

Literacy and numeracy opportunities in play

Setting the scene

Learning goals	<ul style="list-style-type: none"> • To deepen understanding of early literacy and numeracy practices • To support teachers in identifying connections between literacy and numeracy in young learner's play
Learn about	The early learner

School context

The Istanbul International Community School (IICS), Turkey

This teacher support material (TSM) illustrates the decisions that teachers make with regards to effective early literacy and numeracy practices during play. It aims to show how these are embedded in responsive learning spaces, where symbolic exploration and expression are recognized and planned for.

The tables under each photograph explain the actions taken by students and the response of the teachers.

Ice cream and symbolic language

Following a weekend at a local festival, some students returned to school showing an interest in making ice cream. They developed this interest initially by making chalk drawings of some of the flavours of ice cream that they had eaten and seen.



Students	Teachers
<p>Take the opportunity to develop their interest in ice cream further through this responsive play space.</p>	<p>Ensures time and space is available for students to explore ideas.</p> <p>Listens and responds to student’s ideas and evolving theories.</p>



Students	Teachers
<p>Another group of students were excited about this play interest and wanted to develop their own ideas, in a different play space with different materials.</p> <p>Initially they used the writing materials provided to make a list of the flavours they would be making in the mud kitchen.</p>	<p>Propose puppetry, role play and dramatic play as opportunities for students to reflect, represent and communicate new meanings of their experiences.</p> <p>Draw students' attention to the correlation between symbol and meaning.</p>



Students	Teachers
<p>This group of learners then used the inspiration from the first group to personalize the learning beyond just flavours and made a list of the ingredients they would need. Students recalled a previous cooking experience where milk, cream and strawberries were used to make ice cream.</p>	<p>Indicate to students that they can use "reflection time" later to connect with the recipe and help thinking to develop further.</p>



Students	Teachers
<p>The recipe was written out by the students, and they talked about the different measurements for each ingredient.</p>	<p>Provide images of a previous cooking experience to reconnect with previous learning.</p> <p>Offer materials that evoke mathematical thinking (for example, books, blocks, sand, water, buckets, measuring tools, and so on).</p>



Students	Teachers
<p>Additional materials were provided so that students could record their list of ingredients and discuss quantities and measures. This time chalk was used.</p> <p>Students also sourced the containers and mixing tools they needed to make the ice cream and selected from the choices available to them.</p>	<p>Provide opportunities for dramatic play as a means to consolidate and express what has been learned, and to communicate new understandings. Set up play spaces such as a construction area, water tray, sand box, dramatic play area, mud kitchen, book corner, and so on.</p> <p>Make sure to include mark-making opportunities as part of these different play experiences.</p>



Students	Teachers
<p>The following day, students revisited other cooking experiences they were familiar with.</p> <p>Students used images from both the indoor cooking space as well as recipe books they found in the reading corner, to develop their play space and to invite and empower others who joined them.</p> <p>During reflection time, students shared their play space with others and reconnected with some of the ideas that had emerged during their exploration.</p> <p>Students then made a list of materials and objects, during morning meeting, that could be used to develop both their ideas and this play space further.</p>	<p>Organize the indoor and outdoor spaces so students can play alone, in pairs or in small groups. Offer valuable print experiences as part of the indoor and outdoor learning spaces.</p> <p>Following this reflection, students were provided with a series of photos, as a learning memory from a previous cooking experience.</p>



Students	Teachers
<p>Together, students and teachers found and arranged the suggested materials and objects to support and extend current play experiences.</p>	<p>Ensure students have what they need to create their own spaces through which they can further their learning.</p>



Students	Teachers
<p>Students negotiated with each other to determine the kind of recipe they would deliver and requested additional clipboards to make a list of the ingredients needed.</p> <p>This group decided to have less ingredients because they did not have access to all the materials they needed at this stage.</p> <p>This was a great opportunity to discuss quantities and numbers with students.</p>	<p>Offer real life connections to print through magazines, catalogues, signs, logos, and so on.</p> <p>Recognize the potential of everyday situations for rich numeracy learning.</p>



Students	Teachers
<p>One student connected with the cooking routine they have at home, noticing that the recipes in the book at home also have pictures and images. She was asked to bring in her recipe book, and to choose something that could be cooked at school.</p> <p>Other students shared the responsibility of writing a list of ingredients. They identified that certain students had certain talents, some could use their knowledge of sounds to write words and others could draw symbols to represent the item; including numbers or using dots on the page to indicate how many.</p> <p>The first student was consistent with her preference to include rocket in the recipe. It was an ingredient she knew in English and she was able to write this in her home language, Turkish, as "roket". As the rest of the recipe was represented in English, she was given support to make the connection with this translation.</p>	<p>Offer many opportunities to draw and scribble which will lead to more conventional writing.</p> <p>Offer opportunities to write for an authentic purpose (including book making).</p> <p>Organize learning proposals for small groups that support students in acquiring certain literacy skills within their zone of proximal development (ZDP).</p>

Connections between literacy and numeracy

Literacy and numeracy are deeply connected as forms of symbolic language, and students can be provided with opportunities to explore them both within their play.

The following tables suggest some of the ways that teachers can use these connections to support learning. Note that the ideas in the tables below do not always correlate one-to-one, but are designed to highlight the relationship between numeracy and literacy.

Literacy A	Numeracy A
<ul style="list-style-type: none"> • Establish a rich oral language environment • Engage in conversations in large and small groups • View routines and transitions as fruitful opportunities for oral language development • Listen and respond to students' ideas, questions and evolving theories • Draw students' attention to rhymes, sounds and language patterns • View songs and poems as rich opportunities to learn language • Use translanguaging strategies 	<ul style="list-style-type: none"> • Use rich mathematical language to describe the world • Model the language needed to talk about mathematics and mathematical ideas • Ask open-ended questions to promote problem solving and challenge mathematical thinking • Invite students to describe, explain and consider mathematical ideas from their immediate environment • View songs and poems as rich opportunities to learn mathematical concepts
Literacy B	Numeracy B
<ul style="list-style-type: none"> • Provide ongoing opportunities to use symbols • View the arts (music, dance, drama, visual arts and media) as a way to communicate • Provide many opportunities to get to know different materials • Offer opportunities to explore different ways to express ideas, feelings, perspectives, and so on • Propose puppetry, role play and dramatic play as opportunities for students to reflect, represent and communicate new meanings of their experiences • Value the literacy practices of the student's family and community, and consider how they relate to the school context 	<ul style="list-style-type: none"> • Provide ongoing opportunities to use symbols • Provide many opportunities to get to know a range of different materials (such as, paint, clay, and so on) • Offer multiple opportunities to explore different ways to express ideas and perspectives • View the arts (visual arts, dance and music) as opportunities to learn about pattern, size, shape, quantity and line • Recognize the potential of everyday situations for rich numeracy learning • Value the numeracy practices of the student's family and community, and consider how they relate to the school context

Literacy C	Numeracy C
<ul style="list-style-type: none"> • Create multiple opportunities to make marks in a variety of ways • Provide opportunities to learn that signs and symbols communicate meaning • Offer many opportunities to draw and scribble, which will lead to more conventional writing • Draw students' attention to the correlation between symbol and meaning • Scaffold students' writing attempts • Offer real life connection to print through magazines, catalogues, signs, maps, plans, text messaging, email, logos, and so on • Offer opportunities to explore a student's own name and that of peers • Model writing (and reading through) "morning messages" • Offer opportunities to write for an authentic purpose (including book making) • Encourage students to read what they write • Accept all forms of writing (including their family languages/symbol systems) • Support invented spelling 	<ul style="list-style-type: none"> • Create multiple opportunities to make marks in a variety of ways • Provide opportunities to learn that signs and symbols communicate meaning • Draw students' attention to the correlation between symbol and meaning • Offer many opportunities to make marks, which will lead to the use of conventional symbols • Foster informal mathematical marks and representation and integrate symbols over time • Encourage students to explain their mathematical marks • Offer real-life connections to numeracy through experiences students encounter in their socio-cultural worlds • Recognize there are multiple ways in which students can represent their mathematical ideas

Literacy D	Numeracy D
<ul style="list-style-type: none"> • View stories as a foundation for literacy • Read and tell stories, representing a variety of cultural contexts and experiences using a range of modes and symbolic systems • Offer opportunities to recount, retell and make stories • Use a range of book experiences (including dual language books) • Provide opportunities for students to read on their own, with peers, and with their teacher 	<ul style="list-style-type: none"> • View stories as opportunities to explore mathematical concepts and problems in different contexts • Read and tell rich, complex stories that address number, counting, pattern, and so on • Ensure these stories represent a variety of cultural contexts and experiences using a range of modes and symbolic systems • Provide opportunities for students to communicate alternate perspectives

Literacy E	Numeracy E
<ul style="list-style-type: none"> • Plan for authentic inquiry-based investigations into the transdisciplinary themes • Investigate what is of interest to students • Provide opportunities for real-life investigations • Support student-devised plans • Provide opportunities for students to use oral language, reading and writing to construct meaning about the transdisciplinary themes and central ideas • Read books about aspects of the central ideas • Provide opportunities for students to look at books on their own • Gather data through observations, experiments, and so on, and use emergent writing to record these • View dramatic play as a means to consolidate and express what has been learned and communicate new understandings 	<ul style="list-style-type: none"> • Plan for authentic inquiry-based investigations into the transdisciplinary themes • Investigate what is of interest to students • Provide opportunities for real-life investigations • Support student-devised plans • Use mathematics to learn about the transdisciplinary themes and central ideas • Plan for opportunities where students gather data through observation, experiments, and so on • Encourage students to record their data by making marks or using conventional symbols

Literacy F	Numeracy F
<ul style="list-style-type: none"> • View play as a literacy-rich experience • Offer valuable print experiences as part of the indoor and outdoor learning spaces • Organize the indoor and outdoor spaces so students can play alone, in pairs or in small groups • Provide opportunities for representing ideas through visual images, sound effects and role play • Offer open-ended materials and rich sensory experiences • Engage in conversations about students' use of blocks, toy animals or other materials • Discuss the experiences of the day (talking about the students' learning) 	<ul style="list-style-type: none"> • View play as a numeracy-rich experience • Set up play spaces such as a construction area, water tray, sand box, dramatic play area, mud kitchen, book corner, and so on. • Include mark-making opportunities as part of these different play experiences • Offer materials that evoke mathematical thinking (such as books, blocks, sand, water, buckets, measuring tools, and so on) and engage in conversations about the use of these resources • Include board games that require mathematical thinking • Discuss the experiences of the day (talking about the students' learning)
Literacy G	Numeracy G
<ul style="list-style-type: none"> • Plan adult-initiated focused learning engagements • In response to observation, organize learning proposals for individuals or small groups that support students with acquiring certain literacy skills within their ZPD 	<ul style="list-style-type: none"> • Plan adult-initiated focused learning engagements • Organize learning proposals for individuals or small groups that support students with acquiring certain numeracy skills within their ZPD

Questions

First impressions

1. What stands out for you in this learning story and why?
2. In what ways do the learning spaces actively involve students in sustaining their current interests, as well as extend their learning opportunities?
3. How do you find out about students' prior knowledge in reading, writing and mathematics?

4. How do you document learning in your school, and how do you reflect on this with students to inform future planning?

Deepening your understanding

1. What types of interactions do you use to scaffold and extend students' learning?
2. In what ways do the flexible use of time, space, materials and interactions cater for the diverse understandings of this group of learners?
3. Reflecting with students about learning is important and gives form to decision-making. How and when do you provide opportunities for reflection with young learners?
4. What action might you take as a result of reading this learning story?

Next steps

As a team, discuss how you view your role as an educator during play. Review how you can plan opportunities to observe each other and offer feedback, using the effective literacy and numeracy practices as a guide.

Further reading

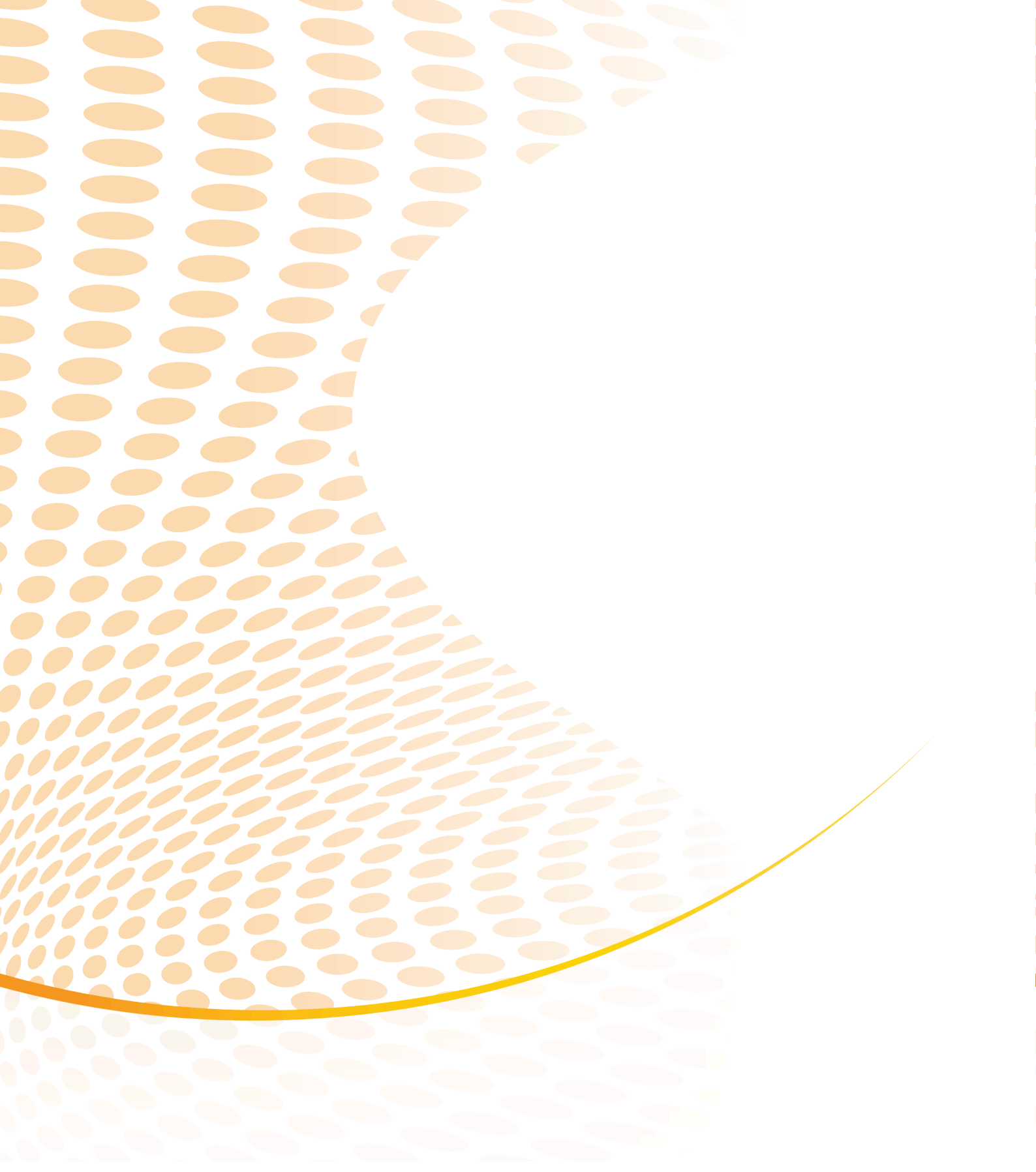
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