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# Gaining Ground in Understanding the Play-Literacy Relationship



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Many in the field of early literacy development and learning believe strongly that play and literacy share common ground, but they have found the idea difficult to prove. While some primary research indicates a positive relationship, the impact of play seems to occur at different levels of development, which complicates how researchers view its influence on early literacy policy and practice. The authors use a critical-appraisal process, more common in the medical field, to describe the best available evidence from a corpus of play-literacy studies. Appraising some seventeen studies and their levels of evidence, strength of design, and “worth to practice” findings, they arrive at a description of three major domains in the play-literacy relationship. They assert that the better evidence in each domain shows the effects of play on literacy skills while revealing the research yet needed to demonstrate the relevance of each domain for early literacy. They recommend the further use of the critical-appraisal process in the play-literacy field to build a body of high-level evidence that will have a major impact on early literacy practice. **Key words:** critical-appraisal process; early literacy; play-literacy relationship; pretend play

**C**ONSIDER THE FOLLOWING EXCHANGE between Jeremy and his friend Ashley as it unfolds during playtime in a preschool classroom. Four-year-old Jeremy manipulates small dinosaur figures taken from a case of them. He says to his friend Ashley, who is the same age, “I’m playin’ with these. Don’t close the case up. It has the words.” Ashley asks, “Can I play too?” Jeremy replies, “Only take one. OK? Look right here (pointing to the words on the storage case). This says ‘stego’ with this one.”

Layered in the everyday, thousands of fleeting exchanges like this occur between children the world over (often out of the earshot of adults). Yet the significance of these play-literacy connections for young children’s literacy development and learning remains a mystery. Is such play central to the foundations of literacy in young children? Is it supportive? Or is it nonessential—a take-it-or-leave-it happenstance? Might it prime children’s minds for the learn-to-

read process, laying the foundations for print knowledge, word consciousness, storybook reading, and a motivation to read. Or perhaps not? These are good research questions that need answers, because, if play has a role in establishing early literacy foundations, it should be available to children and plentiful in the early literacy learning environment.

## **Theory**

Theories of child development based on the work of Jean Piaget hold that pretend play presents opportunities for practicing representational skills that support abstract reasoning, but it does not, in and of itself, advance these skills (Case 1987; Case and Khanna 1981; Fischer and Immordino-Yang 2002). From this perspective, pretend play and literacy share some mental processes (e.g., representing event knowledge and scripts and using problem-solving strategies and rules). More exercise in one, however, does not lead to changes in the other. More pretend play, for instance, does not lead to an increase in reading-readiness skills, and more early literacy does not yield more complex pretend play (as far as we know). Pretend play, therefore, is not a “leading” activity, one necessary to developing emergent literacy skills. Play is literally a “following” activity that provides opportunities to practice and consolidate early literacy skills already learned (e.g., emergent writing).

Lev S. Vygotsky (1966) makes a different claim, namely that pretend play, *per se*, is transformative and unique in the preschool developmental period. It is a transitional stage during which “thought is separated from objects and action arises from ideas rather than from things” (12). The pretend-play activity, in brief, transforms the child’s thought processes. It is a pivot between thought and object, that is, it turns thinking toward meaning rather than toward object as the motivation for action. Further, pretend play is a social activity that stimulates adaptation in individual thought. Pretend play, therefore, is a “leading activity” that in and of itself it creates a zone of proximal development that compels developmental change. If we accept this argument, pretend play, then, is instrumental in literacy development because it directly advances the mental processes essential for learning to read and write.

Informed by Urie Bronfenbrenner’s concept of the person-environment dynamic and ecological psychology (Barker 1968), ecological theories propose that individuals both shape and are shaped by their surroundings. Children

are active, intentional entities of their environments; they help shape them. In turn, the situations they encounter, each with its physical, social, and cultural properties, shape them both directly and indirectly through child-environment interactions. Play, from this view, is an activity system (a microenvironment, so to speak) that arises from individual intentions as well as setting influences both near (the immediate surroundings) and far (socially held views of play; Rogoff 1990). As such, play affords an opportunity to exercise individual literacy concepts and skills even as it presses for particular kinds of literacy knowledge and interactions.

### **Constructs**

For purposes of empirical research, both play and literacy are difficult to define because they are large, complex constructs that vary across developmental periods (preschoolers to middle graders, for example) and across sociocultural and historical contexts (Roopnarine 2011). Specific to studies of the play-literacy relationship, both terms have been confined primarily to the early-childhood developmental period (ages three to eight) and focused on emergent literacy and beginning reading skills. In the largest sense, what gets defined as play meets established criteria of flexibility, positive affect, nonliterality, and intrinsic motivation (Krasnor and Pepler 1980), although it is referred to variously as free play, pretend play, sociodramatic play, thematic fantasy play, and guided play. Definitions of literacy encompass cognitive-linguistic variables, such as oral language (e.g., syntax), and literacy-specific skills, such as concepts about print.

### **Evidence**

The idea that play and literacy are related is certainly appealing but hard to prove. In early childhood, play's increasing complexity makes it difficult to define and observe at the point when literacy is just emerging with precursors of conventional reading and writing that are equally difficult to describe. To examine evidence of the relationship, we turn to a corpus of studies (n=54 studies), spanning three decades (from 1979 to 2009), that we assembled earlier for purposes of review (Roskos and Christie, 2001; Roskos et al. 2010). The corpus fairly represents the play-literacy research field in early childhood, and

its contents meet fundamental criteria of educational research (Shavelson and Towne 2003). For this article, we also conducted a brief literature search from 2010 to 2012, using several different academic search engines (Education Search Complete, Education Resources Information Center, and Academic Search Complete). Descriptors included different combinations of *pretend play*, *symbolic play*, *sociodramatic play*, *dramatic play*, *early literacy*, *beginning literacy*, and *emergent literacy and early reading*. Our initial sweep yielded eighty-four articles across a range of scholarly sources (e.g., journals, online articles, chapters in books). The search was then narrowed to peer-reviewed articles in research journals that focused specifically on play and literacy variables. We found twelve articles. Careful reading of the abstracts resulted in two relevant articles (Boyle and Charles 2010; Lysaker, Wheat, and Benson 2010) that we added to the corpus to total fifty-six available studies.

Broadly, the majority of studies in the corpus are nonexperimental (n=32 or 57 percent) which reflects the universe of play-literacy research at large. Of the experimental studies (n=24 or 43 percent), eighteen are intervention studies that investigate the effects of play activity on children's literacy knowledge and skills (e.g., alphabet knowledge; story comprehension).

In general, the descriptive studies indicate that emergent and early literacy behaviors (language use, reading, writing) spontaneously appear in children's play at home and at school and that these behaviors are more pronounced in supportive environments. Rowe's longitudinal study (1998), for example, documents the book-related play of her own son, Christopher, at home and in preschool. Christopher engaged in a variety of play connected to the books he was read. For example, after listening to the classic *Mike Mulligan and His Steam Shovel* (by Virginia Lee Burton, published in 1939), Christopher played with toys to reenact and sort out the meaning of new concepts in the story (e.g., steam engines, being stuck in a cellar, smoking a pipe). Other studies (Neuman and Roskos 1989, 1991) reported descriptive evidence of literacy behaviors in preschoolers' activity in play centers (e.g., pretend reading and writing) as well as teacher support and encouragement of literacy activity in free play (Roskos and Neuman 1993). In sum, the studies corroborate what Jacob (1984) observed in a Puerto Rican town: play is an important context for literacy skill and literacy behavior.

Examining the degree of relationship between play types and early literacy behaviors, correlational studies show generally positive relationships between the two domains. Although the evidence is scant, it usually replicates other

findings of a relationship between language use (including narrative skills) and pretend play (also referred to as symbolic play). Pellegrini (1980), among others (e.g., Galda, Pellegrini, and Cox 1989; Shore 1986), found that symbolic play was related to measures of reading readiness (e.g., the Metropolitan Readiness Test), measures of emergent reading and writing, and use of metalinguistic verbs. Following on the observational work of Sachs, Goldman, and Chaille (1985), Eckler and Weininger (1989) reported a positive correlation between the structural complexity of pretend play and elements of story grammar—later tested experimentally by Ilgaz and Aksu-Koc (2005).

The collection of quasi-experimental studies in the corpus examined the impact of mostly indoor classroom play on emergent and early literacy skills such as narrative competence, writing, and reading environmental print. The record is spotty and the results mixed. With the exception of studies using the thematic fantasy play paradigm (adult-guided reenactment of stories), most are singletons in that they do not replicate a well-specified play intervention on a specific literacy learning outcome. This aside, studies that enrich the play environment with literacy resources (objects, print, adult support) demonstrate effects on literacy variables moderately correlated with literacy achievement (e.g. print awareness). Those who observe or tutor play to explore connections to oral-language comprehension report early signs of book-related dramatic play in very young children, as well as small to moderate effects on narrative competence, story recall, and comprehension among five- to seven-year-olds.

### **Best Available Evidence**

Faced with the different levels of evidence in the play-literacy primary research (qualitative studies, descriptive studies, reviews, case studies, interventions), we undertook a critical appraisal of the corpus to identify the best available evidence it had to offer. Critical appraisal is a process of carefully and systematically examining research to judge its trustworthiness and its value and relevance to a particular context—in our case, early literacy education (Burls 2009). Its purpose is to inform evidence-based practice through the appraisal of studies on a problem, determining their level of evidence, research quality, and usefulness for practice and synthesizing this information to judge the overall relevance and worth of findings for improving practice. Critical appraisal, we thought, offered us another opportunity to examine the corpus and to locate the best evidence

it contained to address key questions in the field: What is the play-literacy relationship? What are the effects of play on early literacy learning? What research is still needed to understand the relationship?

Prior to undertaking the critical appraisal process, we culled a subset of seventeen studies from the corpus that met four criteria: primary focus on play and literacy variables; literacy variables representing one or more early literacy skills identified by the National Early Literacy Panel and presented in figure 1 (NELP 2008); study conducted in an educational setting; and child sample in the three- to eight-year-old range. We were interested in a subset of studies with these particular characteristics because of its potential for yielding high-quality evidence of play's role in early literacy development and learning. That play supports literacy (or not) is a pivotal issue, and strong evidence either way guides decision making in policy and practice.

Critical appraisal of these “keeper studies” in the subset involved determining each study's level of evidence according to its design and completing a rapid appraisal checklist specific to each design. Different types of studies (designs) are located at different levels of evidence in a hierarchy of evidence (Fineout-Overholt et al. 2010; Haynes 2006). Qualitative and descriptive studies, for example, afford a lower level of evidence for practice than randomized controlled trials, which provide a higher level of evidence for decision making in instruction. Appraisal checklists quickly evaluate the validity, clarity, significance, and applicability of results for evidence-based practice. We developed checklists specific to the research designs represented in the keeper studies drawing from existing samples (Burls 2009). Each checklist consisted of ten items that required “Yes,” “No,” “Can't Tell” responses (e.g., Was there an adequate description of the data-collection method?). Checklists are purposefully brief and designed to facilitate rapid critical appraisal.

## **Synthesis and Interpretation**

What does the best available evidence tell us about the play-literacy relationship? Figure 2 summarizes the critical appraisal data on a subset of high-quality studies selected to answer this question.

Synthesizing and interpreting these data help us sort out several core (and persistent) issues surrounding the “what,” “so what” and “what next” effort to understand the play-literacy connection. Turning first to the what (i.e. what is the

relationship?), the body of evidence points to three major domains of research that attempt to describe what it is. These domains are the relationships between: (1) the play environment and literacy activity (e.g., reading and writing-like behaviors, literacy experiences); (2) free play with elements of pretending and oral-language skills such as storying, defined as constructing stories in the mind (Wells 1986); and (3) creative drama (acting out stories or reenacting them) and story comprehension. Quality studies in each domain indicate positive, robust

Variables with medium to large predictive relationships
<ul style="list-style-type: none"> <li>Alphabet knowledge: knowledge of names and sounds associated with printed letters</li> </ul>
<ul style="list-style-type: none"> <li>Phonological awareness: the ability to detect, manipulate or analyze the auditory aspects of spoken language (including the ability to distinguish or segment words, syllables or phonemes) independent of meaning</li> </ul>
<ul style="list-style-type: none"> <li>Rapid Automatic Naming (RAN): the ability to rapidly name a sequence of random letters or digits.</li> </ul>
<ul style="list-style-type: none"> <li>RAN of objects or colors: the ability to rapidly name a sequence of repeating random sets of pictures or objects</li> </ul>
<ul style="list-style-type: none"> <li>Writing or writing name: the ability to write letters in isolation on request or to write one's own name</li> </ul>
<ul style="list-style-type: none"> <li>Phonological memory: the ability to remember spoken information for a short period of time.</li> </ul>
Variables moderately correlated with at least one measure of later literacy achievement
<ul style="list-style-type: none"> <li>Concepts about print: knowledge of print conventions</li> </ul>
<ul style="list-style-type: none"> <li>Print knowledge: a combination of alphabet knowledge, concepts about print and early decoding</li> </ul>
<ul style="list-style-type: none"> <li>Reading readiness: usually a combination of alphabet knowledge, concepts about print, vocabulary, memory and phonological awareness</li> </ul>
<ul style="list-style-type: none"> <li>Oral language: the ability to produce or comprehend spoken language, including vocabulary and grammar</li> </ul>
<ul style="list-style-type: none"> <li>Visual processing: the ability to match or discriminate visually presented symbols</li> </ul>

Figure 1. Early literacy skills identified by NELP

Study	Level of evidence						Play variable	Literacy variable(s) as defined by NELP	Appraisal % of items met on checklist	Effects
	I	II	III	IV	V	VI				
Baumer, Ferholt, and Lecusay 2005			X				Story reenactment + Free play	• Oral language (narrative)	80%	+b Significant (p<.01) ES: .65
Christie and Enz 1992			X				Play environment	• Alphabet knowledge • Writing • Concepts about print	80%	+ Significant (p<.02) ES: .25
Ilgaz and Aksu-Koc 2005			X				Toy play	• Oral language (narrative)	80%	NS <i>Clinical significance not reported</i>
Kim 1999			X				Pretend play	• Oral language (narrative)	80%	+ Significant (p<.05) ES: 1.17
Marbach and Yawkey 1980		X					Story reenactment Puppet-action play	• Oral language (story recall)	90%	+ Significant (p<.05) <i>story reenactment</i> ES: .38
Morrow 1990			X				Play environment	• Print knowledge • Writing	80%	+ Significant Writing (p<.001) Reading (p<.01) ES: 7.99



Study	Level of evidence						Play variable	Literacy variable(s) as defined by NELP	Appraisal % of items met on checklist	Effects
	I	II	III	IV	V	VI				
Neuman and Roskos 1992			X				Play environment • Print knowledge	80%	+ Significant (p<.001) ES: .64	
Neuman and Roskos 1993			X				Play environment • Print knowledge	80%	+ Significant (p<.001) ES: .64	
Neuman and Roskos 1997						X	Play environment • Print knowledge	100%	+ Significant (p<.001) ES: .64	
Pellegrini 1980						X	Free play • Oral language • Print knowledge • Writing	100%	+ Significant (p<.0001) ES: 1.12	
Pellegrini 1984			X				Thematic fantasy paradigm • Oral language (story recall)	80%	+ Significant (p<.0001) ES: .48	
Pellegrini and Galda 1982			X				Thematic fantasy paradigm • Oral language (story recall)	80%	+ Significant (p<.0001) ES: .48	

Study	Level of evidence						Play variable	Literacy variable(s) as defined by NELP	Appraisal % of items met on checklist	Effects
	I	II	III	IV	V	VI				
Pellegrini, Galda, Dresden, and Cox 1990						X	Free play	100%	+ correlation	
Silvern, Taylor, Wil- liamson, Surbeck, and Kelley 1986			X				Thematic fantasy paradigm	80%	+ Significant (p<.001) ES: .18	
Vukelich 1994			X				Play environment	80%	+ Significant (p<.0001) adult-supported ES: .49	
Walker 1999						X	Play environment	100%	+ Significant (p<.0001) adult-supported ES: .49	
Williamson & Silvern, 1998		X					Story reenactment	80%	+ Significant (p<.001) ES: .21	

<sup>a</sup>Hierarchy of evidence (Fineout-Overholt, Melnyk, Stillwell, and Williamson (2010).  
 Level I: Systematic review of meta-analysis  
 Level II: Randomized controlled trial  
 Level III: Controlled trial without randomization  
 Level IV: Case-control or cohort study  
 Level V: Systematic review of qualitative or descriptive studies  
 Level VI: Qualitative or descriptive study  
<sup>b</sup>positive results and/or relationship

Figure 2. Critical appraisal of “keeper studies”

and significant relationships between different types of play opportunities and critical predictors of literacy achievement (e.g., writing) as well as those skills associated with beginning literacy success (e.g., print knowledge). Perhaps the most profound relationship is that between the play environment and literacy experience, where the simple access to literacy objects and print can stimulate playful literacy activity. When social resources (peers, teachers) are added to the mix, the relationship grows stronger. This has huge implications for early literacy education worldwide because enriching the play environment with literacy resources is achievable by diverse groups within the service sector of countries, regions, and local communities across a wide range of settings.

The relationship between free play with pretend elements and oral-language skills is intricately layered in the bedrock of early literacy development and involves linguistic and operational factors that prime children for literacy (Holdaway 1980). Studies reveal connections between play talk and the special features of written language that support literacy, such as syntactic complexity (Vedeler 1997), and more nuanced links between pretending in play and the mental imagery required in reading and writing texts (Jurkovic 1978).

The positive relationship between creative drama play types and literacy, particularly for meaning-related skills, is also rich with potential for research and practice. The domain is especially relevant for deepening our understanding of multimodal literacy in a digital age where different modes of meaning—written, visual, spatial, tactile, gestural, audio, and spoken—are shared in meaning making with traditional and electronic texts (Hassett 2006; Kress 2004).

Next we examine the so what, as in what are the effects of these domain relationships on early literacy outcomes that matter in the learn-to-read process? This is, fundamentally, the worth-to-practice question. Here the body of evidence pushes us to identify and name the specifics that make a difference in each relationship domain. The highest level of evidence in the play environment domain, for example, shows that literacy-enriched play areas in the play environment significantly increase the frequency of writing and reading behaviors that support print knowledge (combination of alphabet knowledge, concepts about print, early decoding) when literacy materials are curriculum related and adult support is available. The effect sizes are moderate to large and point to the real-world significance of a literacy-rich play environment for young children. Assessment measures of print knowledge (concepts about print and environmental print tasks),

however, lack reliability—so it is not certain that these conditions must be present for the play environment to afford the acquisition of print knowledge.

Evidence on relationships between free play (with pretend elements) and literacy (print knowledge, writing, storytelling) is at a lower level, although it shows a positive trend between variables in the relationship. While there is not much to show effects that inform early literacy practice, there is enough to show a link and suggest that sheer free play with some pretending involved may not be a waste of time in the early literacy curriculum. Critical appraisal on a wider pool of studies in this domain may help make a stronger case for worth to practice.

Studies in the subset provide a relatively high level of evidence for relationships between creative dramatics as a play type and literacy, primarily in oral-language skills areas that are closely tied to developmental progress in the learn-to-read process (e.g., listening comprehension; Biemiller 2003). In brief, the best studies show that dramatization of stories positively affects story recall among three- to seven-year-olds of low to middle SES (social-economic status). The thematic fantasy play paradigm intervention (guided story reenactment) may improve story recall among five- to seven-year-olds. Although effect sizes tend to be small, this does not reduce the reliability of the findings given the uniformity and quality across the studies. Moreover, the higher level of evidence makes a case for the use of creative dramatics in early literacy instruction as an evidence-based technique that develops meaning-making processes and skills needed for reading comprehension down the road. It is also noteworthy that the cloze assessment used to show effects in several of the studies is a reliable, valid assessment tool (Bormuth 1967). A cloze assessment is based on the cloze procedure in reading where words are deleted from a selection based on some criterion (e.g., every fifth word) and readers need to maximize their use of context clues to predict the missing word.

Finally, we consider the what next: what should research do to further our understanding of the play-literacy role in improving early literacy teaching and learning? We offer a few suggestions that may help us better understand and articulate play's role in the early literacy curriculum.

### *Specifying the Play Environment-Literacy Relationship*

Play in classroom activity centers with ample literacy resources (material and social) offers golden opportunities for children to express and practice a range of reading readiness skills, such as concepts about print, letter knowledge (letter names and sounds), word reading, and emergent writing. The

best evidence indicates two basic features of play-environment design that can increase the incidence of goal-directed literacy behaviors (e.g., exercising print knowledge): ample curriculum-related literacy materials and adult facilitation. More environmental studies are needed, however, to blueprint the play environment for increased literacy exposure and experience in ways that inform implementation of the strategy to good effect in early literacy education. Studies that vary the intensity (how much), frequency (how often), duration (how long) and conditions (supports) of literacy-enriched play areas in different classroom settings can not only specify the essentials of design, but also strengthen current findings that argue for literacy-enriched play at school. For example, evidence that shows the effects of the frequency (how often children of varying abilities engage in literacy-related play) and the levels of adult facilitation in centers or the curricular quality of literacy play materials on literacy motivation, knowledge, and skills would provide the kind of detailed information needed for effective implementation. Such evidence (well codified), in fact, would be a boon to early-childhood teacher education and professional development.

#### *Advancing Free Play with Pretend Elements-Literacy Relationship*

The idea that free play, especially that which transforms the “here and now,” “you and me,” “this and that” (Garvey 1974), prepares the mind for literacy is intuitively pleasing, and it is the focus of considerable theory and research in early childhood. The idea, however, is short on the high-level evidence we need to put it into practice on a large scale. Still, it is a theoretically strong idea and warrants more research to describe and demonstrate the effects of certain elements of free play on the cognitive processing that literacy demands. The explosion of new media targeted to young children may prove lucrative here for examining the play-literacy interface. Intervention studies that examine the effects of media (games, apps, e-books) on early literacy skills open the window for also examining playfulness. Capturing young children’s real-time play, talk, and action in these virtual playgrounds provides an abundant data source for analyzing relationships between free play (of a virtual kind) and the oral-language skills associated with literacy (e.g., sentence complexity and decontextualized language use). Thus, more closely observed in media environments, new correlations may emerge and those already found may be confirmed to corroborate evidence of the relationship and, in turn, encourage more controlled studies that might strengthen the case for free play in early literacy education.

### *Testing the Creative Dramatics-Literacy Relationship*

Studies at a fairly high level of evidence show that creative drama techniques (puppet play, story drama, and reenactment) increase story recall and comprehension. Moreover, the assessment tools used in these studies to gauge the effects are reliable and valid. So, at this point randomized controlled trials (RCTs) would serve to consolidate this robust finding and identify which techniques work best for children of different ages and varying abilities. Puppet play, for example, may prove more effective for increasing story recall among three-year-olds than story drama and, thus, be the best choice when implementing the early literacy curriculum for this age group. Studies that produce a high level of evidence can contribute to a growing collection of play strategies in early literacy with well-defined criteria for implementation that may more reliably yield desired results in real-world practice. The proof of play's value, then, is in better prepared young readers and writers.

## **A Closing Comment and An Observation**

This article reminds us that much has been gained in pursuing the play-literacy relationship, but it also alerts us to the fact that there is still much to be done if we are to grasp its full significance for early literacy teaching and learning. That play has a role in early literacy education we have no doubt. It is the characteristics and function of this role we are concerned about. We have attempted to show, albeit on a small set of studies, that some current evidence strongly positions play in early literacy practice. More studies are certainly available for appraisal that may further strengthen the position but still we need evidence from new studies. We worry, though, about the difficulty of obtaining the funding necessary to conduct carefully controlled experiments, with random assignment to treatments and blind assessments. Over the years, large federal grant programs have not generously funded play-related research.

We close, then, with an observation about something that may serve as a less costly alternative—the utility of the critical-appraisal process. Primarily used in the medical field, we found it to be a systematic, clear, reasonable, and practical process for evaluating what is available toward the goal of what might be possible. Various uses of critical appraisal on a wider swath of play-literacy studies may offer a new step in the right direction and become a productive route to gaining ground in our understanding of the play-literacy relationship.

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