4.0 Schools: Early Childhood Education Portfolio, Case Studies, and Interview Results

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4.0 SCHOOLS: EARLY CHILDHOOD EDUCATION PORTFOLIO, CASE STUDIES, AND INTERVIEW RESULTS
EXECUTIVE SUMMARY

A goal of 4.0 is to invest in community-centered models of education by providing cash, curriculum, coaching, and community to individuals with innovative ideas that are rooted in equity. Early childhood education (ECE) is one of 4.0's key investment areas due to its recognition of how uniquely powerful interventions made at this time can be for a child. This report explores the types of ECE ventures 4.0 has funded using both qualitative and quantitative measures, reflects on how these efforts align with trends in the field, and describes how 4.0 has contributed to ventures' growth during and after 4.0's fellowship programs.

Methods

This report contains data from ECE venture reports, which in turn originated from both the alumni survey and portfolio database, as well as from a sub-sample of alumni interviews completed in March 2021. Of the 602 ventures contained in the portfolio database[1], 43 fell under the "Organization: Theme" area of ECE and 36 were ultimately confirmed as ECE ventures. In-depth interviews were conducted with a subset of six of these ventures.

Case Studies

A review of the ECE portfolio identified four venture types, broadly characterized as: (1) ventures intended to initiate special programs (n=16, 44%); (2) school or childcare oriented ventures (n=8, 22%); (3) ventures initiating training (n=8, 22%); and, (4) ventures focused on other services or wrap-around support for students (n=4, 11%). Approximately two-thirds of ECE ventures reviewed from the 4.0 portfolio database align with key trends in ECE focus areas as reported elsewhere.[2]

Case studies that fall under these venture types represent a range of ECE programs, including:

❖ **Mathematician, Jr.**: The program recognizes that for many, the idea of math instruction is laden with poor experiences. Mathematician, Jr. works to provide a novel tool, along with

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[1] The following sources were reviewed: *Program plan doc, 4.0 Early Childhood Portfolio, New3102019Master4.0, completed 2020 alumni survey and Spring 2018app, and internet searches (i.e. websites, LinkedIn pages etc.).*

[2] McCallops, K., Karpyn, A., Klein, J., & Jelenewicz, S. (April 2021). *10 Current Trends in Early Childhood Education: Literature Review and Resources for Practitioners* (T21-008). Newark, DE: Center for Research in Education and Social Policy.

other resources for parents and children, to "*accelerate math learning.*"
https://www.mathjr.org/products

❖ **Early Partners**: Recognizing the importance of early childhood education for both kids and parents, Early Partners seeks both to provide equitable access to high-quality early childhood education for all children and to support their teachers and families. This program's core values include: learning, kindness, creativity, teamwork, and responsibility. Early Partners currently operates as a non-profit, employer-based childcare center with a family academy component to support parents. **https://earlypartners.org/**

❖ **Family Literacy Empowerment Program (FLEP)**: Focused on supporting children and parents to develop pre-emergent literacy skills, this program conducted workshops (prior to Covid-19) addressing pre-emergent literacy skills. FLEP also sought to reduce stigma and notions that "*low socioeconomic minority parents…don't care about literacy skills.*"

❖ **Training Grounds Inc.**: This non-profit organization helps families and professionals to understand the development of children aged 0-5yrs. The program provides a free We PLAY Center and parent workshops as well as fee-based professional workshops. The program often works with foster care parents, as well as parents and professionals, all of whom can benefit from understanding typical developmental milestones, and how children, including those that are on the autism spectrum, might be different.
https://www.mytraininggrounds.org/home

❖ **Cognitive ToyBox**: This venture is a unique school-based assessment platform for teachers; it includes technology-, observation- and game-based elements, seeking to make childhood assessment more efficient and effective. **https://www.cognitivetoybox.com/**

Findings

Alumni identified four ways that 4.0 contributed to the launch of their ECE ventures, and to their development as a founder. First, alumni reported that **4.0 was the first funder for the majority of ECE ventures**, and was vital to the launch of their ventures. Second, alumni shared that they value **4.0's curriculum approaches that emphasize high-quality constructive feedback from peers, coaches, and 4.0 staff**; alumni further shared that the time spent thinking about feedback and learning the process to obtain it were both also exceptionally valuable. Third, ECE venture founders found that **coaching is critical to the 4.0 process** since the relationships built with their coach, both in and out of formal training sessions, contributed to their success. Related to the role of the coach is the broader role of the community in supporting young founders; accordingly, alumni

identified that the final contribution from 4.0 was the **strong connection to, and support from, the 4.0 community**. For some alumni, these connections enabled future funding.

Recommendations

This review identified three recommendations for 4.0 to consider. First, is to continue to support and build on the ten early childhood education areas identified as emerging trends in the ECE literature. Second is for 4.0 to continue providing resources and support specifically for ECE ventures. Last, 4.0 should continue to match coaches and fellows with overlapping topic areas of interest.

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4.0 SCHOOLS: EARLY CHILDHOOD EDUCATION PORTFOLIO, CASE STUDIES, AND INTERVIEW RESULTS

INTRODUCTION

Innovating new approaches to support children and families during the early childhood years is a strategic priority for 4.0. Indeed, the benefits of high-quality early childhood programs are well established. Research has shown that children exposed to well-designed and inclusive resources in their early years benefit from improved educational outcomes, increased earnings over their lifetimes, reduced exposure to crime, and improved longer-term health as adults[3].

While the primary beneficiaries of many early childhood education (ECE) programs are children and their parents, the reality is that economic and social benefits improve outcomes broadly, reaching far beyond the family or household and into the community. High-quality daycare is one example. As the University of Pennsylvania's Center for High Impact Philanthropy describes in their toolkit and online resource portal[4], a parent's access to a safe, educationally rich place to leave his/her child both provides the child with a wide array of learning opportunities and enables the parent to further their own education or take on employment. The collective benefit of such programs create life changing synergies in communities, benefiting taxpayers as well as all levels of government.

This report: describes the types of ECE ventures 4.0 has funded; demonstrates how 4.0 has contributed to ventures' growth; reflects on how these efforts align with trends in the field[5]; ands provides findings and recommendations to help 4.0 continue to support ECE ventures. Specifically, this report begins with a summary of ECE projects funded by 4.0 and provides five case studies that enable a deeper understanding of the work.

METHODS AND DESCRIPTION OF VENTURES FUNDED

This report contains data from several sources, including ECE venture reports from the alumni survey and portfolio database, as well as a sub-sample of alumni interviews completed in

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[3] Campbell, F., Conti, G., Heckman, J. J., Moon, S. H., Pinto, R., Pungello, E., & Pan, Y. (2014). Early childhood investments substantially boost adult health. *Science (New York, N.Y.)*, *343*(6178), 1478–1485. https://doi.org/10.1126/science.1248429

[4] https://www.impact.upenn.edu/early-childhood-toolkit/why-invest/what-is-the-return-on-investment/

[5] See McCallops, K., Karpyn, A., Klein, J., & Jelenewicz, S. (April 2021). *10 Current Trends in Early Childhood Education: Literature Review and Resources for Practitioners* (T21-008). Newark, DE: Center for Research in Education and Social Policy.

March 2021. Of the 602 ventures contained in the portfolio database[6], 43 fell under the "Organization: Theme" area of ECE and 36 were ultimately confirmed as ECE ventures. Once more detailed descriptions of ventures were gathered and reviewed, the ventures were classified according to the types of activities they sought to undertake described as follows and in Table 1 (next page):

> (1) eight ventures were school- or childcare center-oriented

> (2) 16 ventures represented a variety of non-school or center-based programming, including those with an emphasis on science, technology, engineering, and mathematics (STEM)/science, technology, engineering, art, and mathematics (STEAM) (n = 6); literacy (n = 4); social emotional learning (SEL) (n = 1); foreign language (n = 2); mentoring (n = 1); problem-based learning (n = 1); recreation (n = 1). Another category of ECE-focused ventures

> (3) eight ECE-focused ventures supported training for teachers and/or caregivers

> (4) four ventures targeted a new assessment tool, food distribution, networking, and other wrap around service provisions

It is notable that approximately two-thirds of the 36 ventures align with one or more of the ten current trends in ECE best practices as reported in, *Ten Current Trends in Early Childhood Education: Literature Review and Resources for Practitioners*[7]. These trends are: Mindfulness, Nature-Based Early Childhood Education, Social-Emotional Learning, Technology-Based Learning, STEM/STEAM, Early Language and Literacy Development, Culturally Responsive Teaching Practices, and Approaches, Child-Centered Instruction, Developmentally Appropriate Practice, and Family Engagement.

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[6] The following sources were reviewed: *Program plan doc, 4.0 Early Childhood Portfolio, New3102019Master4.0, completed 2020 alumni survey and Spring 2018app, and internet searches (i.e. websites, LinkedIn pages etc.).*

[7] McCallops, K., Karpyn, A., Klein, J., & Jelenewicz, S. (April 2021). *10 Current Trends in Early Childhood Education: Literature Review and Resources for Practitioners* (T21-008). Newark, DE: Center for Research in Education and Social Policy.

Table 1. Proportion of Funded ECE Ventures, 2013-2021 by Category

Category	N (%)
School or Childcare Oriented Ventures	
Early Childhood Center	6 (16.7)
School	2 (5.6)
Subtotal	8 (22)
Ventures Initiating Special Programs	
Program – STEM/STEAM	6 (16.7)
Program – Literacy	4 (11.1)
Program – Academic/SEL	1 (2.8)
Program – Foreign Language	2 (5.6)
Program – H.S. Mentoring	1 (2.8)
Program – Problem-Based Learning/SEL/Environmental	1 (2.8)
Program – Recreation	1 (2.8)
Sub Total	16 (44)
Ventures Initiating Training	
Training – Caregivers/Teachers	1 (2.8)
Training – Caregivers	5 (13.9)
Training – Teachers	2 (5.6)
Subtotal	8 (22)
Other Services, Including Wrap-around	
Wraparound services (Adults); Childcare (Sec)	1 (2.8)
Food distribution/Nutrition ED – Parents	1 (2.8)
Assessment tool	1 (2.8)
Networking	1 (2.8)
Subtotal	4(11)
Total	**36**

In order to best understand the ways in which 4.0 supported ECE ventures and the entrepreneurs that launched them, we also conducted six interviews with founders of five ventures, one of which had two co-founders. Interviewees represented a purposeful sample of ECE ventures that were identified from the 2021 alumni survey responses and that captured the breadth of

ventures as previously described and in Table 1. Interviewers asked about a range of topics including the current status of their venture and to reflection on the ways in which 4.0 supported them. These data were then combined with data from the alumni survey and database for inclusion in this report.

We offer more comprehensive look at these ventures through case studies, and note how they align with current ECE trends.

CASE STUDIES
MATHEMATICIAN, JR.

"People cuddle up…and read with their children starting with a young age but nobody cuddles up and does math." ~ Founder, Mathematician, Jr.

Recognizing that for many, the idea of math instruction is laden with poor experiences, Mathematician, Jr. works to provide a novel tool, along with other resources for parents and children, to "*accelerate math learning.*" The program is tailored specifically for African American children aged 3-5 who are homeschooled. Work on the venture began in 2017 and officially launched in October 2020.

The idea began after the founder, an athlete at the time, spent a summer in Japan. There they witnessed children doing "*big math*" at very young ages. Upon further reflection on their own experiences with math and concern for their own children, the program was born.

As the founder noted, "*It was my fear for my daughters having the same anxieties as me and my experience in Japan. When you put those two together and you fast forward three years, you have Mathematician, Jr.*"

From this insight was born a tool called the Junior Counter. "*The tool that is the focus of our organization is called the Junior Counter, a modern take on the ancient abacus. So the abacus has been around for thousands of years, there's tons of research…we haven't created anything new within math learning or development or manipulative. We just made it adaptable, adjustable, progressive, collapsible, expandable.*"

The venture builds on long-established mathematical concepts that foster a deeper conceptual understanding of mathematics, support students' fluency with the concepts, and strengthen their ability to do mental math. "*The established benefit behind the use of the abacus is*

not only computation and math mastery but mental math. That's one thing now a lot of our kids just lack," explained its founder.

The program also offers a workbook of concrete activities that enable both parent and child to learn how an abacus works as well as to use the Junior Counter. The venture has also begun to explore new approaches to teaching math including storytelling. As the founder noted, *"It is a very interactive, kind of a story workbook, to just help children develop a positive relationship with math because typically math is just isolated; especially with early literacy, we're trying to change that paradigm and give parents resources and tools…to incorporate math into their lives and make math fun and…less of a structured, isolated subject."*

In alignment with trends in ECE best practices, this program offers a unique approach to supporting STEM/STEAM development with Culturally Responsive Teaching Practices, Child-Centered Instruction, Developmentally Appropriate Practice, and Family Engagement.

For more on Mathematician, Jr., check out their website at:

https://www.mathjr.org/products

EARLY PARTNERS

"There is a path to a more equitable New Orleans and we have it. We view early childhood as a foundational period for both kids and their parents, and that will carry them through for the rest of their educational careers." ~ Founder, Early Partners

Recognizing the importance of ECE to both children and parents, Early Partners seeks both to provide equitable access to high-quality ECE for all children and to support their teachers and families. The core values of the center include: learning, kindness, creativity, teamwork, and responsibility. The program's target audience is infants to three year olds and their parents.

As a teacher and school leader in K-12 charter schools, the founder came to the idea after a reflective moment, realizing "*We are doing this all wrong, devoting all of our capacity to children's' education too late*." Out of concern for New Orleans school reform and seeing "*shockingly inequitable, early childhood education and childcare in the city*," the founder described a need to focus less on high school, which they considered a "*bandaid for kids and communities until we tackle early childhood*."

Since its inception in 2016, the program has pivoted several times and taken a few different forms. What began as a corporate for-profit childcare center was later turned into a benefit corporation, and is now a non-profit, employer-based child care center. In the coming year, Early

Partners will launch a year-long pilot for two preschool classrooms that will incorporate a child-centered approach as part of their high-quality education model. In addition, the center will have "*a really strong focus on teacher professional development and ongoing coaching*" and will support "*working parents, who are all in the same place.*"

Furthermore, the center plans to pilot the Parent Family Academy whose goal is to provide "*weekly workshops with parents around developmentally appropriate practices, around parenting, parenting workshops but also around knowing how to navigate educational systems and leadership and advocacy training so that we can really view early childhood as a foundation for both kids and parents before they move into the K-12 system.*" The Parent Family Academy also seeks to empower parents with four guiding questions or areas of emphasis:

1. Know the bar for excellence and understand what your child deserves.

2. Be able to diagnose the gaps in programs or services that your child needs or deserves, as compared to what they currently have access to.

3. Understand how to navigate broader systems, including helping parents think about how they effectively address needs in complex educational systems.

4. Advance parents as leaders and advocates so that parents have the skillset to really empower their own communities.

While still developing, the program offers strategies for child-centered instruction and targets developmentally appropriate practice by working with families and children via a robust family engagement strategy.

For more on Early Partners, check out their website at: **https://earlypartners.org/**

FAMILY LITERACY EMPOWERMENT PROGRAM

"We started a venture to help parents know how to help their child master pre-emergent literacy skills, so they will enter K-4 on level or above." ~ Co-founder, Family Literacy Empowerment Program

The Family Literacy Empowerment Program (FLEP) was founded by two retired literacy coaches. Throughout the years, "*we [the Co-founders] noticed working with teachers and parents that a lot of our students in the area we worked in, that I worked in, a lot of our low socioeconomic students who were entering K-4, did not enter with those pre-emergent literacy skills.*" One of the Co-founders

went on to explain "*we decided that we would start a venture working with parents on how to prepare their child when they enter pre-K, Kindergarten, to be successful in school.*"

FLEP was started in Fall 2019 and is tailored for three and four year olds. Prior to COVID, FLEP held in-person workshops with parents. Through strong partnerships with schools, the program identified parents who had children in the target age group and were able to use the schools' facilities. "*As we met with the principal, we would go and she had the parent liaison pull files on families where they know they had children that were upcoming to enter their K-4 program and hadn't started to read yet, so we wanted to find those key parents of those three-year-olds and four-year-olds.*"

At the workshops, parents receive helpful information and materials to equip them with the knowledge and skills to work with their child at home to develop pre-emergent literacy skills. One of its Co-founders stated, "*We supplied all the materials. We would model the strategy during the workshop, have parents at tables where they could practice the strategy. They would demonstrate the strategy for myself and the other coach, so they would know how to use the materials and then they would have to provide, take pictures or small recordings at least once a week of them working with their child. They had to bring artifacts that we would have saved to inform their practice so we would know exactly what they were doing. We had question and answer times if parents didn't feel comfortable or needed more clarification on a short phonics strategy or a phonemic awareness activity or strategy, we would make sure we cover all our bases so they could be very comfortable in doing this at home.*"

In addition to their workshops about pre-emergent literacy skills, the FLEP Co-founders also want to reduce stigma and notions that "*low socioeconomic minority parents...don't care about literacy skills.*" By having the workshops in the schools, it provides a space for parents to feel like "*you're welcome here [in the school]*" and an opportunity for principals and teachers to get to know the parents.

TRAININGGROUNDS INC.

"*Literacy is all good...we understand the importance of it...but if you don't understand child development, then you're kind of putting the cart before the horse.*" ~ Co-founder, TrainingGrounds Inc.

TrainingGrounds is a non-profit organization supporting families and professionals to understand and foster child development through three primary pillars of service: (1) the We PLAY

Center, (2) parent workshops, and (3) professional workshops. Through their work, "*97% of [their] families report that they feel more supported in their role as parents...and as their child's first teacher*" and "*feel less parental stress as a result of coming to the center.*" The services offered to families are free of charge and the professional workshops are revenue-based. The program is designed for children ages birth through five.

The organization was born when TrainingGrounds' co-founders, then working on a project for Early Head Start, recognized a pressing need in their community for coaching around developmentally appropriate behavior. They opened the We PLAY Center in 2017, where "*...parents get to talk to parents, and there's parent educators on staff. We're there on the floor modeling engagement behavior with toddlers and babies to answer questions, interject, and have a coachable moment when the time arises which is all the time. We can coach parents and redirect children in a very supportive way.*" The Center acts as a "*community gathering place*" where parents from "*different ethnic backgrounds, different socioeconomic status*" are building community behind their children.

In addition to the We PLAY Center, TrainingGrounds offers parent workshops that have transitioned to a virtual model since the pandemic began. These workshops are taught by parent educators "*on a variety of different topics...based on what we saw in the center or based on the request of the parents...based in brain science. We're constantly putting it in terms so all parents can understand what's happening with their children's brain and understanding the brain science behind the behavior.*" Professional workshops are also offered to a variety of stakeholders such as Early Head Start centers, the criminal justice system, and the Department of Education.

TrainingGrounds' programming is driven by the unique needs of caregivers and families. Their most recent initiative utilizes the We PLAY Center to support their first group of parents with children under the age of five who are showing symptoms of autism or have already been diagnosed.

Together these approaches: recognize the importance of social-emotional learning in all its forms, support early language and literacy development, implement child-centered instruction, and advocate for developmentally appropriate practices at home and in the classroom. Further, the approach fully recognizes the importance of the family as powerful advocates for the child, and maintains a strong emphasis on family engagement.

For more information on TrainingGrounds Inc., visit their website at:

https://www.mytraininggrounds.org/home

COGNITIVE TOYBOX

"I think our platform does provide a lot of aha moments for teachers. What Cognitive Toybox allows [teachers] to do is to get another source of data to then understand [a child's] developmental levels." ~Founder, Cognitive ToyBox

Cognitive ToyBox seeks to make early childhood assessment more efficient and effective for teachers and students alike through a "*technology based, observation based, and game based assessment platform."* What first began as a learning game app created for home use by parents eventually transformed into the school-based assessment platform for educators that it is today.

The inspiration to create this platform came from the founder's graduate research focusing on how research and technology could better support early childhood educators in the classroom. Given the time consuming nature of solely observation-based assessment, the high rate of teacher turnover, and the amount of non-actionable data, the founder saw an opportunity to find a way to use assessment data to inform instruction on an ongoing basis while saving teachers valuable time.

The solution was a series of child-directed, developmentally appropriate assessment games that "*[enable] children to show to teachers what they [know] and what they didn't know through the medium of games*" while also giving "*teachers an additional source of information to understand children's development.*" Whereas teachers may have assumed a child is language delayed by using an observation-only assessment approach, Cognitive ToyBox's combination of observation and game-based assessment tools allowed teachers to understand that the child could actually be "*on par in terms of language development through our vocabulary assessment app...and a math whiz. Based on that, this is a real story, they actually did regroup her from one group to another so that she was more properly supported for her developmental levels.*"

On average, teachers are saving 50% of their time per week on assessments compared to industry leading assessments and so receive back 100 hours of instructional time annually. In addition, Cognitive ToyBox facilitates a quick turnaround from assessment to instruction and improved child outcomes through "*enhanced instruction and more objective data collection.*" Cognitive ToyBox assessments are sold directly to school districts as well as to community-based organizations. The organization also works with educators and school leaders to teach them to effectively utilize the tool.

As an assessment tool, Cognitive ToyBox addresses educators' wrap-around needs for techniques and curriculum to address learning needs and also provides culturally appropriate

assessment. The approach therefore supports early language and literacy development, and helps teachers to remain child-centered, all while using a culturally-responsive design.

For more information on Cognitive ToyBox, visit their website at:

https://www.cognitivetoybox.com/

FINDINGS: HOW 4.0 INSPIRED ECE VENTURES

These case studies are reflective of 4.0's strong and growing portfolio of ventures. As an organization created to support entrepreneurs and the ventures they develop, a critical question in the venture formation is, *what role did 4.0 have in their development?* We answered this question using a thematic analysis of alumni interviews as well as examination of related alumni survey data. We found that 4.0 had a critical role in each of the organization's four key support areas: cash, curriculum, coaching, and community. Results are presented accordingly, in the sections below.

CASH

FINDING 1: 4.0 WAS THE FIRST FUNDER FOR THE MAJORITY OF ECE VENTURES AND WAS VITAL TO THEIR LAUNCH.

Even though initial funding is smaller, alumni report that these funds were critical to launching their first pilot. The funds 4.0 provided enabled projects to bridge important gaps in resources (e.g., books, modest supplies), and enabled project leaders to build foundational relationships with community leaders and others with resources to bring to the table. As intended, the seed money worked for most as just that. As noted later in this section, projects further described how the initial funds enabled future investments from other funders.

> "*Yes. [4.0 was] my first and only funder. Without the support, I would not have been able to do it as adequately without the funding, because along with that, every workshop we did we tied it to a book...So, I probably would not have had the funds to purchase the books. And we had money for breakfast or drinks for parents when they came. We took that money and bought more materials for the parents. So we had a lot of fun. And, eventually, I had to open it up to another school and we were able to maybe provide some of the materials that we had left for the parent liaison who helped us. What they did, they put it in their parent resource center so that the parents who did not attend could come to the resource center and check out some of the materials.*"

"It was kind of like their funding and their fellowship. That whole process was the seed money for the school."

Further, Alumni noted how receiving funding from 4.0 led to more funding opportunities that would otherwise not have been possible:

"It was a lot easier with that $10,000 start. That led to other things. And I think also having gone through both 4.0 and Propeller as recognizable entrepreneurial startup programs gave us a little bit of leverage as well. And then 4.0 led us to going to Camelback which came with even more money…$40,000. And from Camelback we've been able to make connections with other funders."

"What is really unique about 4.0 and valuable is they fund the pilots when no one else will give you money to fund a pilot which then helps you have fodder for other funders to say no, I ran this pilot."

CURRICULUM

FINDING 2: ALUMNI VALUE 4.0'S CURRICULUM APPROACHES THAT EMPHASIZE HIGH-QUALITY CONSTRUCTIVE FEEDBACK FROM PEERS, COACHES, AND 4.0 STAFF.

Alumni discussed how a major strength of 4.0's curriculum is the hands-on approach to vetting ideas. Founders appreciate that, as a core part of the process, they receive constructive feedback from a variety of sources; one alumnus referred to the process as a "constant feedback loop." Furthermore and for many, the experience was their first time pitching their venture ideas to others outside of their area of interest/specialty, and the experience provided a unique and valued space to receive feedback. The synergy and collective dynamic that was fostered as part of the process encouraged entrepreneurs to think beyond their concept and to feel part of an important movement where they were accepted as valued and important.

As additional evidence of the value of 4.0's curriculum, many alumni indicated that they still have their notes from the trainings. Others indicated that the empathy interviewing exercises contributed to their venture and to themselves as founders. Last, alumni suggested that more business-specific content could be appropriate for some, particularly those that plan to rely on income generation as a core strategy.

Below are examples of how alumni perspectives on 4.0's curriculum, with particular emphasis on feedback from peers, coaches and staff.

"Being in a room with other founders, with other ideas all at different stages, that was huge, because as a classroom teacher these people are not in my circle and it's beneficial to get into the circle, so being accepted, it's a message of, 'You have some validity in what you're trying to do,' and on top of that, they take you through not just a process for your pilot, but really having to identify your assumptions and reflect on this idea. In a lot of ways that was beneficial internally and externally."

"Being very reflective, not assuming that we were a non-profit and we had to go through this particular scale. They do have a way of doing things, but they also have a way of gauging. Did I hear you accurately? Is this what you were telling me? This is how I'm reading this, is this what you wanted your user to get from your venture? And if not maybe we need to dig a little deeper. And then giving you that support to do that. And I really liked the fact that we're coached by other people who've been through it."

"And then, that was the first time that I pitched, that I had a conversation with anybody about my idea outside of in my house or outside of business accelerator coach...a whole confidence booster of just talking about my venture in public. Articulating what it is, what I want to do, how I want to do it, what I plan on doing, who I plan on targeting, getting just the vocabulary and just speaking up about it enough that I find my own words and don't kind of trip over them."

"It's so important to get feedback from people outside of your circle and one thing you get from 4.0, is like this constant feedback loop and you get feedback from your smaller team, you get feedback from your coach and the feedback is not always pretty but...if you're serious about your venture, it's feedback that gets you to a natural next level."

"I can't point at a specific time when that's impacted me, but just the overall framework of building on someone's work and the importance of really listening is something that I've continued to take with me."

"4.0 did a fabulous job with us. And the fact that they took two days to answer all the questions that we had about what we were going to do."

One alumnus discussed referring to 4.0 resources while coaching new fellows:

"I still have all my notes from 4.0...I think I brought him when we coached and I was like, 'Look you all, I'm telling you. We might think that this exercise really is just an exercise but I kept mine. I have all my sticky notes when we had to do sticky note activities of who our users were and really map.' As a new entrepreneur I'm old school in education, but being new as in the entrepreneur space helped me think through things in a very different way."

Alumni also valued 4.0's commitment to facilitating wide-ranging conversations about acknowledging privilege, identifying their own assumptions and biases regarding the community with which they work, and advocating for empathetic approaches to designing ventures:

"There's so much conversation around privilege and how we label our audience... Are we going to call them users? Are we going to call them children? Instead of saying, 'Ah, I have this such and such and such failure rate.' Well let's not call it a failure rate. Let's just say these are children achieving differently. So in terms of the vocabulary and perspective and how we kind of label things, it definitely professionally has made me more conscientious. They advocate for us to be humane and empathetic with the people who participate in our pilots and they demonstrate that through their modeling and how they are with us."

"The feedback they gave us when we had 4.0, we would have different coaches from 4.0, we'd go from coach to coach, to coach. And they would give us great feedback on how we were going to implement these workshops. What do we need to look at? Gosh, and make sure that the focus is on the result. In that, the parents see, a lot of focus was given to our stakeholders, which were the parents and our kids. How do we make sure that they feel comfortable and accepted? So like I said, we had some biases, we thought we didn't have that. We found out that we did have, that we had to kind of work on those, getting rid of those biases. So parents wouldn't pick that up from us."

However, some alumni felt there could have been more information and support around developing a business and collecting data collection:

"*I would say that my biggest challenge was, I was an educator who wanted to create a new school, a new way of presenting education. I don't have the business background. And so I feel like that would have been a great place to get even more support. If you assume everybody in the room is a teacher and has no background in business whatsoever, how are you going to do a business for dummies, almost. I think that would have been helpful because when we were starting, we had a hard time trying to decide if we were going to be an LLC or a nonprofit, and what were the pros and cons. So those kinds of conversations, I think it would've been helpful to have workshops on, or just things that may have explained the more mundane, basic business practices.*"

"*We did a lot of work online and virtually before we got to New Orleans that would prepare us. But one of the things that I found that did not prepare us for it, and I noticed that when we had our call-in with our coach, one of the things that I thought we could have been trained a little bit better in was Qualtrics. I knew my community. I knew what the need was. So, I didn't have an issue there. We know how to talk to parents. We did that for years. I had 33 years in this thing. But, the piece that I found that was needed the most was the data collecting piece. That was the only thing.*"

COACHING

FINDING 3: COACHING IS CRITICAL TO THE 4.0 PROCESS AND ALUMNI VALUE THE FEEDBACK THEY RECEIVE

Alumni reported having meaningful experiences with their coaches both during the training weekend and afterwards; they further emphasized that their experiences were especially valuable when the coach was knowledgeable about their venture topic area:

"*And the beauty of this entire venture, for me, was the fact that there was another ELA [English Language Arts] lead who had gone through this process before. So, when I needed someone to read what I was going to turn in, my program, my venture, all that, she was right there for us. She said, 'I'll read it for you if you need any help.' So, of course, you know I took advantage of that.*"

"*One of the first things that you do is go down to New Orleans to their headquarters and we have a bootcamp. Nine hours a day over the course of like two and a half days and [our coach]*"

is with us, kind of helping us do our thinking process. I had monthly calls with [our coach] leading up to the bootcamp and throughout the pilot. So [our coach] was there and [our coach] had done her own pilot some years ago. So she's really a great point of contact for several things. Also just to help us, connect me with somebody in the 4.0 establishment if I have any questions for that."

"She [my coach] was an early childhood specific person which was totally a game changer. She came and another leader at 4.0 came [to my pilot] which was also just super useful, to have them give feedback in the beginning and then give me a chance to implement it, and then see what the end looked like. I think it helped develop my own sense of efficacy and also helped because their feedback at the beginning of the pilot was no longer relevant because it had been implemented. And so them giving feedback on the sort of next stage was really amazing."

"I got actually a really great coach, and I met with him on maybe a monthly basis. We just went through the challenges that we had. He helped me think through a framework on how to go to market."

COMMUNITY

FINDING 4: ECE ALUMNI FEEL CONNECTED TO AND SUPPORTED BY THE 4.0 COMMUNITY.

ECE alumni discussed how a major strength of 4.0 is the community that the organization fosters. They described specific ways that they continue to be supported by 4.0 and other alumni:

"I would say definitely one of the biggest strengths is just honestly the community that they created. Having people that you could reach out to, if you had questions. People who would give little talks that would explain taxes and stuff like that."

"You're getting constant information with resources and grants and not just only external grants but internal grants. Another thing, we have check-ins, quarterly kind of alumni Zoom calls and there's usually some topics to discuss but it's always good to see somebody from your cohort. For example, last week there was a Zoom call about diving into your new normal data. We absolutely did [meet as a group], you've exchanged social media handles, and you really are kind of staying in with what your group, what your team members are doing. So it's particularly nice when you launch something or they launch something, getting that kudos

from them is really special because we all know where we were in 2019. So we definitely stay connected."

"When I tell people how this school got started, they're shocked to even hear about a program that's promoting new, innovative ideas and education here in New Orleans. You know, it's just a really beautiful thing to have a community [4.0] that's willing to listen to you and support you and help you flesh these ideas out."

"The community that came out of 4.0, it continues to be useful to me to this day. And there are few contexts when I'm like for example, I don't know how to set up a nonprofit but I know people who do, right? And so I have a support call with people who I met through 4.0 on Monday. And they've been really useful in connecting me with different people and always are very responsive in that regard."

"There are certain things that are really useful. So like they send out a newsletter that has funding opportunities. And then I can go out and apply for them. They provide coaching, I just got coached on or just got feedback on an application - someone from 4.0, went through and gave feedback. That was awesome. That was really awesome. And so that didn't, from what I remember, exist right after I had finished. And so those are things that have been added recently. And so then the showcase would be sort of a more immediate step afterwards, but there are other things that are happening too that are useful for sure."

"Because I think they're a close-knit smaller group that didn't have as many so that the ability to really connect with it. If we needed to talk to a 4.0 leader, you could just call them and we were able to schedule a time to meet with them. And you felt like they were really vested in what was going on with you and your organization...that was really important that we knew that they were pulling for us from day one. We've done webinars with 4.0. They've invited us back to host webinars with them about ECE, and how to apply, and the benefits for the ECE program."

"I was able to connect with a lot of budding education entrepreneurs. That was probably the thing that was most valuable, really starting to build my community of education entrepreneurs."

Through 4.0s continued support, alumni have also accessed additional funding opportunities that otherwise would not have been possible.

"I think the most helpful thing honestly, has been the ongoing community around 4.0 and their continued support. I can point to many instances where 4.0 was really helpful to me. For example, our first school customer was in North Carolina, our first school district customer was in North Carolina and that was made through an intro 4.0 had made. A 4.0 leader had made an intro to the Mebane Foundation and the Mebane Foundation still to this day, for the last, I think we're in year four now, funds our work with Davie County Schools, which is one of the school districts that they support in North Carolina. That piece was transformational. I think that came outside of the construct of either Essentials or Tiny. I think the president of the Mebane Foundation continues to collaborate with 4.0 to try to find, I think he said like, 'Can you find me more educational technology entrepreneurs like her that I can invest in?' He's told me that before."

RECOMMENDATIONS

The following are three key recommendations for 4.0 to consider; these emerged from analysis of both venture data and the 4.0 ECE alumni interviews.

RECOMMENDATION #1: CONTINUE TO SUPPORT AND BUILD ON THE TEN EARLY CHILDHOOD EDUCATION AREAS IDENTIFIED AS EMERGING TRENDS IN THE ECE LITERATURE.

Earlier in this report, and as reported elsewhere, ten research-supported focus areas in ECE were identified and described. While these are certainly not the only ECE strategies guided by a strong research foundation, they do represent a core that could be used as a framework for evaluation efforts and for sharing research best practices with ventures. Analysis of the five exemplar ventures included herein as case studies indicates that each typically incorporated several of the ECE focus areas. For example, Cognitive Toybox is a technology-based venture, but the founder also credits their success to staying child-centered and having a culturally-responsive design. Similarly, the Family Literacy Empowerment Program was successful because they not only

focused on early literacy development, but also sought to engage children's families at the same time.

While knowledge of the ECE focus areas could be used to develop exemplar programs, these focus areas can also be utilized to identify future ventures and/or to modify current ventures. For example and while a good number of ventures focused on early language, literacy, child-centered instruction, or developmentally-appropriate practices, fewer ventures focus on areas such as mindfulness and nature-based early childhood education.

As discussion of best practices and research findings expands, it may also be an opportunity to advance alumni understanding of data collection strategies that could help support their venture growth. Alumni noted how some of the challenges they experienced in launching their ventures were around emerging skills such as data collection.

RECOMMENDATION #2: CONTINUE PROVIDING RESOURCES AND SUPPORT SPECIFICALLY FOR ECE VENTURES

Early childhood ventures offer unique challenges and opportunities when compared to programs geared to traditional school age children; accordingly, 4.0 should consider providing supports tailored to these types of ventures. One notable challenge is funding. Where programs for students in grades K-12 often are supported by local school districts or non-profits, ECE ventures often have difficulty in obtaining monetary support as summarized by one ECE founder:

> "[4.0] had only started to prioritize it [early childhood education] when I got rolling. And so I'm curious to know if they have upped the resources there, but I think viewing early childhood in the K-12 framework is fundamentally wrong. That's fundamentally flawed because the supports that are required for early childhood are in terms of on the business side are completely different because the revenue streams are different, access to capital is different. The way that we recruit is different, it's just there are so many layers. So I think that seeing that as a separate piece of the puzzle would have been really valuable."

RECOMMENDATION #3: CONTINUE MATCHING COACHES AND FELLOWS WITH OVERLAPPING TOPIC AREAS

Alumni talked about how their experiences with their coach were especially valuable when the coach was knowledgeable about their venture topic area. When possible, 4.0 should match coaches and fellows whose topics and areas of expertise overlap. These commonalities are vital to

ventures' success beyond the training weekend – this is when alumni continue to develop and improve their ideas and so feedback on the next iterations of their venture is critical.

CONCLUSIONS

This analysis shows that 4.0 has fostered a wide variety of ECE ventures through their novel support model that: provides the necessary funding to start a venture (cash); provides the necessary background for founders to achieve success (curriculum and coaching); and, introduces founders to individuals who help facilitate the lasting success of the venture (community). The most exemplary 4.0 ventures were found to display features of at least one of the ten ECE focus areas shared in earlier research. While most of the ten ECE focus areas were addressed by past or current 4.0 ventures, there does appear to be a need in more programming focusing on mindfulness and nature-based learning.

Additional results from our analysis find that 4.0 ECE alumni deeply value 4.0's approach to feedback. Specifically, alumni point to 4.0's emphasis on high-quality constructive critique from a variety of stakeholders. Furthermore, coaching was found to be a critical aspect of the 4.0 model. ECE alumni reported incorporating feedback they receive during coaching into the development and operation of their ventures. It is also notable that 4.0 was reported to be the very first funder for a majority of the ECE ventures. Finally, alumni reported that they feel connected to and supported by the 4.0 community.

In closing, 4.0 was found to be an essential element in the five exemplary programs discussed in this report. The value 4.0 provided to these alumni is summarized below; where various ECE founders were asked to share where their venture would be if 4.0 never existed:

"4.0 gave us a skill on how to layout our program. How to look at our program, how to make sure that our workshops focused on what our grant said we would be focusing on. So they gave us some... It wouldn't happen without 4.0."

"Had it not been for 4.0, I don't think I would've had one interaction with a customer, one sale. I would never have 3D printed the first batch. I probably still would've been working on the design...I never would have had the motivation to go out into the community and say, 'Hey people, I need you to bring your kids and let's see if this thing is beneficial.'"

"I mean, I wouldn't be the director of a program without them. They helped me get to where I am right now, just through their support and their information."

"I don't know, maybe nowhere to be honest. I think that the conversation and I tell [a 4.0 employee] this all the time and you should tell him too. But the conversation with him and that invitation to apply for the fellowship, that took something that was in my head and made it real. And without that, I probably would have started in elementary school. That's actually probably where I would have gone."