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Early Learning and Its Role in Mathematics Education

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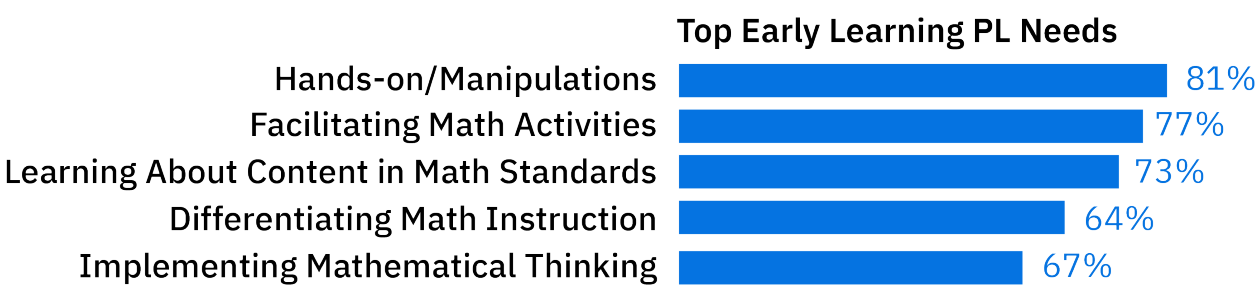


In the Fall of 2023 we conducted a listening tour across the state of Florida in an effort to understand the current state of mathematics education. This brief reports on what we learned from early learning educators, directors, parents and other stakeholders about early learning (birth to age four) and its role in mathematics education. For a comprehensive report of the Listening Tour and our methodology visit bit.ly/LCListingTour.



Key Finding: Early Learning Educators Have Not Had Sufficient Opportunities to Learn How to Teach Mathematics to Children

Promoting mathematics in early learning settings is paramount for building a strong foundation in mathematics. Children, from birth to age five, learn to count, organize items into sets using characteristics such as shape or size, compare quantities and much more. Such skills set the stage for students’ future mathematical success, and the Mathematical Thinking standards from the Florida Early Learning and Development Standards for Birth to Kindergarten (FOEL, 2017) lay out a learning trajectory across subdomains of number sense, number and operations, patterns, geometry, spatial relations and measurement and data—providing a comprehensive approach to supporting kindergarten readiness beginning at birth and extending through age four/Kindergarten.



However, among early learning educators, there is wide variability in educational backgrounds, with 40% of over 1,000 early learning educator survey respondents reporting having no college or technical degree, and half of these having no education beyond a high school diploma or GED.

“We hire people that have never taught before... And so when they come into the building, they learn everything from the ground up, which means it’s a big investment on our part.”

- Tampa Area Early Learning Director

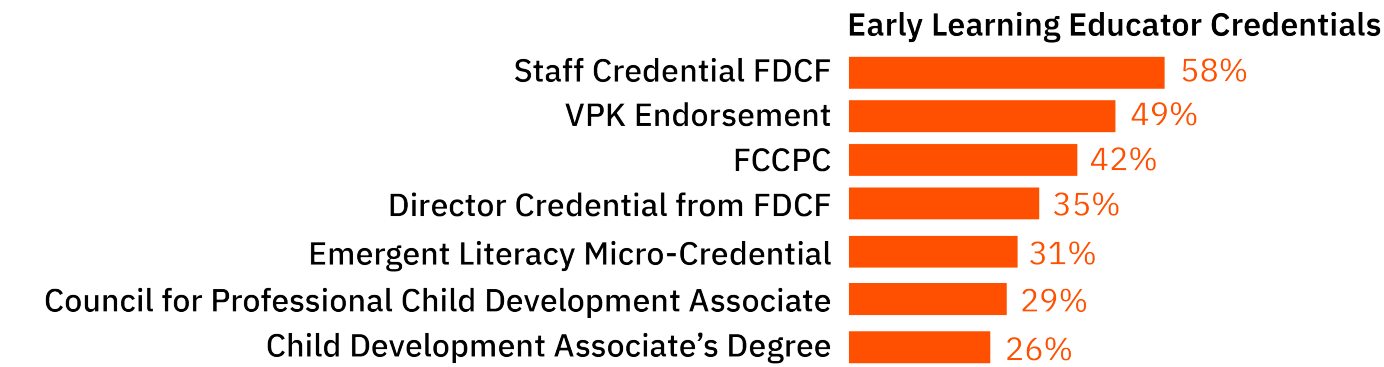
Further, 53% of survey respondents reported having been teaching in Florida for 6 years or less, with 27% reporting less than one year. This means that early learning centers and directors must spend substantial time and resources supporting their employees’ professional development. Indeed, among early learning educator survey respondents, 35% reported that they had not engaged in any math-specific professional learning in the past three years and when asked what professional learning they were interested in, between 51% and 81% selected each of the possible topics. Moreover, when early learning center directors were asked the same question, no topic had fewer than 50% reporting that more support was needed for their employees. Parents and caregivers further weighed in on this topic, with 62% reporting that the early learning programs their child(ren) attends should implement more math instruction to support Kindergarten readiness.

Perhaps as a result of their lack of background in both mathematics content as well as the teaching and learning of mathematics, among 13 focus group interviews with 48 early learning educators and directors across Florida, a negative sentiment and experience with mathematics was shared 32 times in all 13 interviews. By contrast, positive sentiments were shared 17 times in 9 of the 13 interviews. These experiences appear to have widespread dominance among early learning educators, with only around 28% reporting that they were very successful in K-12 mathematics.

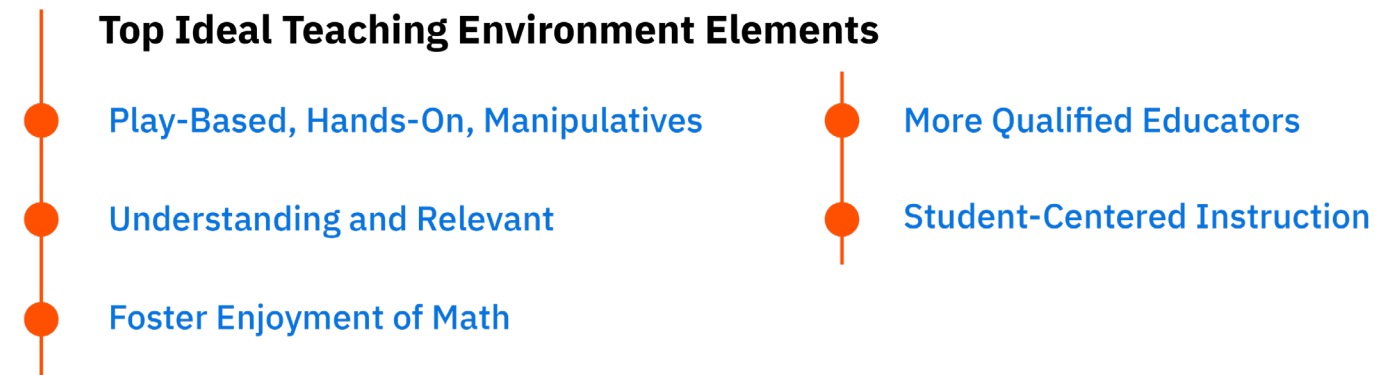
“I have no pleasant memories of math, actually none...math was just always something I absolutely hated.”

- Western Panhandle Early Learning Director

Despite their backgrounds, it is noteworthy that nearly all early learning educators who responded to the survey indicated having one or more of the many possible certifications available to early learning educators, such as the Staff Credential from the Florida Department of Children and Families, Voluntary Pre-K Endorsement, and the Emergent Literacy Micro-Credential.



When asked about the ideal early math learning environment, focus group conversation most frequently involved student-centered instruction, hands-on or play/game-based learning environments, situating learning within children’s every-day experiences, focusing on understanding, fostering enjoyment of math and educators well-prepared to teach math to children. Focus groups indicated a significant need for math-specific professional learning across the board, with participants mentioning this need 41 times across 92% of the focus groups, in addition to many other needs. There was high consistency across early learning educator focus groups, with multiple requests for higher educator compensation, more early learning center funding, access to high quality instructional materials for math, investment in family engagement and a deep desire to be respected as professionals. It is reasonable to expect early learning educators to be compensated for their time spent engaging in professional learning.



“Sometimes some of my staff is coming on the weekends to finish their work. They don’t ask me to pay them, but I, as an administrator, feel bad. I’m like, they’re using their own personal time.”

- Treasure Coast Early Learning Director

However, because it often involves contracting with an external vendor and requires compensating their teachers to participate, most early learning providers do not have the funding available to offer their educators the professional learning needed to meet their vision that aligns with the Early Learning Development Standards for mathematics.

Top Educator/Director Requests

- High Quality Professional Learning
- Higher Educator Compensation
- More ELC Funding
- Parent/Caregiver Supports
- High Quality Instructional Materials
- Respect Educators as Professionals

“Even if we have, let’s say, a professor willing to train the teacher, we’d have to pay you to come to us to teach our teachers and then pay them to be there for the day and provide food and everything that they’d need, the supplies and everything.”

- Treasure Coast Early Learning Director



Recommendation: Expand Resources for Math in Early Learning and Position Early Learning Educators as Professionals

Dedicate Mathematics Funding for Early Learning Providers

Early learning directors need financial support in order to meet the needs of birth to age 5 students in alignment with the Mathematical Thinking standards from the Florida Early Learning and Development Standards for Birth to Kindergarten (FOEL, 2017). Dedicated funding from the state or other stakeholder organizations would allow early learning directors to buy curricular materials and resources, provide professional learning opportunities and training to educators, increase educator compensation, soften operating costs and meaningfully engage parents and caregivers in their child(ren)'s education. These additional resources will enhance early learning provider capacity to ensure children are Kindergarten ready.



“I would say it’s funding. Whether it’s for higher teacher salaries, or so we can pay more tuition of families who can’t afford early childcare to get those kids involved, or to buy more materials for math or whatever it is. I think a lot of times, money is the biggest factor holding back a lot of things.”

- Southwest Florida Early Learning Director



Position Early Learning Educators as Professionals

Early learning educators provide an invaluable service, allowing Florida parents and families to work with peace of mind that their children are safe and learning everything they need in order to succeed. Yet, early learning educators are often not positioned as skilled educators. The public’s perception of early learning educators is perpetuated by low hourly wages, limited pathways for credentialing and advancement and a lack of responsiveness to their professional needs. This narrative needs to change in order to ensure every child is well-prepared and ready for Kindergarten.

References

Florida Office of Early Learning [FOEL]. (2017). *Florida early learning and developmental standards: Birth to kindergarten*. Retrieved from <https://flbt5.floridaearlylearning.com/docs/OEL-SR15BtoK.pdf>



