactions. We catalogued what domains of learning were explicitly included in the tool, validity and reliability analyses and practical issues such as cost, observation time requirements, feasibility of training, and ease of use in Spanish. At the time, we found no tool which directly measures changes in teachers' ability to facilitate playful learning as defined in our study. Most of the tools measure the preconditions for playful learning such as time and materials for play or teaching practices that could facilitate playful learning but might not necessarily do so, such as asking open-ended questions or engaging in "serve and return" in conversations with children. In others, playful learning facilitation techniques were included as a criterion in a larger item which would cause difficulty for analysis of the specific technique.

In this research note, we attempt to set out the parameters for the development of an observation tool that would be sensitive to change in teachers' facilitation of playful learning. In order to develop a measure of facilitation of playful learning, we first need to define playful learning and what constitutes teacher facilitation of playful learning.

A definition of playful learning

We base our definition of playful learning on Jensen and colleagues Lego Foundation white paper that guided the theory of our study[v] and amend it slightly based on the results of a partner study conducted by a team of researchers in Denmark[vi]. There is strong consensus across academic disciplines that young children learn through play and that responsive and attuned adults can enhance that learning[vii]. The figure below is based on Jensen, et al[viii]. and Pyle, et al[ix]., who posit four types of play engagement in preschool classrooms which fit onto a spectrum from most autonomy for the child to most structure from the adult. Based on their direct use of the schema, the Danish Paths 2 Play[x] research team further refined this spectrum into children's own play, co-created play, guided play, and adult-led play including games with rules as defined by the authors below.

1. Children's own play: Children choose what to play and how. The educator observes, makes materials available or manages other tasks.

2. Co-created play: Play is in the foreground: The children choose what to play and how. The educator plays like an equal – without instructing or taking control of the play situation.

3. Guided play: Learning is in the foreground: the educator participates in children's play to inspire or support their learning and development – without instructing or taking control of the play situation.

4. Adult-led play: The educator organizes, initiates, and leads the play situation. The children follow the planned games and activities. [xi]

Figure 1. Spectrum of play engagement

Child's Own Play	Co-created Play	Guided Play	Adult-led Play

Child Choice   Balance   Structure
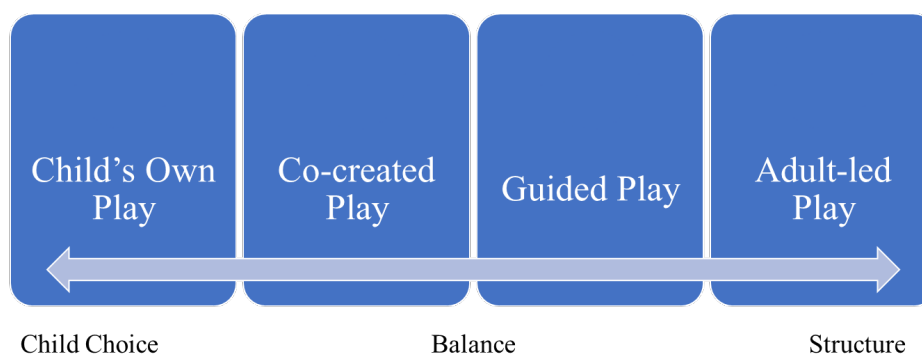
Source: Adapted from Sørensen, M. C., Andersen, R. N., Jensen, H., Schmidt, S., Jensen, J. B., Limskov Stærk Christiansen, N., Brix, J., Aarøe Jørgensen, K., & Lucacel, R. (2022). *Practitioner change journeys: A mixed-methods study of play facilitation in Danish daycare.* Professionshøjskolen Absalon.

A definition of teacher facilitation of playful learning

Facilitation of playful learning starts with providing the preconditions for play such as adequate time to engage in play and interesting materials to extend learning in a variety of play activities (e.g., toys that lend themselves to various domains of learning). Many effective teaching techniques such as asking open-ended questions or modelling new ideas can facilitate playful learning, but adept facilitators are attuned to children's own interests and goals within an activity as well as to their developmental levels. They enhance specific learning while supporting children to reach their own goals for the activity. Although this type of facilitation can take place within co-created play, guided play, and adult-led play, it takes different forms across the play types and can include direct instruction in aid of the child's goals for their chosen activity.

What are often labelled teacher-directed activities such as whole group and small group times can be entirely teacher-directed with no opportunities for child input, or they can be teacher-led activities in which the teacher structures the learning focus of the activity but intentionally incorporates meaningful choices for children that facilitate playful learning. For example, a small group activity exploring how the slope of a ramp impacts speed and distance of a toy car can incorporate opportunities for child choice and action. Children can be invited to work together to determine how high to make the ramps and which cars to compare. They are engaged in serious science and math learning while being playful, and the teacher incorporates multiple playful learning facilitation techniques such as asking open-ended and thought-provoking questions, making suggestions and observations, incorporating systematic data collection, helping to negotiate conflicts and at times providing direct instruction. The teacher coordinates but does not dictate the steps of the activity. Additionally, Sproule and colleagues describe a technique that effective teachers use of "signaling playfulness" in teacher lead activities creating an atmosphere of play which increases desired behaviors such as child engagement and comfort with trying new tasks[xii].

Games with rules are another type of playful learning activity which we include in teacher-led activities. The rules of the game provide a structure within which children learn while playing[xiii]. Games are often purposely designed to teach specific concepts, such as Candyland which focuses on matching shapes and colors. Playing games with others facilitates development of turn-taking, social perspective-taking, strategizing, emotional regulation, effective communication, and many other skills including why rules are important in a functioning society.

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Developing a new schema to assess existing classroom observation tools

As mentioned previously, none of the over twenty tools that we comprehensively evaluated assessed the facilitation of playful learning. However, we identified several tools that included indicators or items that could be used to evaluate teaching techniques and practices, which could provide information to researchers investigating this topic. We discuss seven tools (Table 1), which were selected because they are either widely used for research, accountability, and professional development or because they have a strong focus on measuring facilitation of playful learning. Two of the tools (Brief Early Childhood Inventory (BEQI) – *Adapted*[xiv] and Instrument for Measurement of Quality of Early Childhood Education in Colombia (IMCEIC)[xv]) are open access.

Table 1. Tools to playful learning teaching techniques

Observation Tool	Domains/Dimensions	Web Address/Citation
Brief Early Childhood Inventory (BEQI) – *Adapted*	Pedagogy & learning activities; Characteristics of interactions; Degree of educator structure/child choice; Resources & environment.	Raikes, A., Sayre Mojgani, R., Heinzel-Nelson Alvarenga Lima, J., Davis, D., Cassell, C., Waldman, M., & Escalante, E. (2023). Profiles of Quality in Three Distinct Early Childhood Programs Using the Brief Early Childhood Quality Inventory (BEQI). *International Journal of Early Childhood*, 1-26.[xvi]
Classroom Assessment Scoring System (CLASS)	Emotional Support (Positive climate, Negative climate, Teacher sensitivity, Regard for student perspectives); Classroom Organization (Behavior management, Productivity, Instructional learning formats); Instructional Support (Concept development, Quality of feedback, Language modeling).	Pianta, R., La Paro, K., & Hamre, B. (2007). Classroom Assessment Scoring System-CLASS. Brookes.
Classroom Coach	Learning environment; Teaching and learning routines and adult-child interactions; Curriculum, planning, assessment, and family engagement.	Center for Early Education Research and Evaluation (CEERE) at HighScope. (2021). Classroom coach: Improving preschool classroom quality scoring guidelines. HighScope Press.
Early Childhood Environment Rating System, 3rd Edition (ECERS-3)	Space and furnishings; Personal care routines; Language and literacy; Learning activities (including fine motor, art, music and movement, blocks, dramatic play, nature/science, math materials and activities, math in daily events, understanding written numbers, promoting acceptance of diversity, and appropriate use of technology); Interaction; Program structure.	Harms, T., Clifford, R. M., & Cryer, D. (2014). Early Childhood Environment Rating Scale, third edition (ECERS-3). Teachers College Press.
EduSnap	Activity centers (transitions, whole group, small group, group work, individual, choice, meals); Content areas (read to, reading, reading comprehension, word identification, vocabulary, writing, oral language, numbers, geometry, algebra, science, gross motor, social studies, aesthetics); Student learning approaches (collaboration, metacognition); Teaching approaches (scaffolds, didactic).	Ritchie, S., Weiser, B., Mason, E., & Holland, A. (2015). EduSnap. Snapshop, Inc.

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Instrument for Measurement of Quality of Early Childhood Education in Colombia (IMCEIC)	Resources; Pedagogical quality; Interactions with the environment (including scientific exploration, language, logical-mathematical reasoning, artistic expression, physical development, and health).	Maldonado-Carreño, C., Yoshikawa, H., Escallón, E., Ponguta, L. A., Nieto, A. M., Kagan, S. L., Rey-Guerra, C., Cristancho, J. C., Mateus, A., Caro, L. A., Aragon, C. A., Rodriguez, A. M., & Motta, A. (2022). Measuring the quality of early childhood education: Associations with children's development from a national study with the IMCEIC tool in Colombia. *Child Development*, *93*(1), 254-268. https://doi.org/10.1111/cdev.13665
Sustained Shared Thinking and Emotional Well-being (SSTEW) Scale	Building trust, confidence, and independence; Social and emotional well-being; Supporting and extending language and communication; Supporting learning and critical thinking; Assessing learning and language.	Siraj, I., Kingston, D., & Melhuish, E. C. (2015). *Assessing quality in early childhood education and care: sustained shared thinking and emotional well-being (SSTEW) scale for 2–5-year-olds provision*. Trentham Books.

After narrowing our focus to these seven tools,[1] we developed an evaluation schema to determine the extent to which the data collected from these tools could be used to examine a teacher's facilitation of playful learning. We established three categories: (1) preconditions for the facilitation of playful learning, (2) teaching techniques that *could* facilitate playful learning, and (3) teaching techniques that *directly* facilitate playful learning. For teaching techniques that directly facilitate playful learning, we also identified which type (or types) of play the item/indicator supported (i.e., children's own play, co-created play, guided play, and adult-led).

Additionally, there were items/indicators included in the tools that were irrelevant to the facilitation of playful learning and were not included in any of these three categories. For example, in the SSTEW, sub-scale 4, item 11: encouraging sustained shared thinking in investigation and exploration, indicator 7.3 examines whether "staff talk about and encourage parents/carers to join in with their children's scientific/problem-solving activities and exploration." While this practice encourages shared thinking and exploration and parent's facilitation of playful learning, it does not directly measure the teacher's facilitation of playful learning in the classroom.

Although most of these tools provided data from each of the three categories, for this research note, we only provide examples of item/indicators in each category from a few tools to illustrate the categories.

Preconditions for the facilitation of playful learning

Preconditions for facilitation of playful learning (referred to as "preconditions" from this point forward) are teaching techniques or classroom characteristics that provide opportunities for facilitation of playful learning. These preconditions include examples such as setting up the classroom space and materials, how time is used, the number of adults in the room (and teacher/child ratio), as well as items/indicators that examine strong classroom management and/or systems that are in place for a productive classroom (e.g., rules and procedures to minimize conflict and allow for playful learning opportunities).

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[1] It is important to note that there were two other instruments in development that measure playful classroom practices, but neither was released in time to be comprehensively included in this Research Note. The first one, Teacher RePlay, is a formative tool for teachers designed to support the implementation of Learning through Play in the classroom The second one, PLAY (Playful Learning Across the Years), measures the environments and adult-child interactions that support learning through play and many indicators could indicate the facilitation of playful learning.

We found that items/indicators related to classroom space were often included in these tools. For example, the first subscale of the ECERS-3 focuses solely on Space and Furnishings, which includes an indicator that examines whether there is "ample indoor space that allows children and staff to circulate freely, enough space for mealtimes, group times, and suitable space for activities in free play" (1. Indoor Space: Indicator 5.2) and that "centers requiring more space (blocks, dramatic play, very popular or active play) have sufficient space to accommodate the type of play required and the number of children who want to participate" (3. Room arrangement for play and learning: Indicator 7.2). Similarly, the BEQI-Adapted includes questions related to indoor and outdoor space in the Resources and the Environment section; for example, "outdoor space has adequate space for play" (VI. Resources and Environment). Ample space permits children to move independently from one activity to another and reduces limitations on the use of space for large projects or expansive dramatic play. Space also allows teachers (and other children) to move in and out of play situations with minor, if any, disruption.

Many of these tools also include items/indicators that place a high value on ensuring that there are sufficient materials in the classroom, and within specific interest areas, to promote play and learning. The BEQI-Adapted includes a list of materials that should be found in the classroom, including writing utensils, art (paper, crayons, markers, chalk, etc.), fantasy/imaginary play (dolls, stuffed animals, dress up clothes, etc.), blocks, and educational toys or math materials (items 7-11). The ECERS-3 also includes many items/indicators related to classroom materials. For example, Item 21: dramatic play, indicator 5.1 assesses whether the classroom has "many and varied dramatic play materials, enough for [the] number of children allowed, are accessible, including dolls, child-sized furniture, play foods and cooking/eating utensils, [and] dress up clothes for boys and girls." In other sections, the ECERS-3 goes as far as to require a certain number of materials (ex. 23. Math Materials: 5.1. "At least 10 different appropriate math materials,"). Providing enough materials for children to use sets the conditions needed for teachers to facilitate playful learning. If the materials are scarce, children's choices are limited which limits their play opportunities. Additionally, the teacher might have to spend much of the time managing conflict and helping children share resources, rather than facilitating playful learning opportunities.

Finally, the ECERS-3 and the IMCEIC both include items/indicators that focus on the amount of time that children have to engage in free play, which provides an opportunity for teachers to facilitate playful learning. In the ECERS-3, the Learning Activities subsection is broken into eleven items, most of which have an indicator that assesses whether children have access to materials/learning center for at least 25 minutes, at the "minimal" level, or 60 minutes, at the "good" level. Similarly, the IMCEIC includes indicators that are preconditions for the facilitation of playful learning. For example, Item 19 examines whether the teacher encourages children to make their own choices which is inherent to free play. The observer selects among four options:

1. The teacher provides no opportunities for children to choose the activities.
2. Teacher provides 1 or 2 opportunities for children to choose activities during the observation period.
3. Teacher provides 3 or more opportunities for children to choose activities during the observation period.
4. Teacher provides 3 or more opportunities for children to choose activities in which they participate and asks them to explain the reasons for their choice.

By examining the number of opportunities for children to choose their own activity, this indicator sets up conditions under which there is the possibility the teacher could facilitate playful learning yet stops short of providing information about whether that facilitation occurred.

Teaching techniques that *could* facilitate playful learning

The second category, which pertains to teaching techniques that *could* facilitate playful learning, includes items/indicators that might signify playful learning, but could also be non-playful because they do not assess whether the teaching technique is attuned to the child's activity or is even used in a play-based activity. While it is possible that the observer witnessed facilitation of playful learning, the item or indicator could have been

observed in a highly structured lesson led by the teacher and without furthering the child's own goals for the activity. Out of the three categories, we found this one to be most prevalent across the seven tools we examined.

For example, the Concept Development dimension of the Classroom Assessment Scoring System (CLASS), might or might not indicate the facilitation of playful learning. This dimension "measures the teacher's use of instructional discussions and activities to promote students' higher-order thinking skills and cognition and the teacher's focus on understanding rather than rote instruction." To score in the "high" level of this dimension, teachers must frequently engage children with open-ended questions to extend their thinking (i.e., when reading a book, asking children why they think something is happening, or asking children to brainstorm their own solutions to classroom problems). However, this dimension does not assess in what setting or how the teacher engages the children. Although the teacher could use these techniques to facilitate playful learning, they might also disrupt or entirely halt play to ask these questions. Additionally, these questions may facilitate learning but not necessarily in the context of play.

The EduSnap also has codes that could support teaching techniques that may or may not facilitate playful learning. When administering the EduSnap, the observer follows four children through an observation cycle, coding how the target children spend their time during 30 second intervals. Some of those codes could illustrate the teacher's facilitation of playful learning, but the results would not provide enough information to definitively make that conclusion. For example, the "Reading Comprehension" code includes the following definition and guidance:

> Children are engaged in instruction or activities that help them process and understand the meaning of a text.
>
> - Identifying or describing parts of a story (e.g., characters, themes, setting, problems)
> - Making predictions about what will happen next
> - Retelling the story in own words
> - Writing a book report
> - The teacher asks children questions about a story

Selecting this code could indicate that the teacher is facilitating playful learning. An example might be if a teacher tells children the story of the Three Little Bears, then sets up the dramatic play area with the same props that were used in the story so children can recreate or retell the story, an example of teacher-led play. However, this same indicator would be selected if the teacher read the Three Little Bears, then asked each child to retell the next part of the story in sequence. Like the previous example, someone who saw this code checked would not know enough about the teacher's interaction with the student(s) to determine whether the teacher applied techniques consistent with facilitating playful learning.

Another example of an item/indicator that could be facilitation of playful learning is seen in the majority of the higher-level indicators in Item #9 in the SSTEW: Supporting curiosity and problem-solving (within Subscale 4: Supporting learning and critical thinking):

> 5.2 Staff model, support, and extend children's learning in ALL areas of the setting, moving from one area to the next as appropriate.
>
> 5.3 Staff challenge and support problem-solving - e.g., by posing small everyday problems or inviting children to solve problems as they arise.
>
> 7.1 Planning shows there have been regular visitors- e.g., police, local shopkeepers, taxi drivers, and/or staff dressed as characters in familiar stories playing a role.
>
> 7 .2 Visits are made to places of interest and/or to extend children's knowledge and experiences.

Like the examples from CLASS and EduSnap, the teacher could meet these indicators through facilitation of playful learning, but the definitions provided do not provide information about whether they were in the context

of children's play. In 5.2, the teacher may be facilitating playful learning by moving from one area to another and joining in and extending children's play, but they might also be disrupting play by stopping the game to ask questions or entering abruptly and changing the direction of the play. Because it would be appropriate to give credit on this indicator in both situations, it would not provide enough context to determine whether the teacher was in fact facilitating playful learning.

Teaching techniques that *directly* facilitate playful learning

The third category is teaching techniques that *directly* facilitate playful learning. This category includes items/indicators that clearly exemplify situations when a teacher is facilitating one of the four types of playful learning. These indicators would give researchers, or other individuals who were not in the classroom, a clear picture of the extent to which a teacher used techniques that facilitated playful learning. We found that most tools had very few indicators that clearly fit into this category (for example, in IMCEIC there is one item that measures what the teacher does during symbolic play: controls, lets the children control, or gets involved as a play peer). Two tools had a number of relevant items - the BEQI-Adapted and HighScope's Classroom Coach. We found that only a few tools had multiple indicators that clearly fit into this category and the two that had the most were the BEQI-Adapted and HighScope's Classroom Coach.

The BEQI-Adapted features a series of seven questions, in a section entitled Pedagogy and Learning Activities, that are specifically targeted to understand how a teacher facilitates playful learning. Each question asks whether children have the opportunity to engage in the following activities during the observation: free choice/open play time, imaginary/fantasy play, gross motor (large, whole body) activities, music activities, science activities, math exploration activities, and language activities. If the observer sees any of these activities, they are asked to report how the teacher interacted with children using the following options:

A. Children choose what to do and how. The adult observes, provides materials or is not present (child-led/Children's own play).
B. Children choose what to do and how. The adult joins their play as a peer, without taking over the activity (co-play/co-created play).
C. The adult joins children's play to extend and enrich their learning, without directing children (guided play / games).
D. The educator defines the roles, rules, and instructions of the [play, science, math exploration, language, etc.] activities (instruction/adult-led play) [N/A for free choice/open play time].

The observer is asked to select all options that apply, which then provides data on whether the teacher implements different types of facilitation within the same observation. One caveat that remains is that one cannot know if a teacher moves between facilitation techniques within a single event or varied across events. For example, coding would look the same if a teacher moved into dramatic play and started as a peer (co-created play), then shifted to extending their play (guided play) during the same interaction; or if a teacher joined into dramatic play as a peer with one group of children (co-created play) and entered dramatic play at another time to extend their play (guided play).

The Classroom Coach, developed by HighScope, also has several items/indicators directly measuring the facilitation of playful learning. Like the BEQI-Adapted, the Classroom Coach items/indicators include information to determine which type of facilitation is being observed. However, the Classroom Coach items/indicators are broken down differently, with each one only focused on one (or possibly two when it is unclear) style of play facilitation, while the BEQI-Adapted covers all four styles for each datapoint, as described above. For example, this excerpt from row 3 in Item II-D (There is time each day for adult-initiated, large-group activities that support each child's developmental level), exemplifies play facilitation during an adult-led activity:

> Adults support and use many strategies to extend children's ideas and actions during adult-initiated large-group learning opportunities by:

- Letting children be leaders
- Following up on children's suggestions and modifications
- Prompting children for their ideas about using words, movements, or materials

Other examples of assessing facilitation of playful learning are included in Item II-C Adults support children's ideas, actions, and developmental levels during child-initiated activities, Rows 1 & 2:

Row 1: Adults are intentional about entering children's work/choices/play.[2]
- **Examples of ways to intentionally enter children's work/choices/play:**
  - Observing and listening before and after entering children's work/choices/play
  - Imitating how a child is using materials
  - Not interrupting children's concentration
  - Assuming roles within play context as suggested by children or adult

Row 2: Adults support and intentionally scaffold children at their developmental level by helping them extend and add complexity to their work/play.
- **Examples of ways to extend and add complexity to work or play:**
  - Following children's cues about the content and direction as work/play develops
  - Offering suggestions for extending work/play
  - Suggesting additional materials
  - Helping children think through a sequence of steps
  - Helping children connect to their real-world experiences
  - Encouraging children to take the lead in ongoing projects and investigations
  - Modeling new ways of playing
  - Asking children how else they can play or use the tools/materials

Interestingly, in this Item, row 1 exemplifies co-created play and row 2 exemplifies guided play. These items could be used to see whether the teacher entered and/or extended play, but like the BEQI-Adapted, one cannot know if this was done in the same play instance or in multiple instances.

Discussion

All the observation instruments analyzed above measure aspects of facilitation of playful learning. In particular, they include items that capture the preconditions for playful learning and facilitation techniques that might be used in play but could also be used in routine activities and in highly structured teacher-directed activities. In our experience, teachers often manage play during child choice times and "teach" during teacher-led activities. Current tools may tell us if the teachers have extended conversations with children, for example, but not if it is in aid of enhancing learning during child's play.

However, two instruments stand out by also including many items that clearly measure specific playful learning facilitation: BEQI – Adapted[xvii] and the Classroom Coach[xviii]. It is not surprising that the BEQI-Adapted includes many such items since it was developed specifically for this purpose. However, it misses some of the complexity needed to understand when and how play facilitation occurs within the activities across a typical day. The original BEQI instrument was specifically designed to be used in settings where resources are limited, and the adapted tool may be more practical than other tools in those settings[xix]. The Classroom Coach, although designed to be used with any curriculum, was developed by HighScope to help coaches assess teaching practices aligned with the HighScope curriculum and other constructivist curricula. The HighScope curriculum[xx] emphasizes "shared control" throughout the daily activities whether the child originally initiates

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[2] Please note that in the HighScope preschool curriculum, the period of the day that children choose where, what, how and with whom they will engage is called "work time" but children are free to choose activities, materials, playmates, and settings.

the activity (as in choice and outside times), or the teacher does (as in large and small group times). Thus, it is not surprising that this tool measures specific playful learning techniques.

Another challenge for data collection is highlighted by findings of the Danish Paths 2 Play research team[xxi] that, "Both observations and interviews pointed towards the educator's role in play being highly dynamic, and frequently changing according to the situation. Importantly, the investigations of the four pedagogical positions in playful contexts highlighted a dynamic interplay where positions shifted many times and within the same play situation."[xxii] Within a given activity, the researchers found that all the types of playful learning across the spectrum could occur in a short period of time. Of the tools reviewed above, only the EduSnap is designed to capture this fluid, dynamic nature of teacher-child interactions but it does not include relevant playful learning facilitation techniques.

Although existing instruments capture information relevant to observing play facilitation, we speculate that the best approach is a tool like the EduSnap that minutely measures teacher-child interactions using time-sampling methods. This type of tool could provide information on how often the educator uses certain facilitation techniques across types of play activity, setting, and learning domains by individual child characteristics as well as possibly capturing whether children's voices and contributions inform topics and activities chosen by the teachers thus measuring the continuity of the playful facilitation[xxiii]. From this we could examine the interplay among these variables and capture change over time that may result from specific professional development experiences. If this sampling method also differentiated between play-based versus non-play-based activities, it would allow understanding of the degree to which different children experienced different amounts of play-based activities, as well as understanding the types of learning that occurs in one versus the other, among other things.

About NIEER

The National Institute for Early Education Research (NIEER) at the Graduate School of Education, Rutgers University, New Brunswick, NJ, conducts and disseminates independent research and analysis to inform early childhood education policy.

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