From the Editor

‘There is a vast body of research on the neuroscience of learning, conditions that foster learning, how knowledge is acquired, and ultimately what are best pratices in education.’

‘So why isn’t there an enthusiastic rush to apply what we know works? ... Why can’t we pivot to a model of education that aligns with our needs?’

These intriguing sentences are from the article ‘A Curriculum for the New Era of Progressive, Self-Directed Learning’, written by Dr Michael Finnegan for Childhood Educational International (May/June 2022). Finnegan provides a thought-provoking piece which challenges us to reflect about our own practices in our centres, in our conversations with staff about our programme/s, or, whether we are comfortable or maybe comfortably stuck in a rut without realising it? Are we at any crossroad such that it may be timely to think about the journey ahead? It is always good to pause and to reflect; Finnegan says ‘The needs of society have changed significantly over the years, and so we must ensure that how we educate evolves to meet the needs.’

The child is in the heart of all that we do and this is a constant reprise throughout AECES’ *Early Educators*. In her reflection of the OMEP Conference, Dr Christine Chen wrote about the keynote speaker’s ‘Early Childhood Education in the 21st century: New Perspectives and Dilemmas’, struck by “the image of the child” with the child’s “participation as a fundamental right and repositioning the child in society”. I wondered if we even value this in our own landscape here and now.

Early Educators is published biannually. This is our 40th issue! We are elated and proud but we also want to be and to encourage vision-seekers, to push the boundaries and not to rest on our laurels. **Yes, indeed, the child is in the heart of all we do!**

Warm wishes

Ruth Wong
Editor

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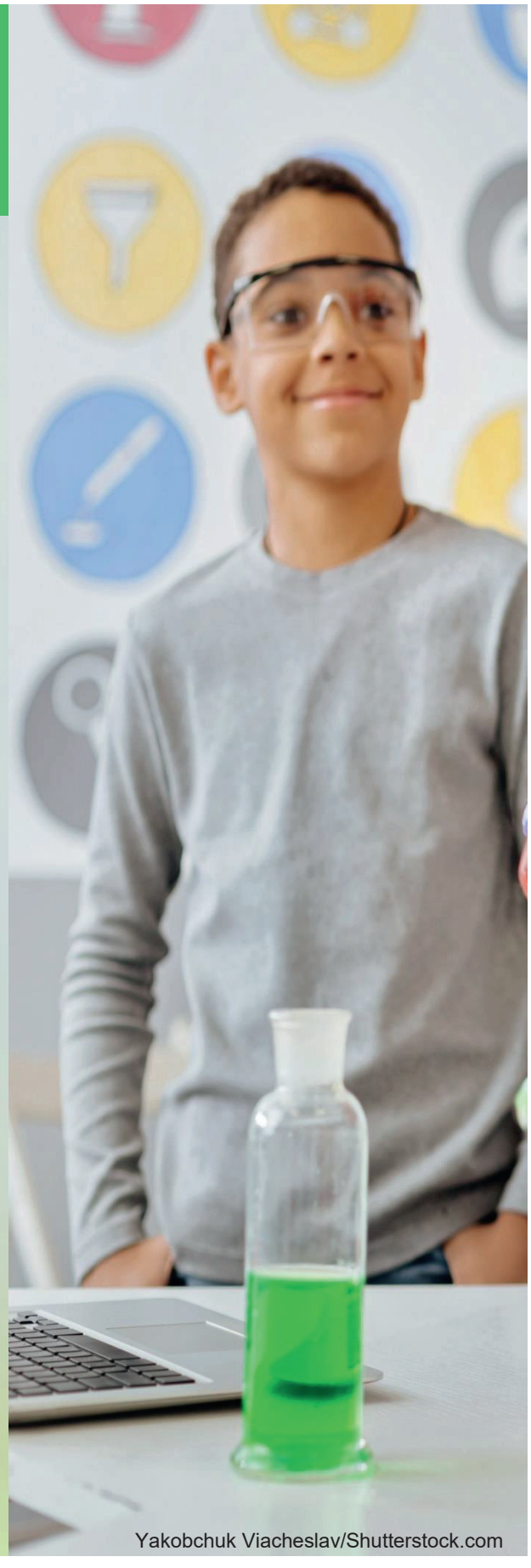
The needs of society have changed significantly over the years, and so we must ensure that how we educate evolves to meet those needs.

A CURRICULUM FOR THE ★ New Era of Progressive, Self-Directed Learning

Michael Finnegan, Ph.D.
QuantumCamp Inc

There is a vast body of research on the neuroscience of learning, conditions that foster learning, how knowledge is acquired, and ultimately what are best practices in education. This work has generated very clear mandates on how to set up schools and how to structure lesson plans for children.



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So why isn't there an enthusiastic rush to apply what we know works? Education systems worldwide are stuck in a model of education in which the students who most closely follow orders and directions get the highest reward. This system certainly worked to build up industrial societies by preparing millions of workers for the assembly line or middle management. But the post-industrial world is asking for something more, something different, and actually something better - things like creativity, problem solving, ingenuity, inventiveness, and collaboration.

Why can't we pivot to a model of education that aligns with our needs? The answer is actually frustratingly simple, if that makes sense! The problem is we haven't designed the right tools to make it happen, specifically the right kind of curriculum to cultivate the skills mentioned above. After all, it is the curriculum (the lesson plans, activities, the things students actually do every day) that is ultimately at the heart of every school.

Let's consider what we know works and how it feeds into the design of the right curricular tools to make it happen for children everywhere.

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We Know What Works

We do know what works. The neuroscience of learning is well understood. And real-life examples of cultural and school-life conditions corroborate the theory. Here is an overview of the definitive findings, broken up into three parts.

★ ***Seeing the School as a Community, Not Separated From It***

The ideal conception of the school is a simplified version of the world outside that serves as a testing ground for children. The world outside is too complex and chaotic for youngsters to discern patterns and make meaning, morally and intellectually. In school, students forge their own culture with others of various backgrounds, inclinations, and presumptions, and thereby learn profound lessons about the greater culture outside.

Here is what works in this regard:

- **Multi-age groups**

Multi-age learning groups foster a collaborative and nurturing environment, while single-age groups promote a competitive environment where students constantly benchmark and compare themselves with each other.

- **Adults are guides**

Adults serving as guides (rather than teachers imposing rules, choosing academic topics, and dictating pacing) allow children to experiment with aspects of culture, considering for themselves the benefits of community norms.

- **The guides connect with kids emotionally and explore ideas together with students**

The guides, nonetheless, are not passive overseers; rather, they continually present ideas, challenge students' assumptions, and suggest new ways of doing things. Further and more importantly, they are experienced and trusted elders (in spirit if not in age) with whom children can form emotional bonds critical for them to confidently and freely pursue their own interests.

★ ***Seeing Learning as a Part of Living, Not Separate From It***

Deep learning, the kind where you totally lose yourself in the moment, often happens organically and rarely when someone else thrusts an assignment on you. As such, the conditions of the school should allow for learning to happen simply because youngsters want to learn and explore. The conditions should allow students to choose what they learn. Practices that stymie students from following their curiosity and pursuing topics of interest (like graded exams) should not play a part.

Here is what works in this regard:

- **Students set their own goals**

Students, with the support of guides, can develop their own academic program and set goals against which only they, themselves are benchmarked. Of course, this is an iterative process wherein students zero in on reasonable plans of action, always working toward maximizing their own potential. Further, it can place curiosity and not a preordained list of standards as the beginning point of academic pursuits.

- **Students advance based on mastery, not age**

Even though goals can be set by the student, judging oneself on progress and mastery (for anyone) is fraught with problems. We all rely on colleagues for feedback and ultimately for the purpose of continual improvement. And that's the key - continuous improvement. The almost ubiquitous practice of grade/age-based advancement (all 5-year-olds are in 1st grade and then all 6-year-olds advance to 2nd grade, on and on) across ALL topics sets up arbitrary gates, eliminating continual improvement. A mastery-based approach based on the goals set by the students themselves, and verified by the guide, facilitates continual self-improvement.

- **Students build their own portfolio of work, rather than receiving a report card of letter grades based on quiz results**

Artists, carpenters, engineers, comedians, thespians, chemists, poets, chefs, janitors, and pilots do not improve their craft based on A's, B's, C's, D's, and F's. No, they advance in their respective pursuits by building up a repertoire of work. Comedians can self-assess based on the laughter of the crowds. Chefs use the volume of satisfied comments from diners. Janitors can literally see and smell the fruits of their labor. You get the idea. Consulting with experts and peers is still necessary. But it is the portfolio of work, the product of work, that can be judged and fed back into practicing for improving. In the same way, students in pursuit of mastery of subject matter content can share their portfolio with peers and guides, which can be used for continual improvement.

- **Students approach topics on a first-principles basis**

The traditional pedagogy (the way subject matter is taught) starts with a list of academic content goals, as alluded to above, chosen by the teacher or, more accurately, by the even further removed political state. The problem is students do not get a chance to discover how this content and knowledge was created in the first place.

It is as if all knowledge has always existed and there was zero struggle to create it! As students struggle to master this knowledge, they feel inferior to those who came before them, not realizing the mistakes, tribulations, debates, wrong directions, mishaps, and oftentimes centuries-long effort to forge the knowledge. A pedagogy of first principles, creating knowledge from scratch, empowers and emboldens students in real time (and indeed equips them to create new knowledge for themselves down the road).

- **Student autonomy, a feeling of competence, and belief in relatedness around academic pursuits all foster intrinsic learning** The conditions that yield intrinsic motivation are well-studied but not universally practiced in most schools. The default, almost ubiquitous, method of getting students to do their work, begrudgingly or not, is grades and rewards and penalties AND the implicit satisfaction or disappointment by the teacher and parent authorities. In other words, motivation is stimulated by carrots and sticks. Yet, we know how intrinsic motivation works and we know under what conditions students will pursue projects and even enter deep states of focus and learning. Those conditions are autonomy, competence, and relatedness:

1. If students have the autonomy to chart their own academic path, they are more likely to pursue it on their own with joy.

2. If students believe they have the competence, the skill set, and experience to succeed, they are more likely to pursue the work with confidence and ambition.

3. If students believe their work is not only related to their lives but also can benefit their community, they will happily pursue their work knowing it may contribute to the greater good in some way.

★ ***Seeing the Study of Subjects as Natural and Normal … and Enjoyable***
At its core, the process of learning (acquiring knowledge) is the forming of generalized concepts in the mind through the process of recognizing patterns. These new concepts then can be tested and applied. The process of learning language as an infant aligns well with this definition. Every time the baby sees one particular face, she hears the word “Daddy.” Eventually, she realizes the sound “Daddy” refers to that face, no matter where they are! And even further, she can test it out to make sure the concept is correct. If the baby says, “Daddy” to her brother and the brother does not respond, it is further evidence that the word really does refer to one particular person.

Here is what works in this regard:

• **Subject matter pursuits emerge from context**

Most academic programs do not provide opportunities for students to look for patterns as the infant does when learning language. A comical way to characterize the current, ineffective process of learning is to imagine teaching a baby the word "Daddy" by pointing to pictures or trying to describe her father. This would be too abstract and outside of any natural context (such as simply being with her father). Sadly, this is the way schools often teach. There is no context, no opportunity for the students to naturally absorb stimuli from their environment.

But there are ways to facilitate learning and actually initiate intrinsic motivation even in the conventional academic subjects - math, history, language arts, reading, and science. The education greats - Maria Montessori, John Dewey, Lev Vygotsky, John Holt, Paulo Friere, and Rudolph Steiner - each make their case for ideal forms of education by asking and attempting to answer these two questions:

1. What should the setting look like to create as much context and rationale for learning?

2. How should lessons be structured to create as much context and rationale for learning?

Montessori extols "great stories" to awaken the child's interest. Dewey leans on the home and community life of the child as the source of subject matter. Waldorf suggests we pull directly from the broad, colorful, imagination of the child and develop subject-matter lessons from there. Regardless, there must be context.

Context can spark curiosity and curiosity is a necessary condition for intrinsically motivated learning.

• **Challenge-based, project-based, and apprentice-based learning are the key modes of pursuing topics of study**

Once there is context and curiosity, however, deep, rigorous learning still will not spontaneously ensue. Guidance and a pathway are needed. This is precisely where schools can implement specific styles of learning, such as challenged/ problem-based, project-based, and apprentice-based learning.

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Note, however, that implementation of these learning modes is not necessarily an imposition, as these methods accord with our natural way of learning. (Suggesting to a child that he experiment with pushing down on the pedal to make the bike go forward is not an imposition, it is just how bikes work!) We naturally want to resolve challenges and solve problems, we naturally do projects to accomplish goals, and we naturally seek out experts to provide guidance. Schools are where these things can happen regularly for children.

- **Students work socially**

Out of these modes, the popular theory of learning known as social constructivism among cognitivists and neuroscientists implicitly occurs. So you don't have to start by asking, "How do we make social constructivism happen?" It just will. Social constructivism suggests learning and knowledge develop out of social interactions. Indeed, problem solving, project work, and learning from experts are all inherently social.

Why Few Schools Do What Works

Even with all of this certainty, the overwhelming majority of schools worldwide are either not privy to these updated conceptions of how learning occurs or not choosing to embrace the ideas and initiate changes. In both cases, schools are not jettisoning outdated (really, never dated!) structures and modes of learning.

There is one simple reason why: The tools to radically alter an entrenched ecosystem established over a century ago do not exist. Or, more specifically, there are no tools to affect the primary activity in all schools, the study of academic topics, and move this activity into alignment with the principles outlined above.

In addition to updating how students should be engaging with academic topics, schools' key

operational elements require a complete overhaul. While a seemingly daunting task, the contention here is that changing the key operational elements is the easy part in embracing change and moving toward a more efficacious way of setting up schools and fostering robust learning communities.

(Note that there are a few operational elements all schools share that may not require any overhauling for transforming learning. These include policies around technology usage, mechanisms and rules for communicating with the parent community, and how to manage the budget and finance.)

The following is a list of key operational elements that do require major overhauling and the simple pathway to radically alter them and thereby bring about the necessary changes:

1. All schools must proclaim a vision. The research is in and the vision of progressive schools that champion self-directed learning all center around the principles outlined above.

2. All schools must outline the roles for members of the community. General prescriptions apply on the roles of the adults, especially guides, to ensure students are learning freely and joyfully.

3. All schools must create a culture. Students can be empowered to form a vibrant, safe, and intellectual rich learning community. This can be done through a number of wonderful and simple ways, including embedded time for things like student councils meetings or morning circle time.

4. All schools must form partnerships with the wider community for apprentice-based learning and service projects. As the school community decides how to incorporate opportunities for students to learn from the world outside, from experts in business, from government officials, and directly from the natural environment, the school leaders simply need to survey the possibilities and build relationships where necessary.

5. All schools must decide on the structure and design of the physical space. While progressive schools embracing self-directed learning must rethink the entire physical space, the pathway to make this change likely comes before the school is running at full speed. In other words, these changes precede the general and ongoing school operations.

No special tools are required for manifesting these key operational components for transforming a school into a progressive, self-directed learning community. Any group of committed school founders or leaders can institute these best practices.

What remains unaddressed is the primary, core activity of all school-engagement with subject matter content. After all, the purpose of any school still comes down to the study of our universe through the window of subject matter content. Even if expecting all students to master adding fractions with unlike denominators at the same time and or expecting all students to master identifying the topic sentence from a snippet of a Shakespearean play at the same time recedes in importance as the primary goal of a school community (which they should), studying math and literature will still be a primary activity of students in schools.

Further, given that many education systems are large and the individuals within the systems, from regional leaders to classroom teachers, face pressures from multiple directions, inertia typically wins. Change is hard.

Currently, learning is managed using the following tools: textbooks, assignment grade books, quizzes, tests, report cards, bell schedules, state and national academic standards, and discipline warning levels. All of these tools perpetuate a top-down management approach.

Currently, the dizzying array of education technology apps and solutions for school management and operation simply make the old ecosystem tools listed above more efficient (they digitize textbooks, track discipline warnings, and report to parents), but do nothing to eliminate the old and ineffective pedagogical approach.

Currently, academic learning software apps, even ones equipped with adaptive technology to adjust lesson plan difficulty according to the progress of each student, still externally regulate academic advancement, still come without context, and still provide no compelling reason why a child would engage (other than to check off an item on their to-do list).

We need to dispose of these structures and tools that perpetuate ineffective modes of learning and we need to introduce elements to allow the aforementioned principles of the ideal learning environment rise to normalcy and ubiquity. Once we overhaul the environmental and key elements listed above, however, we are still left with a 19th century curriculum and no simple way to bring about change on a massive scale - for all 1.5 billion K-12 students on earth. There is no tool to revolutionize engagement with subject matter content.

The Curriculum That Can Make It Work

The requirements of the curriculum must allow us to surmount the obstacles and help build the structures and facilitate the learning modes that we know work, which, to reiterate, are “settled science.” Once developed, a swift, enthusiastic revolution toward the ideal can ensue, unfettered. (You will note the requirements delineated below perfectly correspond to the summary of everything that works as outlined above.)

- A curriculum must be agnostic to age or grade.

- A curriculum must not be imposed on students by teachers, but it can allow for guides to explore ideas together with students and thereby form emotional bonds as they wade through challenging problems together.

- A curriculum must allow for self-paced work such that students can set their own goals.

- A curriculum must be sequenced in such a way that students can continually advance to more challenging content. Furthermore, feedback must be provided by content matter experts.

- A curriculum must allow for students to create a record or a portfolio of creative work.

- A curriculum must be designed to allow students to approach new ideas as if they were the first ones to tackle the phenomenon or conundrum. In other words, it must allow students to develop their own ideas from a first-principles approach.

- A curriculum must align with the ideals of self-determination theory, which describes the conditions under which intrinsic motivation drives student work. It must allow students to choose how to solve problems, it must be intellectually accessible, and it must include rich context so that students clearly see how their study can ultimately benefit the community.

- Relatedly, a curriculum must include abundant context that excites and engages. Our universe is endlessly fascinating. Shakespeare typically bores most students despite the exciting, universally relatable, and compelling storylines. Pi, the magical number emanating from the study of circles, seems abstract and meaningless to most students. Yet, its beauty and utility are still astonishing the greatest of mathematicians. With the right context, however, all students can be excited about Shakespeare and pi.

- A curriculum must be challenge-based (i.e., it must introduce lessons in the form of challenges) and must provide multiple segue points for project-based work so students, armed with a degree of content knowledge, can veer directly toward their own curiosity. Further, it must excite students such that they will independently want to connect with subject matter experts and professionals in related fields for further training, ultimately to develop their own mastery.

- Lastly, a curriculum must allow for students to pursue investigation together, solving problems collaboratively with members of the school community - with joy, camaraderie, and laughter.

Designing for Self-Directed Learning

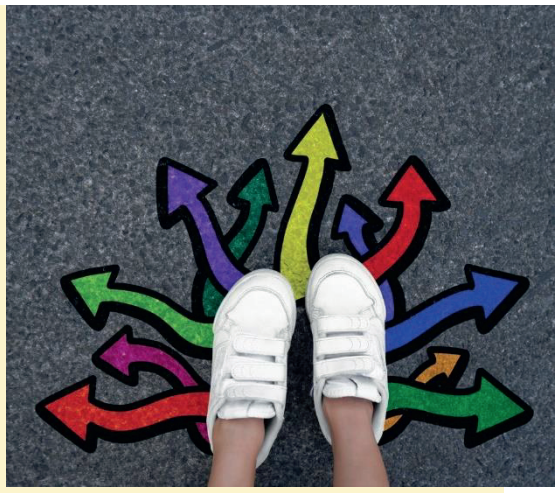
Whether a progressive school has mandatory or non-mandatory learning objectives, whether a school requires students to conduct projects, whether a school emphasizes the soft skills and culture over subject matter mastery, all schools still must offer curriculum. And the design of the curriculum cannot be outside the spirit of the vision; it can't be a siloed element of an otherwise progressive culture. It must be a progressive element, in and of itself, allowing for joyful self-directed learning.

About the Author

Michael Finnegan, Ph.D., is the founder and CEO of QuantumCamp Inc, a curriculum design company creating a new hands-on, online STEM education platform for K-12 offering courses with video-guided labs sequenced as stories of discovery.

Steps of Self-Directed Learning

- Give learners choices in their learning materials.
- Ask learners to make goals.
- Build learner knowledge through problem-solving and discussion questions.
- Break the skills down for learners and align with practice activities.
- Foster communities of practice.



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On Video:
Peter Gray - Self-Directed Learning Fundamentals
https://www.youtube.com/watch?v=YoE480mzrk0

Conditions for Optimal Self-Directed Learning

- Social expectation (and reality) that education is children's responsibility
- Unlimited time to play, explore, and pursue one's own interests
- Opportunity to play with the tools of the culture
- Free age mixing among people of all ages
- Immersion in a stable, supportive, respectful community
- Access to a variety of adults committed to young people's rights.

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Supporting Children's Emotional Understanding and Conflict Resolution Using the Highscope's Conflict Resolution Strategy during Guided Free Play

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Rationale

Disagreements and conflicts are an inevitable part of the early childhood classroom. Educators can grasp incidental learning opportunities to promote children's social emotional learning. This study was based on my classroom observations during children's free play, when behaviours such as biting, pushing and hitting of peers were observed. These behaviours occur most frequently when children encounter challenging situations, and especially those that require turn-taking and sharing among peers (Wheeler, 2014).

Literature Review

Emotional Understanding

Emotional Understanding (EU) is defined as a social-emotional competency where children are able to identify and understand their feelings and of others' emotional and affective states (Grazzani et al., 2019; King, 2020). It also encompasses the understanding of how their actions impact the feelings of others or themselves and how they utilise emotions in social situations to achieve social goals (King, 2020; Sprung et al., 2015). To foster children's EU competency, the approach of teacher talk can be utilised to describe the events or conflicts by acknowledging and validating children's emotions (Clarke et al., 2017). Whole class social practices such as class meetings, which promote the sharing of feelings as well as reflecting and learning from peers, were also found to be effective in fostering children's EU (Mortensen & Barnett, 2014). Both teacher talk and class meetings enable children to better understand and regulate their own and others' emotions (Clarke et al., 2017; Grazzani et al., 2016; Greenspan, 2003). This reduces aggression and behavioural problems in the classroom while building the foundation for more complex socioemotional abilities, such as the development for empathy and conflict resolution (Yang et al., 2019).

Conflict Resolution using Highscope's Conflict Resolution Strategy

Conflict Resolution (CR) competency comprises of abilities such as working collaboratively to form positive relationships, resolving conflicts constructively and communicating effectively. By supporting children's EU and CR competency from the early years, it entails long-term benefits such as academic success, healthy behaviours and life satisfaction (Clarke et al., 2017). In order to foster children's EU

and CR competencies, this study adopted the Highscope's Conflict Resolution (HCR) strategy. This peer problem-solving model comprises of six steps which includes:
(1) approaching calmly, stopping any hurtful actions,
(2) acknowledging children's feelings,
(3) gathering information,
(4) restating the problem,
(5) asking for ideas for solutions and choosing one together and
(6) being prepared to give follow-up support (Highscope, 2017).
Using this approach, the teacher is able to facilitate the CR process by encouraging children to work together to brainstorm and reach a mutually agreeable solution.

When supporting children's socioemotional competencies using the HCR strategy, it is essential that educators remain unbiased and objective when handling conflicts. It is also vital for teachers to recognise the type of conflicts they could intervene in to support children's practice of the HCR strategy (Silver & Harkins, 2007). When facilitating the HCR, teachers should encourage children to express their emotions instead of minimising them to foster learning opportunities for EU (Gloeckler et al., 2014). Children should be given the opportunities to resolve conflicts independently, alongside teachers' facilitation, so as to support higher levels of negotiation. Therefore, when used appropriately, the HCR strategy could foster children's EU and CR competencies and encourage them to resolve their conflicts independently (Arcaro et al., 2002).

Guided Free Play

Guided free play can be defined as play experiences conflating the characteristics of free play with light adult scaffolding (Weisberg et al., 2016). When teachers take on the role of an observer and consulter during guided free play, they would observe the children's play process and extend their learning experiences using comments and open-ended questions (Aras, 2016; Luckenbill et al., 2019; van Schijindel, 2015; Weisberg et al., 2016). This enables children to utilise a higher order of thinking to reflect on their experiences (Hewes, 2014). Therefore, interactions within guided free play provides numerous opportunities for children to work on their EU abilities as they learn to reason and explore with solutions to issues (Kirk & Jay, 2018).

Research Questions

This action research study was designed with the intention to foster children's emotional understanding and conflict resolution competencies using the HCR strategy during guided free play. It was conducted with children in the pre-nursery class aged 2-3 years old. The 6 steps of the HCR approach were introduced over the course of 5 weeks. The following questions guided the inquiry:

(a) How does Highscope's conflict resolution strategy foster children's emotional understanding and conflict resolution during guided free play?
(b) What are the emotional understanding behaviours demonstrated by children during guided free play?

Results

Data was gathered during the 5 weeks of guided free play when 15 instances were observed, and children applied the HCR strategy in 9 of these instances. Children demonstrated increasing abilities to resolve conflicts independently without the guidance and facilitation of the teacher-researcher. This indicated that the HCR strategy fostered the CR competencies of children during guided free play. Frequency count of children demonstrating EU behaviours were tabulated over the 5 weeks, when children showed increasing abilities in behaviours, such as recognising and labelling their emotions as well as verbalising their likes, dislikes and emotions. In the following sections, we look into the 9 instances when children utilised the HCR strategy independently to demonstrate their EU and to resolve conflicts.

Fostering Emotional Understanding using Highscope's Conflict Resolution Strategy

To address the first research question, the 9 guided play observation instances were coded for similarities to find out when children exhibited EU behaviours during the use of HCR strategy. From the similarities, three categories (*self-initiated, teacher-prompted*, and *teacher-directed*) of the EU behaviours were generated. *Self-initiated* EU behaviours was observed when children displayed emotional understanding behaviours on their own accord. *Teacher-prompted* EU behaviours was observed when children displayed emotional understanding behaviours with the prompting from the teacher. Lastly, *teacher-directed* EU behaviours occurred when the teacher labelled and directed the emotional understanding behaviours for children's understanding and implementation.

An example of a teacher-prompted EU behaviour took place at the garden dramatic centre after a child (Erikson) hit another (Quinn) on his face shield with a flower:

Teacher:	Quinn, could you share with me what happened?
Quinn:	Erikson hit me… He hit my face shield with the flower…
Teacher:	I see. How did that make you feel?
Quinn:	I feel upset
Teacher:	So you felt upset because Erikson hit your face shield with the flower?
Quinn:	Yes

In this instance, the teacher guided the child (Quinn) by posing a question to prompt him to share the problem and his emotion. The teacher facilitated Quinn in building his own *self-awareness* as he recognised his emotions and connected it with a reason for the cause of his emotions. The other child (Erikson) was also listening to the conversation between Quinn and the teacher, and this instance promoted his *social awareness* and *responsible decision-making* as he learnt that his actions could cause his peer to feel upset. This enabled him to reconsider his personal and social behaviour in the future when engaging in play in a group setting.

Fostering Conflict Resolution using Highscope's Conflict Resolution Strategy

Looking across the instances when solutions were generated during conflicts, three types (*directed*, *facilitated* and *child-initiated*) of the CR solutions were observed. *Directed* is defined as solutions offered by the teacher. *Facilitation* occurs when solutions are developed by the children under the teacher's guidance. *Child-initiated* solutions refer to children proposing and implementing solutions independently without the teacher's guidance. Over the 5 weeks, it was found that children were beginning to utilise their CR skills to express and communicate their ideas and solutions to resolve conflicts independently.

One instance which illustrated a child-initiated solution was when a child (Tyson) resolved a conflict that occurred between two of his peers. He demonstrated independent negotiation skills while displaying EU. This instance occurred at the supermarket dramatic centre when another child (Erikson) attempted to snatch a toy from his peer (Dawn):

Erikson:	I want the blueberries *(attempts to snatch)*
Dawn:	No, it's mine *(snatches it back)*
Erikson:	But I want the blueberries
Tyson:	Don't snatch. Erikson, you have to ask nicely
Tyson:	Dawn, can I have one blueberry please?
Dawn:	Okay, I can give you. *(Hands one blueberry over to Tyson)*
Tyson (to Erikson):	See, if you ask nicely, she will give it to you
Erikson (nods):	Dawn, can I have five blueberries please?

In this instance, the child (Tyson) demonstrated his SEL competencies in *social awareness* and *relationship skills* as he mitigated the conflict between his peers. He (Tyson) displayed his CR competency by demonstrating to his peer (Erikson) an appropriate way to request for a play material. He had also acknowledged and explained that if the request was completed in a non-aggressive manner, it would be fulfilled.

Increased Emotional Understanding Behaviours Demonstrated

To address the second research question, frequency count of children demonstrating EU behaviours were tabulated according to five indicators as outlined in the NEL's Social-Emotional Development framework (2013). One indicator of EU was identifying and recognising emotions. The children were observed to be more expressive of their emotions, needs and preferences during play and CR. This included the children saying, "This makes me sad" and "I don't like that".

Another indicator of EU was appropriately expressing and coping of emotions. Since children began to be more expressive, this aligned with how they were able to express their feelings using appropriate language. This was evident when they verbalised their dislikes by stating "Don't snatch. I don't like it" and "You are making me upset".

The ability to self-regulate behaviours is another indicator of EU. To regulate their own emotions, children were observed to use self-calming techniques, such as going to a corner to cool down and hugging themselves to restrain violent tendencies. These techniques enabled the children to manage their anger and frustration while remaining composed despite being met with a challenging situation. For instance, the child kept his cool and went to a corner to calm down when his block structure was knocked down by his peer intentionally.

The fourth indicator observed in the study comprised of demonstrating understanding to others through actions and/or words. The children were observed to have interacted more with different peers and they would offer their assistance or demonstrate concern. They would display EU behaviours such as asking their friends “Are you okay?”, “Do you need help?” and “I can help you.”

Communicating thoughts, ideas and feelings effectively with others through words, gestures and actions was another indicator of EU. Based on observations of children playing cooperatively together and being more expressive, an improvement in EU behaviour was also noted. Such instances included children demonstrating their ability to initiate and join in play as well as expressing their dislikes and negotiating with their peers. Children were also able to recall and share similar experiences during play or CR. These sharing served as reminders to both themselves and their peers to follow-up on appropriate behaviours reflected from steps 5 and 6 of the HCR strategy which included suggesting solutions and providing support to follow through. There was also a decrease in disruptive and aggressive behaviour shown in the classroom.

Recommendations and Implications for Teaching

Based on the implementation of this study, it highlighted the significant role of adult guidance being present during guided free play. Besides being able to observe and extend children’s play process, the teacher was also able to facilitate the conflicts which occurred using the HCR strategy. It was vital for the teacher to remain conscious of her verbal (e.g. tone of voice and choice of words) and non-verbal (e.g. body language and facial expression) interactions with the children (Mortensen & Barnett, 2014). This provided a sense of security to children when conflicts were being resolved during guided free play.

Additionally, whole class social practices such as class meetings could promote EU in children. With the teacher’s facilitation, children were able to share their experiences, reflect and learn from one another within the safe space. Through these experiences, it re-emphasised the active role teachers could adopt in the classroom during play. It was with these crucial learning opportunities that children’s SEL competencies such as emotional understanding and conflict resolution could be promoted.

Reflection

Through this journey of teacher inquiry, I discovered the importance of supporting children's social-emotional development using both intentional and unintentional opportunities. I would like to advocate the integration of effective SEL models and approaches such as the HCR strategy adopted in the current study in the core curricula and daily experiences (Ng & Bull, 2018). By doing so, relevant knowledge and skills related to SEL can be applied by both teacher and children when faced with various situations. This is exemplified in this teacher-research especially during the facilitation of peer conflicts whereby children aged 2 to 3 years demonstrated their abilities to engage in perspective-taking and problem-solving in the process of conflict resolution, guided by the steps of the HCR strategy.

References

Arcaro-McPhee, Rena, Doppler, Elizabeth E, & Harkins, Debra A. (2002). Conflict resolution in a preschool constructivist classroom: A case study in negotiation. *Journal of Research in Childhood Education*, 17(1), 19-25.

Clarke, L., McLaughlin, T. W., & Aspden, K. (2017). *Promoting learning during toddlers' peer conflicts: teachers' perspectives. Early Years, 1-15.* doi:10.1080/09575146.2017.1384919

Denham, S., Bassett, H., & Zinsser, K. (2012). Early childhood teachers as socializers of young children's emotional competence. Early Childhood Education Journal, 40, 137–143.

Gloeckler, L., J. Cassell, and A. Malkus. 2014. "An analysis of teacher practices with toddlers during social conflicts." *Early Child Development and Care* 184 (5): 749–765. doi:10.1080/03004430.2013.818988.

Grazzani, Ilaria, Ornaghi, Veronica, Agliati, Alessia, & Brazzelli, Elisa. (2016). How to foster toddlers' mental-state talk, emotion understanding, and prosocial behavior: *A Conversation-Based Intervention at Nursery School. Infancy*, 21(2), 199-227.

Greenspan, S. I. (2003). The emotional basis of intelligence. In *The secure child: Helping our children feel safe and confident in a changing world*. Cambridge, MA: Da Capo.

Hassinger-Das, B., Hirsh-Pasek, K., & Golinkoff, R. (2017). The case of brain science and guided play: A developing story. *YC Young Children, 72(2*), 45-50.

Hewes, J. (2014). Seeking balance in motion: The role of spontaneous free play in promoting social and emotional health in early childhood care and education. *Children (Basel)*, 1(3), 280-301.

King, E. K. (2020). Fostering toddlers' social emotional competence: Considerations of teachers' emotion language by child gender. *Early Child Development and Care*, Ahead-of-print (Ahead-of-print), 1-14.

Kirk, Gill, & Jay, Jenny. (2018). Supporting kindergarten children's social and emotional development: Examining the synergetic role of environments, play, and relationships. *Journal of Research in Childhood Education*, 32(4), 472-485.

Ministry of Education. (2013). *Nurturing Early Learners (NEL): A curriculum for kindergartens in Singapore: Social and emotional development.*

Mortensen, Jennifer A, & Barnett, Melissa A. (2014). Teacher–child interactions in infant/toddler childcare and socioemotional development. *Early Education and Development*, 26(2), 209-229.

Murano D, Sawyer JE and Lipnevich AA (2020) A meta-analytic review of preschool social and emotional learning interventions. Review of Educational Research 90(2): 227–263.

Ng SC and Bull R (2018) Facilitating social emotional learning in kindergarten classrooms: Situational factors and teachers' strategies. International Journal of Early Childhood 50(3): 335–352.

Silver, Carrie, & Harkins, Debra. (2007). Labelling, affect, and teachers' hypothetical approaches to conflict resolution: An exploratory study. *Early Education and Development*, 18(4), 625-645.

Sprung, M., Münch, H. M., Harris, P. L., Ebesutani, C., & Hofmann, S. G. (2015). Children's emotion understanding: A meta-analysis of training studies. Developmental Review, 37, 41–65. doi:10.1016/j.dr.2015.05.001

Vestal A and Jones NA (2004) Peace building and conflict resolution in preschool children. Journal of Research in Childhood Education 19(2): 131–142.

Weisberg, Deena Skolnick, Hirsh-Pasek, Kathy, Golinkoff, Roberta Michnick, Kittredge, Audrey K, & Klahr, David. (2016). Guided play. *Current Directions in Psychological Science*, 25(3), 177-182.

Wheeler EJ (2004) Conflict resolution in early childhood. Upper Saddle River, NJ: Pearson.

Yang W, Datu JAD, Lin X, et al. (2019) Can early childhood curriculum enhance social-emotional competence in low-income children? A meta-analysis of the educational effects. Early Education and Development 30(1): 36–59.

Use Of Hand Puppets to Foster Emotion Knowledge in Two-To-Three-Year-Olds in an Early Year Centre in Singapore

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Introduction

While reflecting on my teaching experiences, I observed children's high level of interest and engagement in puppets. Puppets are beneficial pedagogical tools that can be used and integrated into the classroom to promote language and problem-solving skills (Kröger & Nupponen, 2019). Locally, puppets are typically used to engage children in pretend play or placed in the dramatic corner. In their preoperational stage, children from two to three years old are learning to recognise, label and express their emotions. Furthermore, in Piaget's theory of cognitive development, children at this age are attracted to puppets as they believe in animism - the belief that inanimate objects have feelings and intentions (Beloglovsky & Daly, 2015). This hence led to my inquiry of using puppets to foster children's social-emotional development. This paper investigates the effectiveness of puppets to foster emotion knowledge in children and my research questions are:

1) How effective is the use of hand puppets in fostering emotion knowledge of children from two to three years old?
2) How do hand puppets promote children's ability to recognise, label and express emotions?

Literature Review

Emotion Knowledge

The foundation for developing social relationships and emotional communications is the acquisition of emotion knowledge, the most basic aspect of social-emotional learning (Rossi, 2016). According to Ornaghi et al. (2016) and Jones et al. (2021), emotion knowledge (EK) is the ability to recognise, label, express and identify the cause of emotions in self and others. EK includes the ability to assess facial expressions and use appropriate vocabulary to identify and name the emotions (expressive EK) and to recognise emotions by their verbal labels and emotive language (receptive EK) (Conte et al., 2019; Ornaghi et al., 2016; Ornaghi et al., 2019; Rossi, 2016). EK also involves understanding emotions, both common and uncommon ones that arise from situational events or scenarios (situation knowledge) and identifying the cause of emotions in self and others (casual EK) (Conte et al., 2019; Ornaghi et al., 2016; Ornaghi et al., 2019; Rossi, 2016).

Although EK develops throughout one's life, the growth is substantial in the formative years. During the first three years, children demonstrate emerging abilities to recognise, label, express and understand the cause of emotions (Cole et al., 2009).

Children as young as 18 to 24 months develop EK when they start feeling good or bad and recognise basic positive and negative emotions associated with those feelings (e.g. happiness and sadness) (Giménez-Dasí et al., 2015; Rossi, 2016). From 24 to 36 months old, children learn to use simple words to label how they feel and empathise with others (Giménez-Dasí et al., 2015; Zero to Three, 2010). They also progress to more complex emotions (e.g. anger and fear) and meet the developmental milestone of acquiring EK (Giménez-Dasí et al., 2015). Concurrently, children progressively develop an understanding that certain situations evoke particular emotions as they acquire situational and casual EK (Cole et al., 2009; Giménez-Dasí et al., 2015, Ornaghi et al., 2016).

Puppets

A puppet is a moveable doll or material artefact that a puppeteer manipulates by incorporating specific movements through hand movements, sticks or strings (Ahlcrona, 2012; Kröger & Nupponen, 2019). A combination of movements and words from the puppeteer makes the puppet come to life as it provides visual impressions, conveying feelings and ideals (Çağanağa & Kalmus, 2015; Kröger & Nupponen, 2019).

Use of Puppets in Fostering Children's Emotion Knowledge

The use of puppets has shown promising results in fostering children's EK. Giménez-Dasí et al. (2015) reported improvements in the children's ability to label basic emotions using emotion words and developing complex components such as recognising cause of emotions and regulation after conducting intervention sessions using a marionette. Kröger and Nupponen (2019) and Korošec (2012) suggested using puppets to promote a positive classroom climate that encourages children to express emotions directly and indirectly through symbolic play. Teachers can use puppets as a tool to build relationships and encourage children to express negative emotions in an acceptable way (Korošec, 2012).

Tzuriel and Remer (2018) highlighted the value of playing with puppets on children's EK as they use them as an outlet to express their inner emotions and a mediation tool for teachers to transmit emotional content that is difficult to address. Puppets are also effective tools in creating emotional relationships with children, encouraging them to be comfortable in expressing their emotions without guilt or fear (Tzuriel & Remer, 2018).

When teachers use puppets to communicate with children, three-party relationships are built. This promotes and scaffolds children's learning as described in Vygotsky's zone of development (Ahlcrona, 2012). With three-party relationships built, Ahlcrona (2012) discussed the potential of using puppets as communicative tool to help children relate and express how the puppet felt.

Curriculum programs such as Preschool PATHS and Incredible Years are also designed to promote children's social-emotional learning (SEL). These programs

adopt strategies and techniques such as using puppets, games and stories to teach emotion literacy and foster social problem solving in young children (Gershon & Pellitteri, 2018; Jones et al., 2021). Gershon and Pellitteri (2018) reviewed the programs and found that they increased children's EK and foster SEL skills (e.g., emotion recognition, prosocial behaviour, problem-solving and conflict resolution), leading to a drop in aggressive, challenging, and antisocial behaviours. Identical results were also highlighted by Jones et al. (2021) in a content analysis report of SEL curriculum programs, showing effectiveness in promoting children's EK skills.

In summary, the existing studies demonstrate the effectiveness of puppets in promoting children's EK. However, the studies are mostly carried out overseas with older children and it is unclear if puppets contribute to younger children's EK. Hence, this research will focus on the effectiveness of using hand puppets in fostering EK in children from 2 to 3 years old in a local mainstream classroom.

Methodology

This research adopted a mixed-method approach, using pre- and post-event sampling observations before and after the intervention sessions, child observations and teacher journals to gather data.

Settings and Participants

The research was carried out at a Nursery 1 class in an early year centre in Singapore. Six participants – two boys and four girls, aged 2 to 3 years old were involved in this research. The children selected were observed to display more periodic emotional outbreaks as compared to their peers during my engagement with them.

Procedure and Data Collection

Pre- and post-event sampling observations of the six children were conducted for two weeks before and after the intervention sessions. Events that suggested the children's ability to recognise and label emotions of self or others and express emotions were recorded using an event sampling observation guide. The information was then evaluated to determine the component(s) of EK displayed which suggested the children's development in EK before the implementation.

During the 4-weeks implementation, puppets were used to carry out weekly sessions with the six children and data were collected through child observation and teacher journals. The sessions lasted for 15 to 20 minutes and were conducted twice a week. The aim was to foster children's ability to recognise, label, express and identify the cause of the four basic emotions (i.e. happiness, sadness, anger and fear) through stories and games. A picture of the puppets used and summary of the planned stories and games can be found in Appendix A. The puppets were placed at a designated corner in the classroom to which children had free access. Ongoing observations were conducted to gather information on children's responses to the puppets and progress in their EK in naturalistic settings throughout the implementation. To facilitate the

accuracy and reliability of the documentation process, videotaping and transcription were done. Concurrently, I reflected on the sessions and teaching practices using a teacher journal. Entries in this journal included but were not limited to, my observations and thoughts on children's EK, reflections on my actions and words, and future actions that I could take to support the development of children's EK.

Results

After analysing the data, the results were categorised into five themes, based on the different components of EK and the children's progression through the process of this study.

(1) Overall Progress in Emotion Knowledge

To compare the progress of children's ability to recognise, label, express and identify cause of emotions, pre- and post-event sampling observations were conducted before and after the intervention sessions. Table 1 presents a summary of the results and Figure 2 provides a visual representation.

Name of Child	Recognise Emotions		Label emotions		Express emotions		Identify cause of emotions	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Child A	3	3	1	3	1	2	2	1
Child B	2	3	0	3	0	2	1	3
Child E	2	2	0	2	0	0	1	1
Child L	0	4	0	4	3	3	0	3
Child M	4	3	2	3	2	2	0	2
Child Z	2	3	3	3	1	1	0	1

Table 1: Frequency of children recognising, labelling, expressing and identifying cause of emotions in pre- and post-event sampling obserations

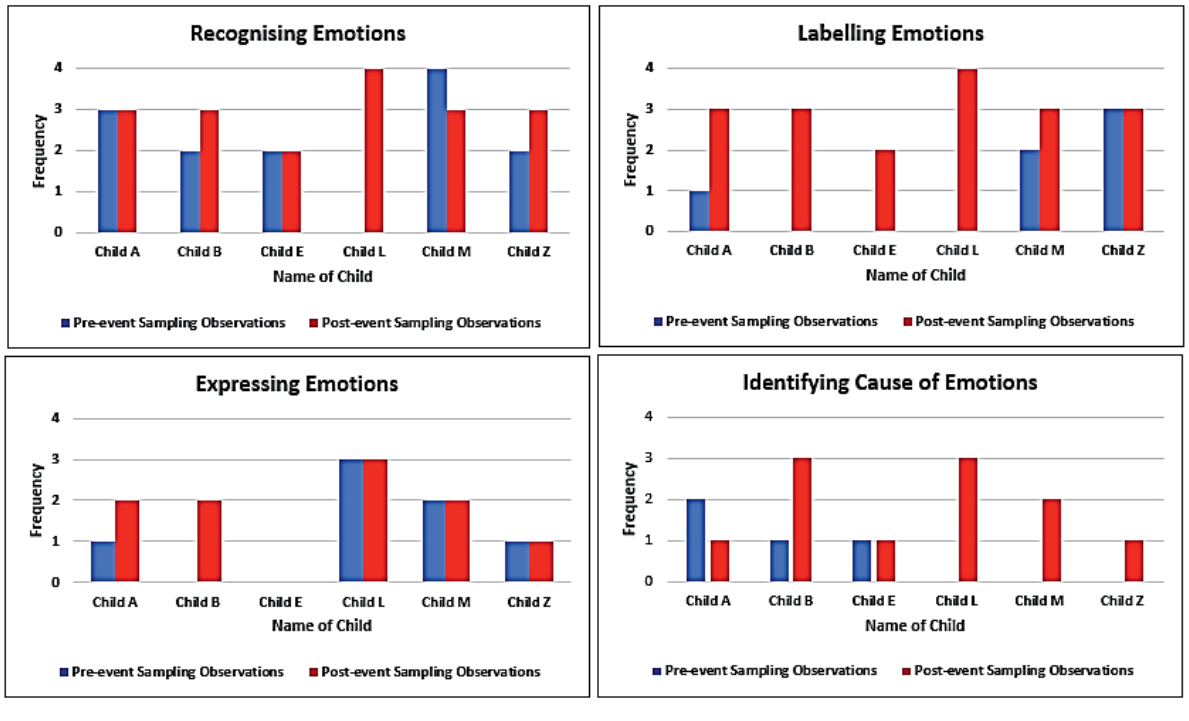

Figure 2. Bar Chart of the frequency of children recognising, labelling, expressing and identifying cause of emotions in pre- and post event sampling observations

From the data above, children made progress as the frequencies increased in all components for most children. Out of the four areas, the children progressed most in labelling emotions, with an increase in frequencies in five out of the six children. To support the quantitative data, the following qualitative data show how the puppets contributed to children's progress during and after the intervention.

(2) Matching Puppet's Facial Expression to Label Emotions

Before the intervention, I observed the children pointing out apparent behaviours and expressions displayed in the pre-event sampling observations. For example, when Child E cried, Child M noticed it and told the teacher, "E crying, she don't want friend (to help)." Similarly, when expressing their emotions, the children displayed common behaviours and non-verbal cues. For instance, when the teacher asked what happened, Child L simply pointed to the fishing rod that her friend took and continued to cry. From these examples, the children had emerging awareness of emotions as they noticed and used non-verbal cues (e.g. crying) to identify others' emotions and express themselves.

During the intervention, I observed children matching the puppets' facial expression to what they see in others. Using emotion words, they began to label basic emotions. In one activity, children rolled a die with pictures of people showing different emotions and talked about it. The following is some excerpts from the children's observation:

- *After rolling the dice, Child M recognised 'sadness' as she pointed to the tears on the person's face and said, "sad." When asked to explain how she knew the person was sad, she pointed to 'Sad Sebby' and said, "got tears like Sad Sebby (the puppet showing sadness)."*
- *After rolling the dice, Child Z said, "I show you something, same and same," as he pointed to the picture showing a girl with an angry expression and the puppet-Angry Amy. "How do you know they are the same?" the teacher researcher asked. "The girl like that like Angry Amy," Child Z replied while pointing to the girl's eyebrows and Angry Amy's eyebrows.*

From the above, children noticed similarities in the facial expressions of the puppets and the people in the picture. They matched and associated these observable and distinct features (e.g. tears, frown) with emotion words (e.g. sad, angry) and labelled them.

(3) Making Connections between Puppets and Emotions in Real-Life Settings

After the intervention, children continued to make connections of the emotions shown by the puppets with what they observed in others during their daily activities. In their regular conversations, children talked about emotions while making references to the puppets. Some examples from the post-event sampling observations are:

- *It was time to clean up, Child M was crying as she did not want to keep the toys.*

  The class teacher explained that it was time to clean up as it was lunch time.

  Class Teacher: "M, have you calmed down?"

  Child E: "Still crying."

  Child Z: "Like Sad Sebby."

  Child E: "M still sad."

  Child Z: "Got tears like Sad Sebby. M don't want clean up."
- *The children were chatting and having breakfast at the large group area.*

  Child L: "Just now, Teacher B angry like Angry Amy because X spill milk.

  Teacher Research: "Oh, how did X feel?"

  Child A: "Teacher B angry then X sad, he cry like Sad Sebby."

Despite not seeing the physical puppets, children recognised others' emotions and labelled them using emotion words with reference to the puppets. The children progressed from matching facial expressions to making connections between puppets and emotions in real-life settings without seeing the physical puppets. This suggests the use of puppets could have scaffolded and reinforced children's EK.

(4) Labelling Others' Emotions and Expressing Self's Emotions

After the intervention, I observed children applying their understanding of the observable facial expression and emotion words to label others' emotions and express themselves.

- *After a cookery lesson, children were eating the bread that they decorated. Child Z giggled after drinking some water. "Z laughing, Z is happy," Child M shared with a smile. "M happy," Child Z said after looking at Child M.*
- *While conducting observations of mealworms, Child B leaned back and said: "I scared," while patting his chest.*
- *While playing at the learning centre, Child L approached me and said, "I want to talk," with a pout on her face. When I asked her what had happened, she verbally articulated, "I feel sad. M disturb me."*

In this first example, Child M and Z attributed a behaviour (i.e. laughing) and a facial expression (i.e. smiling) to the emotion – happy and label it. In the other two examples, both Child B and Child L labelled and expressed the emotions that they are experiencing through gesture (i.e. patting his chest), facial expression (e.g. pouting) and emotion words (i.e. scared, sad). The overall increase in the frequency of children talking about emotions with and without references to the puppets was similarly seen in my teacher journal as I wrote:

> *"I observe and hear children talking more about emotions (both self and others) and using emotion words (e.g. happy, sad, angry, scared) to label and express emotions throughout the day. I wonder if this was because of the intervention sessions and the puppets which promote children's awareness of emotions and hence fostering their emotion knowledge."*

(5) Relating to Puppets to Identify Cause of Emotions

During the intervention sessions, the puppets modelled how to identify the cause of emotion in different situations. The following excerpt was taken from a child observation conducted during one of the sessions. In this session, the puppets identified emotions that arise from common scenarios and shared the cause of emotion.

- *The puppet showed a scenario card showing a boy eating an ice cream.*

  Child B and Child M smiled and pointed to the ice cream: "Ice cream!"

  Puppet (Happy Helen): "I feel happy when I eat ice cream."

  Child A: "I also happy, I like ice cream."

  Child L: "I also like ice cream."

  Teacher Researcher: "How do you feel when you eat ice cream?"

  Child L: "Happy!"

- *The scenario card showed two children snatching a teddy bear.*

  Puppet (Sad Sebby): "I feel sad when my friend snatches my toy."

  Child M: "M cry, friend snatch toy."

  Teacher Researcher: "How do you feel when someone snatch your toy?"

  Child M and L: "Sad."

  Child B: "Friend snatch, B sad, B cry."

From the example, the puppets kickstarted the sharing and the children related to the puppets' experiences and shared their personal experiences. Besides modelling after and relating to the puppets, the children were observed to articulate the various causes of emotions in self and others in daily activities after the intervention. Some examples from the post-event sampling observations are:

- *While playing with Legos during free play, Child B said: "I angry."*

  Teacher Researcher: "Why are you angry?"

  Child B: "X take my toy."

- *While playing at the learning centre, Child B heard X shouting.*

  Child B: "X angry."

  Teacher Researcher: "Why did you say that?"

  Child E: "Because X shout."

  Child B: "He angry."

  Child E: "X angry because Y take his toys."

  Child B: "Ya."

- *After the teacher caught the beetle and M calmed down, she continued playing with the four puppets. She recalled the encounter with the beetle and told the puppets: "I scared of beetle. I scream and run to teacher and scream." She then pointed to the puppet, 'Scared Samuel' and said, "just now I scared like scared Samuel, then I cry like Sad Sebby."*

From the examples, children identified the cause of emotions of self and others. They talked about their personal experiences, observations and reasons behind the emotion(s) that others or themselves are facing. The children progressed from the initial identification of behaviours or facial expressions to label, express and identify causes of emotions in different situations.

Discussion

Fostering Emotion Knowledge

Based on the results, it can be concluded that the use of hand puppets fostered children's EK to a great extent. From both the quantitative and qualitative data, all children demonstrated progress in recognising, labelling, expressing and identifying cause of emotions. Consistent with other findings, EK can be improved from an early age through planned interventions in the classroom (Giménez-Dasí et al., 2015; Housman et al., 2018; Jones et al.,2021; Tzuriel & Remer, 2018). It was notable that the children progressed the most in labelling emotions out of the four components. This finding coincides with the results of the intervention study done by Giménez-Dasí et al. (2015) which revealed significant statistically improvements in children's post-test scores in labelling emotions after the intervention with marionettes. According to developmental psychology, children begin to talk about emotions from 2-years-old and most are successful in labelling emotions using simple words by 3-years-old

(Giménez-Dasí et al., 2015; Zero to Three, 2010). This explains the significant improvement in children labelling emotions using emotion words which contribute to the foundation of children acquiring more complex and later components of EK and social competency in the future.

Puppet as a reference point and scaffolding tool

According to the National Association for the Education of Young Children (2020), allowing children to make connections of their prior knowledge and experiences helps to lay the foundation for subsequent challenges as their thinking is expanded and they will apply these learning or skills across other settings and context on their own. From the findings, children were able to apply their understanding of facial expressions and emotions to real-life settings with the puppet as a reference point. The puppet can hence be seen as both a reference point and scaffolding tool in helping children to make the initial understanding and connections between facial expressions and emotion words. Although findings from some of the previous studies suggest the role of a puppet as a model to scaffold children's learning in other areas such as regulating emotions (Kröger & Nupponen, 2019; Webster-Stratton & Reid, 2004), there is a lack of research that talks about the use of puppets as a reference point to help children from 2- to 3-years old to acquire EK. Hence, this could be a research topic that could be looked into in the future.

Puppet as a friend

The findings showed children's growing interest and relationship with the puppets over the course of the research. As children interacted with the puppets, they related to the puppet especially when the puppets shared about cause of emotions. This coincides with the study done by Ahlcrona (2012) which highlighted the potential of building three-party relationships between the teacher, puppet and children and allowing children to relate to the puppets. Moreover, Korošec (2012) found that in the process of introducing the puppets to the children, the children gradually viewed the puppets as a friend and engage in role-playing with them. In this research, the children similarly engaged in pretend play with the puppets and treat them as a friend outside the intervention (e.g. during free play). The children spent time playing and talking to the puppets about their feelings. Findings from previous studies suggested that puppets help children feel that it is acceptable to feel and experience various emotions and feel at ease to confide in the puppets (Korošec, 2012; Tzuriel & Remer, 2018). By viewing and treating the puppets as friends, children feel comfortable and have the autonomy to share and express how they feel with the puppets, further fostering their EK. As they gradually gained confidence in recognising and labelling emotions, they applied their learning and demonstrated EK in real-life settings and expressed their emotions too.

Conclusion

In conclusion, this study showed that 2- to 3-year-old children benefit from planned intervention on EK and highlight the potential uses of puppets as pedagogical tools. Puppets should not only be decorative items or tools to entertain children but with intentional planning, they can be integrated into the classroom to support children's social-emotional development, as well as other areas of learning and development. However, as this study was conducted with a small group of children in one classroom, the findings from the small sample size would not be sufficient to be generalised across the Singapore context. Nonetheless, this has also opened up opportunities for further research to investigate other potential uses of puppets in the classroom and further research can be conducted with a larger group of children across local centres for better insights that collectively represent the population of children in Singapore.

References

Ahlcrona, M. F. (2012). The puppet's communicative potential as a mediating tool in preschool education. *International Journal of Early Childhood, 44*(2), 171-184.

Beloglovsky, M., & Daly, L. (2015). *Early learning theories made visible*. Redleaf Press.

Çağanağa, Ç. K., & Kalmus, A. (2015). The role of puppets in kindergarten education in Cyprus. *Open Access Library Journal, 2*(7), 1–9.

Cole, P. M., Dennis, T. A., Smith-Simon, K. E., & Cohen, L. H. (2009). Preschoolers' emotion regulation strategy understanding: Relations with emotion socialization and child self-regulation. *Social Development, 18*(2), 324-352.

Conte, E., Ornaghi, V., Grazzani, I., Pepe, A., & Cavioni, V. (2019). Emotion knowledge, theory of mind, and language in young children: Testing a comprehensive conceptual model. *Frontiers in Psychology*, 10, Article 2144.

Gershon, P., & Pellitteri, J. (2018). Promoting Emotional Intelligence in Preschool Education: A Review of Programs. *International Journal of Emotional Education*, *10*(2), 26-41.

Giménez-Dasí, M., Fernández-Sánchez, M., & Quintanilla, L. (2015). Improving social competence through emotion knowledge in 2-year-old children: A pilot study. *Early Education and Development, 26*(8), 1128-1144.

Housman, D. K., Denham, S. A., & Cabral, H. (2018). Building Young Children's Emotional Competence and Self-Regulation from Birth: The" Begin to… ECSEL" Approach. *International Journal of Emotional Education*, *10*(2), 5-25.

Jones, S. Brush, K., Bailey, R., Brion-Meisels, G., McIntyre, J., Kahn, J., ...& Stickle, L. (2021) Navigating SEL From The Inside Out - Looking inside and across 33 leading SEL programs: A practical resource for schools and OST providers. Harvard Graduate School of Education. https://www.wallacefoundation.org/knowledge-center/Documents/navigating-social-and-emotional-learning-from-the-inside-out-2ed.pdf

Korošec, H. (2012). Playing with puppets in class – teaching and learning with pleasure. In L. Kroflin (Ed.), The Power of the Puppet (pp. 29-45). Croatian Centre of UNIMA.

Kröger, T., & Nupponen, A. M. (2019). Puppet as a pedagogical tool: A literature review. *International Electronic Journal of Elementary Education*, *11*(4), 393-401.

National Association for the Education of Young Children. (2020). Developmentally appropriate practice: A position statement of the National Association for the Education of Young Children [Position Statement]. https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/dap-statement_0.pdf

Ornaghi, V., Brazzelli, E., Grazzani, I., Agliati, A., & Lucarelli, M. (2016). Does training toddlers in emotion knowledge lead to changes in their prosocial and aggressive behavior toward peers at nursery?. *Early Education and Development, 28*(4), 396-414.

Ornaghi, V., Pepe, A., Agliati, A., & Grazzani, I. (2019). The contribution of emotion knowledge, language ability, and maternal emotion socialization style to explaining toddlers' emotion regulation. *Social Development*, *28*(3), 581-598.

Rossi, C. A. (2016). The development and validation of the emotion knowledge and awareness test [Doctoral Dissertations, University of Massachusetts Amherst]. ScholarWorks@UMass Amherst. https://scholarworks.umass.edu/dissertations_2/686

Tzuriel, D., & Remer, R. (2018). Mediation with a puppet: The effects on teachers' mediated learning strategies with children in special education and regular kindergartens. *Learning and Instruction*, *58*, 295-304.

Webster-Stratton, C., & Reid, M. J. (2004). Strengthening social and emotional competence in young children—The foundation for early school readiness and success: Incredible years classroom social skills and problem-solving curriculum. *Infants & Young Children*, *17*(2), 96-113.

Zero to Three. (2010). *24–36 months: Social-emotional development.* https://www.zerotothree.org/resources/241-24-36-months-social-emotional-development

Appendix A

Picture of the Puppets Used: *Happy Helen, Sad Sebby, Angry Amy, Scared Samuel* (from left to right)

Summary of the Planned Activities

Week/ Session	Component(s) of EK	Summary of Activity
Week 1 Session 1	Recognise, label and express emotions	***Introduction to Puppet and Emotions*** A puppet (Happy Helen) will be brought and introduced to the children. Tell children that the puppet has a story to share. Use the puppet to tell a story (following the story – "Lots of Feelings" by Shelley Rotner" while showing picture cards of various facial

		expression. Share with children that there are many different types of emotions and everyone experience different emotions every day.
		
		Introduction to Happiness
		- Use the puppet – Happy Helen to act out a scenario that cause happiness (e.g. going to the playground to play).
		- Invite the children to guess how the puppet is feeling.
		  ○ *"How do you think the puppet feel?"*
		- Show pictures of different facial expressions showing happiness to the children and use the puppet to facilitate a discussion.
		  ○ Some of the possible questions that the puppet can ask are: *"How is the person feeling?" "How do you know?" "What do you see?"*
		- Play sound that are associated with happiness (e.g. someone laughing)
		  ○ *Ask children: "What do you hear?" "How do you think the person is feeling?"*
		- Model how to use the words/ a sentence to label how the person is feeling, *e.g. "He is smiling, he feels happy."*

Week 1 Session 2	Cause of emotions	***When I'm Feeling Happy*** Use the puppet (Happy Helen) and tell the story – "When I'm Feeling Happy" by Trace Moroney. Encourage children to talk about what happened in the story and share what makes them feel happy. Have them to share that makes them feel happy in school and allow children to participate in those activities *(e.g., going to the learning corners, drawing, playing toys, reading, singing).*
Week 2 Session 1	Recognise, label and express emotions	***Introduction to Sadness*** - Use the puppet (Sad Sebby) to act out a scenario that cause sadness (e.g., losing his favourite toy car). - Invite the children to guess how the puppet is feeling. ○ *"How do you think the puppet is feeling?"*

		- Show pictures of different facial expressions showing sadness to the children and use the puppet to facilitate a discussion.
		  ○ Some of the possible questions that the puppet can ask are: *"How is the person feeling?" "How do you know?" "What do you see?"*
		
		- Play sound that are associated with sadness (e.g. someone crying)
		  ○ *Ask children: "What do you hear?" "How do you think the person is feeling?"*
		- Model how to use the words/ a sentence to label how the person is feeling, *e.g. "He is crying, he feels sad."*
		
		Finding Emotions
		Thereafter, the puppet (Sad Sebby) will lead a game – *Finding Emotions*. In this game, pictures expressing happiness and sadness will be placed around the classroom. Each child will look for one picture and help the puppet to categorise them into two group (i.e., happiness and sadness). Encourage children to label the emotions and/or share why they think the person is expressing happiness/sadness.
		For children who are still developing their language abilities, they can express the emotion using their face or point to a feeling poster.

Week 2 Session 2	Cause of emotions	***When I'm Feeling Sad*** Use the puppet (Sad Sebby) and tell the story – "When I'm Feeling Sad" by Trace Moroney. Encourage children to talk about what happened in the story and share what makes them feel sad. ***Mystery Box*** Thereafter, the puppet will lead a game – *Mystery Box.* In this box, there will be pictures showing different expressions and scenarios. The puppet will ask, *"How does he/she feel?"* and invite the children to share how would they feel if they are in the same situation as the puppet.

Week 3 Session 1	Recognise, label and express emotions	***Introduction to Anger***
		- Use the puppet (Angry Amy) to act out a scenario that cause anger (e.g., someone snatching his toy).
		- Invite the children to guess how the puppet is feeling.
		  ○ *"How do you think the puppet is feeling?"*
		- Show pictures of different facial expressions showing anger to the children and use the puppet to facilitate a discussion.
		  ○ Some of the questions that the puppet can ask are: *"How is the person feeling?" "How do you know?" "What do you see?"*
		- Play sound that are associated with anger (e.g. someone screaming)
		  ○ *Ask children: "What do you hear?" "How do you think the person is feeling?"*
		- Model how to use the words/ a sentence to label how the person is feeling, *e.g. "He is frowning, he is angry."*
		
		Emotion Die
		The puppet will lead a game – *The Emotion Die.* In this game, there will be a die with different facial expressions (i.e., happiness, sadness and anger). The children will take turns to roll the die and name the emotion. For children who are still developing their language abilities, they can express the emotion using their face or point to a feeling poster.

Week 3 Session 2	Cause of emotions	***When I'm Feeling Angry*** Use the puppet (Angry Amy) and tell the story – "When I'm Feeling Angry" by Trace Moroney. Encourage children to talk about what happened in the story and share what makes them feel angry. ***Match the Emotion to Scenario*** Pass children emotion sticks that show happiness, sadness and anger. Use the puppet to act out different scenarios that cause happiness, sadness and anger and invite children to match the emotion to the scenario by raising it up. Have them to express how the puppet is feeling using words (*e.g. "The puppet is feeling sad.").*

Week 4 Session 1	Recognise, label and express emotions	***Introduction to Fear***  Use the puppet (Scared Samuel) to act out a scenario that cause fear (e.g., getting lost). Invite the children to guess how the puppet is feeling. Share with children that sometimes we feel fear/ scared. Show pictures of different facial expressions showing fear to the children and use the puppet to facilitate a discussion. Some of the questions that the puppet can ask are: *"How is the person feeling?" "How do you know?" "What do you see?"* Model how to use the words/ a sentence to label how the person is feeling, *e.g. "He is feeling scared."* ***Sound of Emotion*** In this game, I will play different sounds associated to each emotions (e.g. laugher for happiness, crying for sadness etc.). Children will listen to the sound(s) and guess the emotion associated with it through verbal labelling or facial expression.
Week 4 Session 2	Cause of emotions	***When I'm Feeling Scared*** Use the puppet (Scared Samuel) and tell the story – "When I'm Feeling Scared" by Trace Moroney. Encourage children to talk about what happened in the story and share what makes them feel scared. ***Tell me when you're…*** In this activity, children will take turns to draw different emotion cards from a bag. They will identify the emotion on the card and share with the puppet when do they feel the same way. For children who are still developing their language abilities, they can draw scenario cards and express how they would feel using simple words, their face or point to a feeling poster.

Introducing Engineering Design Process to Block Play: A Qualitative Case Study with Kindergarten One Children in a Singapore Preschool

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Introduction

Engineering is the creative use of materials to design solutions to solve real-world problems (Laguzza et al., 2021). It is increasing in popularity in preschools as children, as young as three, are found to demonstrate engineering-related skills and thinking from natural opportunities in daily routines and play (Meeteren & Zan, 2010). This means that Engineering skills are applicable across all developmental domains and explicitly introducing it would value-add to children's holistic development (Engineering is Elementary [EiE], 2018).

Locally, the Infocomm Development Authority (IMDA) of Singapore had initiated the PlayMaker Programme in 2016 to 160 preschools by funding technology-enabled robotic toys (e.g., KIBO Robot, Bee-Bot or Circuit Stickers) and accompanying teacher workshops in hopes of training 17,000 educators (IMDA, 2015). This demonstrated the importance of preschool engineering curriculum and the need for teachers to be equipped with the relevant skills as they play an important role in imparting engineering skills and knowledge to young children. Hence, this prompted a literature search for resources aside from robotic toys and possible teacher-guided strategies.

Literature Review

Engineering and Block Play

I had selected blocks as a resource. Firstly, its constructive nature is similar to engineering designing and creating process, providing a natural and hands-on context for demonstrating Engineering Skills (ES) (Hoisington & Winokur, 2015). Secondly, its open-endedness allowed children to create scenarios and find solutions within constraints set by themselves or their peers, similar to the roles of engineers (Lippard et al., 2019). Lastly, blocks are readily available in most preschools (Froebel, 1826).

Currently, majority of researches found positive results on the development of engineering skills through child-directed block play (Meeteren & Zan, 2010; Koralek, 2015; Tepylo et al., 2015). However, Isabelle et al., (2021) highlighted the benefits of teacher's involvement and the use of framework. One concern was that stages in the framework may restrict children's imagination which is counterproductive for engineering skills development (Isabelle et al., 2021). Yet, results reflected that such strategy scaffolded the process by facilitating risk-taking and more in-depth creative thinking.

Engineering Design Process

This increases the suitability of Engineering Design Process (EDP) framework suitable as it emphasises on teacher's guidance (Lippard et al., 2019). EDP is a core and multistep process used to guide Engineers in formulating solutions (Bagiati & Evangelou, 2016). It has four stages (Figure 1). Stages may not occur linearly but to varying degrees at different times within the engineering experience (Stone-MacDonald et al., 2015).

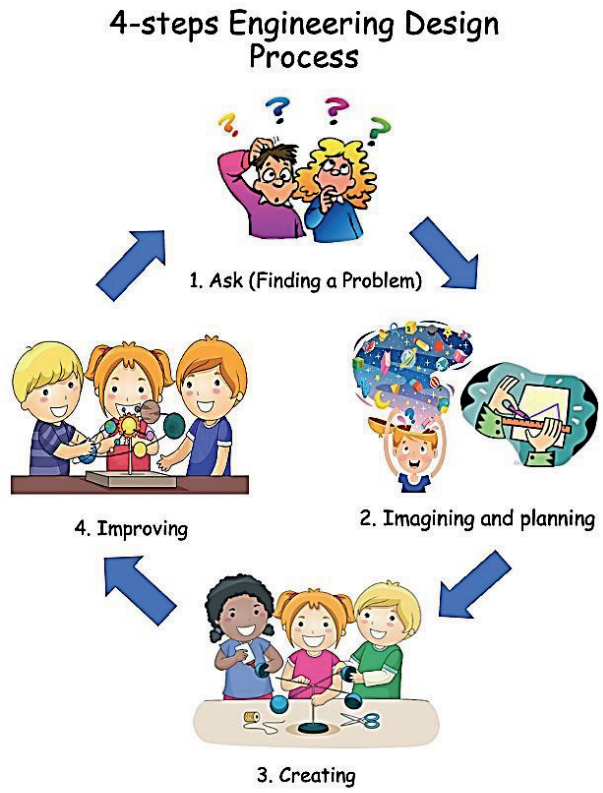


Figure 1. Four-steps Engineering Design

Stage 1: Finding a Problem

Finding a problem is critical as it helps children develop a holistic understanding of the issue (Bagiati & Evangelou, 2016). Possible teacher guidance include use of storybooks, open-ended questions and discussions as they offered high levels of engagement facilitating mental gathering of necessary information, tapping into past experiences and critical reflections from different perspectives (i.e., existing solutions, constraints, materials and target audiences) (Christenson & James, 2015).

Stage 2: Imagining and planning
The goal is for children to come up with as many possible solutions to solve the targeted problem (Stone-MacDonald et al., 2015). Planning happens when children document their ideas, decide on the materials and discuss its effectiveness (Isabelle et al., 2021). Teachers could facilitate by providing drawing materials for documentation and to explicitly teach techniques (e.g., using symbols such as different lines and composition) to ensure accuracy when doing up the blueprint (Blank & Lynch, 2018).

Stage 3: Creating
Children would transform their two-dimensional blueprint into three-dimensional model here (Blank & Lynch, 2018). To facilitate, ample space and time should be provided for exploration. For example, not dismantling their construction over several sessions and providing exploration time ranging between twenty-five minutes to two hours respectively (Isabelle et al., 2021; Bairaktarova et al., 2011). This allows trial-and-error, familiarisation of materials and refining of ideas either individually or collaboratively (Stone-MacDonald et al., 2015).

Stage 4: Improving
Lastly, it is the evaluation of construction by getting children to revisit, rethink and rework their ideas to best resolve the target issue (Stone-MacDonald et al., 2015). Teacher guidance included teacher-talk and open-ended questions to provide feedback (Blank & Lynch, 2018). Examples include providing suggestions by verbalising distinct qualities of each solution, providing ample time and space and making information, resources, and suggestions easily available.

Engineering skills
Engineering skills are technical skills ('hard skills') that can be learned and are used to solve engineering problems (Mohan et al., 2010). This includes goal orientation, design testing, pattern repetition, problem-solving skills and engineering rich talk (Lippard et al., 2019; Bagiati & Evangelou, 2016). Defining these skills allow a fair pre- and post-comparison as any differences could be attributed to the effectiveness of EDP in block play.

As such, my research aims to answer the following research question:
How does introducing the Engineering Design Process enhance engineering-related experiences during children's block play in Centre ABC?

1. How can I guide children through the different stages of EDP?
1.1 Are there any differences in engineering skills demonstrated by children after the introduction of EDP during their block play?

Methodology

Setting

Centre ABC is a private preschool which caters to children between 18-months to six-year-olds. While Science, Mathematics and Technology are currently part of their curriculum, Engineering is a new concept. An hour of free play is scheduled daily, but varies for each child, depending on the time they leave school.

Participants

Participants included 13 children (10 boys and 3 girls), between the ages of four to five, in the Kindergarten One class. One boy, J, withdrew from the centre during the research process. I am a third-year student pursuing a bachelor's degree in Early Childhood Education, and I also participated as a researcher and observer.

Procedures

Seven sessions had been conducted across four weeks, with the main objectives summarised in Figure 2. Pre-intervention refers to the observation of children's block play without any interference from me. This was to identify naturally occurring engineering skills before the use of intervention. Intervention consisted of sessions 1 to 6 and the goal was to introduce EDP and its strategies. Each session corresponded to the EDP stages, lasted between 45 minutes to 1 hour and had four to five participants that were further split into pairs or trios.

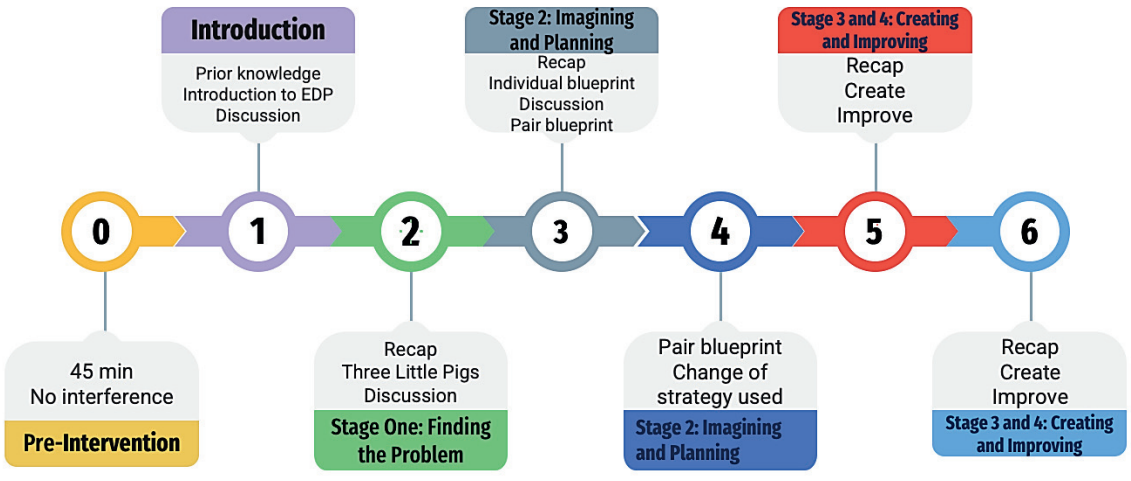


Figure 2. Main Objectives for each session

Data Collection Method

Observation (Audio and Videotaping)

All sessions were audio and video recorded. This allowed accurate attributions of ideas in context as children may not always verbalise their thoughts but demonstrate the engineering skills through their actions (Bagiati and Evangelou, 2016).

Child Interview

Qualitative, semi-structured interviews were used during discussion or block play. Responses helped me to understand, interpret and contextualise their thinking, behaviours and intentions.

Child Artefacts

Children's artefacts were collated according to the stages of EDP and displayed in the learning corner (Figure 3). They acted as visual prompts during discussions or conversations to increase children's awareness of previous explorations (Mukherji & Albon, 2018). It also demonstrated how children's thinking or knowledge of EDP evolved over time.

Teacher Journal

The teacher's journal was used to document personal reflection on strategies used, thoughts, observations, questions and feelings that arose during the research process. Insights gathered (e.g., what went well or areas of improvement) were used to improve the upcoming sessions (Corbett et al., 2012).

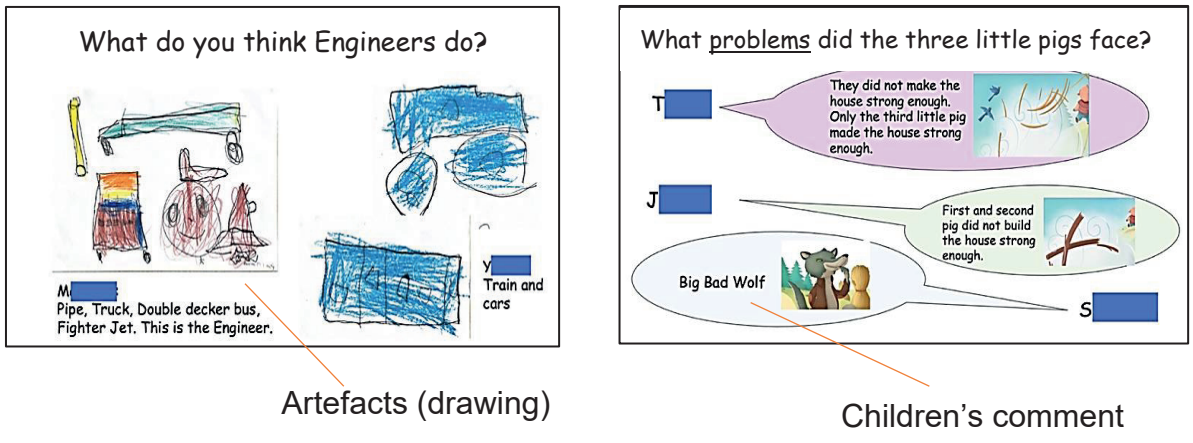


Figure 3. Different pages collated into a flipchart

Findings

Five common strategies – (1) modelling through teacher's talk, (2) process documentation, (3) group work, (4) questioning, and (5) intentional provision of materials were identified to effectively increase four engineering skills (i.e., goal orientation, problem-solving skills, pattern repetition, and engineering rich talk). Although all strategies could be applied throughout the whole engineering experience, as stages may not occur linearly but to varying degrees at different times within the engineering experience, Table 1 summarised the more prominent strategies used at each stage and the engineering skills developed.

It is evident that use of questioning (evaluate and clarify children's understanding or extending children's thinking) and process documentation could be used across several stages to promote engineering-rich talk, problem-solving skills, and pattern repetition. Thus, I will be discussing these three strategies in this sequence: (1) description of strategy and (2) changes in identified ES pre- and post-intervention.

Stage	Strategies used	Engineering skills developed
Introduction	~ Modelling through teacher's talk	~ Engineering-rich talk
One: Finding the Problem	~ Questioning: o Evaluate and clarify children's understanding	~ Engineering-rich talk
	~ Process documentation	~ Pattern repetition
Two: Imagining and Planning	~ Questioning: o Evaluate and clarify children's understanding o Extending children's thinking	~ Engineering-rich talk ~ Problem-solving
	~ Process documentation	~ Pattern repetition
	~ Intentional provision of developmentally appropriate materials	~ Goal orientation
Three and Four: Creating and Improving	~ Questioning: o Evaluate and clarify children's understanding o Extending children's thinking	~ Engineering-rich talk ~ Problem-solving
	~ Process documentation	~ Pattern repetition
	~ Intentional provision of developmentally appropriate materials	~ Goal orientation
	~ Group work	~ Pattern repetition

Table 1. Summarised strategies used in each stage and engineering skills developed

Strategy One: Using Questions to Evaluate and Clarify Understanding

Questions had been integrated throughout the entire intervention.

Asking questions allowed me to evaluate children's understanding of the EDP and clarify if necessary. For example, evaluation comes when I asked children to name each stage in sequence during recap sessions. Only then could clarification of children's understanding occur where I either provided accurate engineering terms or explained it in child friendly definitions, as seen in Excerpt 1.

Excerpt 1:

Teacher-researcher: *Does anyone remember what are the four stages of EDP?*

T: ***Ask** somebody*

Teacher-researcher: *Yes, you need to find out what the problem is (**Ask: Finding the problem)**. What is the next step?*

J: ***Plan** and draw.*

Teacher-researcher: *Before you plan, what must you do?*

Children: *Think!*

Teacher-researcher: *Yes, think. But the Engineers use the term **imagine.***

Teacher-researcher: *What is the third step?*

T: *Making it.*

Teacher-researcher: *Yes, **create.***

T: *Teacher YJ, I know the last step is **improving!***

Related engineering skill: Engineering rich talk

Engineering rich talk is defined by children using engineering-specific terms (e.g., engineers, EDP, solutions), not commonly used in their daily lives (Tank et al., 2018). After evaluating children's answers to questions asked, I was able to clarify their understanding by modelling the appropriate use of engineering vocabularies. This increased children's conceptual knowledge as seen in Excerpt 2 where they mimicked and integrated these terms into their own conversations, demonstrating engineering-rich talk.

Excerpt 2:

> R: *But what if this thing (the building) collapses if the cylinder block bangs into it. Is it going to stay or is it going to fall?*
>
> A: *It's going to stay, I think.*
>
> R: *We can **create** first, then test it out later. If it falls, we can **improve** it.*

Strategy Two: Using Questions to Extend Children's Thinking

Questions can also be used to extend children's thinking. This was done by introducing possible and related scenarios to help children see the engineering problem as a big picture. For example, in Excerpt 3 where R and myself presented several new problems for XE (e.g., what if the wolf climbed in through the staircase?).

Related engineering skill: Problem-solving

This promoted problem-solving skills, which is the ability to solve identified engineering issues (Bagiati & Evangelou, 2016). XE displayed this skill by both accurately identifying the problem (e.g., the need to quickly get out of a house on fire) and suggesting new solutions for it (e.g,, adding a lift for fast escape).

Excerpt 3:

> XE: *They need a staircase.*
>
> Teacher-researcher: *Why?*
>
> XE: *if not the three little pigs cannot come out.*
>
> Teacher-researcher: *What if the wolf use it to climb in too? (New problem)*
>
> XE: *Then the pigs can just smash it. (Problem solving)*
>
> R: *Ya, and what if there is a fire and natural disasters (new problem)? Then the whole building will fall down.*
>
> XE: *Then I will make a lift. (Problem solving)*
>
> Teacher-researcher: *How do you think the lift can help to problem solve?*
>
> XE: *The lift can help you quickly get away from the fire. (Problem-solving)*

Strategy Three: Process Documentation

Process documentation refers to resources that helped children revisit, rethink and rework their ideas. I used a flipchart compiled with children's photographs, artefacts, and comments or responses throughout the intervention (Figure 3). It was used during recap sessions and placed at the learning corner afterwards for easy access.

Related engineering skill: Pattern repetition

Pattern repetition is the partial or full recreation of previous successful solutions from self or others (Bagiati & Evangelou, 2016). During pre-intervention, children often mentioned 'building a new one' and held their peers responsible when their construction toppled, as seen in excerpt 4 below.

Excerpt 4:

Z: *Ehhhh…S!!*

S: *Not, it's not me! It's T..*

Z: *Now I don't know how to make it back.*

T: *Never mind, we make a new one.*

However, this changed during the intervention where children started requesting to view photographs documenting their building process to recreate previously successful solutions. This is because, without documentation, children viewed failures or accidents as irreversible and irreplicable. Comparatively, with process documentation, children became more optimistic as they have photographs for reference which facilitated pattern repetition (Excerpt 5)

Excerpt 5:

JH: *Oh noooo. I don't know how to build back already.*

R: *Never mind, we can use Teacher YJ's (student-researcher) phone to see the picture. Then we just follow, we can build back the same one.*

Discussion

Strategy One: Using Questions to Evaluate and Clarify Understanding

Asking questions allowed me to evaluate and clarify children's understanding of EDP. Having accurate conceptual knowledge of EDP is essential because children were observed to use these terms in their conversations to keep track of their own engineering process, as supported by Excerpt 2. Additionally, EDP is the core and foundation of all engineering curriculum and experiences (Stone-MacDonald et al., 2015). Thus, asking questions would ensure that children's understanding is correct, allowing them to use the right engineering terms, and increasing clarity when communicating with each other, enhancing the engineering process (Tank et al., 2018). I was also able to model the use of engineering terms in context in child-friendly explanations through my responses to clarify children's misunderstandings. This corroborated previous study by Lippard et al., (2019) who stated that engineering rich talk develops through social interaction with others as these engineering terms are not commonly used by preschool children in daily conversations (Glen, 2018). Hence, demonstrating the effectiveness of questions to promote engineering rich talk.

Strategy Two: Using Questions to Extend Children's Thinking

Questions were also effective in promoting problem-solving skills by extending children's thinking through the introduction of different aspects of the engineering problem (Bagiati & Evangelou, 2016). Having this skill is essential as engineering problems are usually complex, with interconnected components throughout the process (Frank, 2002). Thus, using questions to expand children's thinking would effectively contribute to the EDP process as children attempt to overcome each challenge using problem-solving skills to find an effective solution.

Strategy Three: Process Documentation

During the engineering process, it is common for engineers and children to encounter previously solved issues. Instead of inventing new solutions, it is more effective to engage in pattern repetition. Doing so increases efficiency and allows them to focus on other aspects to make the solution more holistic (Bagiati & Evangelou, 2016). To facilitate recollection of previous solutions, studies had suggested for children to keep the construction over several sessions without dismantling (Stone-MacDonald et al., 2015). However, space is a concern in many preschools. Hence, process documentation, through compilation of photographs, artefacts and comments, is also an effective strategy to meet the goal of process documentation.

Additionally, photo documentation helped track children's exploration of each EDP stage as it unfolded consequentially. This corroborated previous study which stated that EDP occurs non-linearly to varying degrees at different times (Stone-MacDonald et al., 2015). Yet, all stages are required when formulating solutions (Lasser, 2021). Thus, process documentation ensured that all aspects were covered, contributing to a holistic and in-depth engineering experience.

Conclusion

In conclusion, this teacher research provided evidences that the teacher-guided EDP is effective in developing engineering skills through block play in the Kindergarten One class of Centre ABC in Singapore. The three feasible strategies are the use of: (1) questions to evaluate and clarify children's understanding, (2) questions to extend children's thinking and (3) process documentation. It promoted engineering skills of engineering-rich talk, problem-solving skills and pattern repetition. Although the effectiveness of EDP is dependent on teacher's guidance, it should not be teacher-directed as demonstrated from findings from strategy two as this could limit children's exploration and capability to problem-solve.

Instead, teachers should provide prompts, take children's developmental levels, intention of exploration and interests into consideration. Doing so would promote the development of engineering skills in a meaningful and relevant manner, enhancing the effectiveness of EDP.

References

Bagiati, A., & Evangelou, D. (2016). Practicing engineering while building with blocks: Identifying engineering thinking, 24(1), *European Early Childhood Education Research Journal, 24*(1), 67-85. https://doi.org/10.1080/1350293X.2015.1120521

Bairaktarova, D., Evangelou, D., Bagiati, A., & Brophy, S. (2011). Early engineering in young children's exploratory play with tangible materials. *Children, Youth and Environments, 21*(2), 212-235. https://www.jstor.org/stable/10.7721/chilyoutenvi.21.2.0212

Blank, J., & Lynch, S. (2018). Growing in STEM. The design process: Engineering practices in preschool. *Young Children, 73*(4), 89-93. https://www.naeyc.org/resources/pubs/yc/sep2018/design-process-engineering-preschool

Christenson, L. A., & James, J. (2015). Building bridges to understanding in the pre-k block center: A morning in the block center. *Young Children, 70*(1), 26-31. https://www.naeyc.org/resources/pubs/yc/mar2015/preschool-block-center

Corbett, K. S., Turner, G. E., & Nelson, J. D. (2012). *Utilizing the engineering design process to create a framework for curricula design.* https://peer.asee.org/utilizing-the-engineering-design-process-to-create-a-framework-for-curricula-design.pdf

Engineering is Elementary. (2018). *Creating an engineering design process for the preschool classroom.* https://blog.eie.org/creating-an-engineering-design-process-for-the-preschool-classroom

Frank, M. (2002). What is “engineering systems thinking”? *Kybernetes, 31*(9), 1350 – 1360. https://doi.org/10.1108/03684920210443554

Froebel, F. (1826). *The education of man*. Appleton.

Glen, N. J. (2018). *Preschool teachers learn to teach the engineering design process (research-to-practice).* https://monolith.asee.org/public/conferences/106/papers/22381/view

Hoisington, C., & Winokur, J. (2015). Gimme an “E”! *Science and Children, 53*(1), 44-51. https://www.jstor.org/stable/43692202

Infocomm Media Development Authority. (2015). *IDA supports preschool centres with technology-enabled toys to build creativity and confidence in learning.* https://www.imda.gov.sg/news-and-events/Media-Room/archived/ida/Media-Releases/2015/ida-supports-preschool-centres-with-technology-enabled-toys-to-build-creativity-and-confidence-in-learning#:~:text=For%20Immediate%20Release-,The%20IDA%20PlayMaker%20Programme%2C%20launched%20by%20the%20Infocomm%20Development%20Authority,problem%20solving%20and%20confident%20learning

Isabelle, A. D., Russo, L., Velazquez-Rojas, A. (2021). Using the engineering design process (EDP) to guide block play in the kindergarten classroom: Exploring effects on learning outcomes. *International Journal of Play, 10*(1), 43-62. https://doi.org/10.1080/21594937.2021.1878772

Koralek, D. (2015). Ten things children learning from block play. *Young Children, 70*(1), 6 https://www.naeyc.org/resources/pubs/yc/mar2015/ten-things-children-learn-block-play

Laguzza, K., Katzer, K., McDonnell, M. K., & Cunningham, C. (2021). Engineering in preschool: Building the basis for lifelong problem solving. *Teaching Young Children, 14(*2), 12-15. https://www.naeyc.org/resources/pubs/tyc/winter2021/engineering-in-preschool

Lasser, R. (2021). *Engineering method*. https://sites.tufts.edu/eeseniordesignhandbook/

Lippard, C. N., Lamm, N. H., Tank, K. M., & Choi, J. Y. (2019). Pre-engineering thinking and the engineering habits of mind in preschool classroom. *Early Childhood Education Journal, 47*(1), 187-198. https://doi.org/10.1007/s10643-018-0898-6

Meeteren, B. V., & Zan, B. (2010). Revealing the work of young engineers in early childhood education. *Early Childhood Research and Practice, 12*(2), 1-19. https://www.researchgate.net/profile/Beth-Van-Meeteren/publication/301779712_Revealing_the_Work_of_Young_Engineers_in_Early_Childhood_Education/links/5727c50808ae262228b45443/Revealing-the-Work-of-Young-Engineers-in-Early-Childhood-Education.pdf

Mohan, A., Merie, D., Jackson, C., & Lannin, J. K. (2010). Professional skills in the engineering curriculum. *IEEE Transactions on Education, 53*(4), 562-571. https://www.researchgate.net/publication/224605584_Professional_Skills_in_the_Engineering_Curriculum

Mukherji, P., & Albon, D. (2018). *Research methods in early childhood.* (3rd ed.). SAGE Publications Ltd.

Scharer, J. H. (2017). Supporting young children's learning in a dramatic play environment. *Journal of childhood studies, 42(*3), 62-69. https://doi.org/10.18357/jcs.v42i3.17895

Stone-MacDonald, A., Wendell, K., & Douglass, A. (2015). *Engaging young engineers: problem-solving through STEM.* Paul H. Brookes Publishing Co., Inc.

Tank, K. M., Rynearson, A. M., & Moore, T. J. (2018). Examining student and teacher talk within engineering design in kindergarten. *European Journal of STEM Education, 3*(3), 1-10. https://files.eric.ed.gov/fulltext/EJ1190717.pdf

Tepylo, D. H., Moss, J., Stephenson, C. (2015). *A developmental look at a rigorous block play program.* https://www.oise.utoronto.ca/guestid/robertson/UserFiles/Image/Blog_images/Tepylo_Moss_and_Stephenson.pdf

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

The 74th OMEP World Assembly and Conference
Athens, Greece
11-15 July 2022

Dr Christine Chen
President, AECES

"Early Childhood Education in the 21st century: New Perspectives and Dilemmas"; such an enticing theme! So, I picked up my luggage and went for it. The Keynote that left much food for thought was "Rethinking the Role of Adults in Relation to Children's Participation" delivered by Adrijana Visnjie Jevtie from the Faculty of Teacher Education, University of Zagreb, Croatia.

Adrijana spoke about the "image of the child" with child's participation as a fundamental right and repositioning the child in society. She shared that children are being over-protected and the supportive role for children is reducing, while over protection is increasing. This trend affects the "image of the child" in that children are viewed as needing protection instead of having agency and being competent.

What I appreciated most in her presentation were the questions she posed on the children's role of participation. If we value participation, do we consider the children's views? Do we really share the power of decision making with children? What is developmentally appropriate decision making? We must provide an enabling environment for participation and opportunities for decision making and if we want children to change the world, are we ready for it? These questions leave much food for thought for our daily practice as early childhood educators.

The two poster presentations which are worthy to highlight are "The Transformation of the Role of "SukuSuku" the Child-Family Support Centre at the University Campus in Japan: "Bringing the Development of Artistic Community" and

“Factors that Affect the Resilience of Preschool Children in 8 Asian Countries during the COVID-19 Pandemic.” Both these presentations addressed the wellbeing of children, families and early educators. Since the outbreak of COVID-19, drastic changes have been required of us which threaten our wellbeing.

“SukuSuku” means growing up healthy in mind and body. This child-family support centre at Shinwa Women’s University in Kobe, Japan, has transformed the space for community of artists and exploration where children, families and staff are welcomed to work together to become protagonists, experience surprise as they play, explore and discover. These experiences give all participants an immense sense of well-being and happiness.

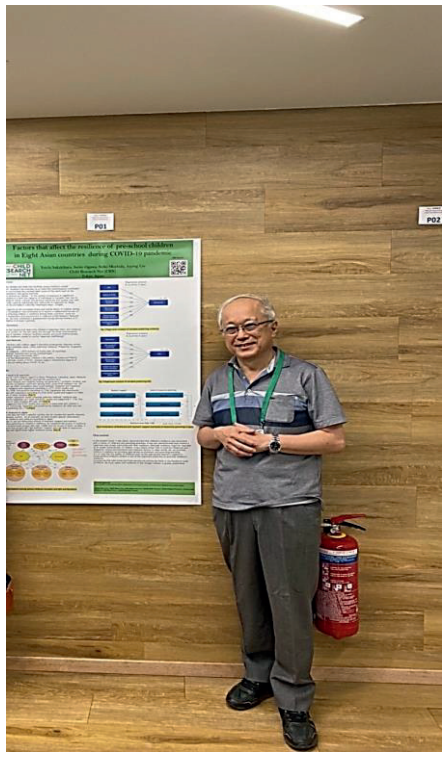
Young children with Light – Observing; Touching; Experimenting

“SukuSuku” Staff/Atelierista with Light

Family members (mostly mothers) with Light through their children

The second poster by Professor Yoichi Sakakihara, Director, Child Research Net (CRN), reported that happiness was closely associated with children’s resilience. It also demonstrated that resilience was associated with a variety of childcare and parenting practice. This has relevance to us, as Singapore was one of the countries that participated in this survey. Between September and November 2021, through a sample of convenience, 136 mothers of 5 year old children (69 boys and 67 girls) were given a survey questionnaire.

It was found that children in Singapore have a support system at home and in school. Children and families are supported by teachers in the childcare centres and at home, children have parental support and caregivers who know them well. Children feel safe and their families care about them when times are hard. Spouses share childrearing duties and household chores and children get along with their parents and feel fine at home.



Generally, children enjoy kindergarten and look forward to going to school and are coping relatively well with schoolwork. They are physically well, hardly have any headaches or tummy aches, maybe sometimes they feel tired but 90% of the time they are strong and full of energy. They have fun and laugh a lot with family and friends at school.

This data shows that the Singapore child has the factors that build resilience and the Association for Early Childhood Educators, Singapore (AECES) would like to thank all the centres that assisted in the collection of the data. It is heartwarming to note that our Singapore child in the survey has good support systems at home and at school. However, our sample is very small and it's a sample of convenience.

In our advocacy for the wellbeing of children, families and early educators, we depend on each one of us in this community to be mindful of promoting the child's agency and providing decision-making opportunities. For their families, we provide platforms for engagement. Together, we share learning experiences that enhance wellbeing for all. Finally, I leave you with this one last question: as we engage children and families in the 21st century, how can we include ourselves in a meaningful way in which we become protagonists in play, looking for surprises, questioning, exploring and discovering the immense happiness of being in a community of learners?

https://www.childresearch.net/

Teach the Whole Preschooler – Strategies for Nurturing the Developing Minds by Cindy Terebush

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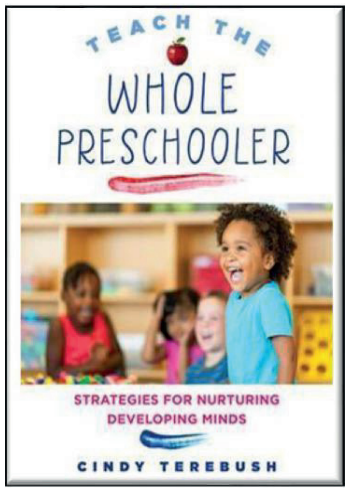

Teach the Whole Preschooler – Strategies for Nurturing the Developing Minds is an easy-to-read book that guides teachers through reconsidering their routines, approaches, actions and reactions, consider the whole child and learn how to approach learning experiences with thoughtful planning and acquire strategies to update their interactions and lessons. Packed in 12-chapters are practical tips and strategies for educators to make concerted efforts to become reflective practitioners. The 225-page letter-sized book combines facts, theory-based references, authentic examples, and explanations to poignantly encourage educators to reflect how they have been practising and discover as well as explore the changes that will be worthwhile to align to the changes in young children's profile and modify the classroom settings to engage them meaningfully.

The chapters in the book cover everything from socialisation and behavioural expectations to emotional capacity and assessing reading and writing readiness. Educators will learn how to have realistic expectations of themselves as well as the preschoolers while preparing them for the years ahead in today's competitive world. Each chapter ends with discussion points for more effective communication with parents, a vital part of teaching.

This book is all about possibilities of what every action that educators can make to derive the consequence of supporting every child to optimise his learning and development by collaborating with parents. The author shared her extensive classroom experiences and included well-researched early childhood development theories and pedagogies to illustrate and home her messages.

There are many elements in the book that are used to represent early childhood life, the preschool learning journey. These elements are delicately and sensitively explained as if to trigger educators' thinking, to feel emotive and to initiate the urge to

want to take actions to give children an exciting yet adventurous journey of their childhood. For novice educators, these elements are much like survival tips.

In some chapters, the author included dos and don'ts and tips for educators to 'polish' their communication skills when interacting with the preschoolers, responding to them and when teaching them specific concepts.

Often, educators are required to manage the under currents of the classroom and the waves of change brought about by the growing children while performing their role in educating and nurturing them at the same time. The author combined facts and theory-based references with explicit examples and explanations to create a sense of wonder through layers of realistic classroom situations and the events below the surface. Being more aware of this information enables educators to become resilient and be motivated to work together with colleagues and families. The new ideas, helpful hints, and strategies that the author had shared through humour and relatable stories will pave the way for more effective collaborations for educators, children, and parents. In the same vein, educators will develop competence in leading classrooms that intentionally promote a love of learning, positive self-image, prosocial behaviour and value the perceptions, thoughts and emotions of the preschoolers.

The author explained that it is important for educators to consider the whole child to support the preschoolers to expand their thinking about themselves and the world. Educators should recognise preschoolers as complete emotional, social and cognitive human beings and use some of the new strategies that the author had shared to enhance their interactions and vitalise their lessons to help the preschoolers to connect to new concepts. Some educators may find this rather uncomfortable because this practice deviates from the typical teacher-directed approach. To teach the whole preschooler, educators will need to celebrate what the preschoolers' actions are telling them and confront their own expectations to effectively nurture today's young learners.

I agree with the author that the world that children live in today is different from the world we knew at their age. However, the approaches that educators have been using have not changed. Educators can certainly reflect on their current practices so that they can strike a balance between appropriate expectations of the children and their desired expectations so that children can succeed. They can reconsider routines, their approaches, actions, and reactions and importantly, consider the whole child to support children in their learning and development.

Educators can refer to these suggested questions for reflections and to set realistic expectations for the children to succeed in enjoyable, challenging yet achievable tasks for holistic development.

- Why am I doing the activities that I do and are they meaningful?
- Am I doing everything possible to form a positive foundation for the children?

- Do I need to let go of the ideas from the past to make room for new approaches?

I particularly like the *Quick Notes* and *Conversation Points When Communicating With Parents* at the end of each chapter. *Quick Notes* are brief but useful reminders for educators to translate theory to practice and includes examples of what educators can do to support the preschoolers' growth and development. There are also guiding questions for educators to do reflections and to improve their practices.

Communication with parents complements teaching and it is crucial that parents collaborate with teachers to optimise each and every child's development and learning. *Conversation Points When Communicating With Parents* offer conversation pointers to converse with parents. The author explained vividly what parents should learn about their children so that they can support their children's learning. These conversation pointers will ease the fear that educators have when communicating with parents and motivate them to strengthen their rapport with the parents who would surely be more supportive and collaborative if they are aware of what they can do to optimise their children's learning and development.

The book has excellent font styling. However, except for the black and white pictures to separate the chapters, the book lacks visuals to break the monotony of pages of continuous narratives or explanations. The author could include appropriate pictures, charts or visuals to make the book visually appealing and for a lighter read.

Including short pauses for reflection will also enable the reader to pause to compare their current practices and jot down possible adaptations or changes that can be considered when they return to their classrooms.

How to Adopt a Whole Child Approach

To adopt the whole preschooler approach to nurture their developing minds, educators need to, first and foremost, set realistic expectations that are aligned to their methodology and teaching approaches. Aptly defined as the expectations tightrope, educators can find the middle of the expectations tightrope by dissecting, questioning, and evolving to resolve the disconnect between how things have been done with the demands of the world that now exists to enable children to learn new things in a nurturing and developmentally appropriate environment. However, they do not replace all existing constructs.

The author advised educators to do what they are doing with more thought and reflection and explore more and think deeper about what they do in the classrooms. This is because children who are supported to feel capable and confident are more willing to take on new challenges and their desire to learn is directly related to the educators' position on the expectation tightrope.

Educators can also review their classrooms, keeping in mind the moments of the day, consider the activities that are offered and their teaching methods to ensure that every moment supports the children to develop confidence, self-worth, and capabilities. Then, they can try a new approach to an activity to create compelling engagements, for example, and continue to experiment until they find what works for the children.

I like how the author invited educators to step into the shoes of the young children. The author said early learners are tiny in a world full of big. Everything towers over them and a group of adults is like a forest. Children cannot see their way out of the crowd, and they are easily stepped on, tripped over, and overlooked. They need to look up to see the tops of tables, but they cannot reach anything they need. They see the world from their own perspective without an understanding of their impact on others. Each of them assumes that we all see things the way that they do, and most preschoolers are still operating in a world where reality has no boundary, and anything can happen. Truly, this explains the way children respond and behave.

Hence, really knowing the children matters for educators to plan learning environments for them. They need to look through the different lens with different focus to see the world through the children's eyes and figure out how children think to appeal to their desire to know more.

Leveraging on child development enables educators to ensure that every interaction that they have with the children shapes their worldview and opinions of themselves. Therefore, educators should be mindful that they are the children's first mirrors. They need to let children do things for themselves as soon as they know how to and resist making decisions for them to develop the children's confidence and resilience. Also, they need to let go of control, starting from the most basic functions, and allow the egocentric children to learn through trial and error and to support them through their struggles for power to develop independence, think critically, make decisions and develop a sense of self – to nurture the whole child.

To intentionally refrain from taking away opportunities for learning, educators can support children who are frustrated or struggling by asking:

- Can I help you?
- Will you come back to try again later?

How to Enhance Children's Use of Language

What educators say to the children matters. In addition to providing print rich classrooms, they can use more accurate vocabulary and enhance the children's use of words. Educators can reflect on their use of language and be intentional in their speech to teach more accurate and specific vocabulary. The author pointed out that typically educators do not use enough accurate emotion words when interacting with the children. In addition to emotion words, children can learn degrees of emotions and

words such as frustrated, joyful, terrified, ecstatic, shocked, anxious, gleeful, exhilarated, angry and furious to enable them to cope and regulate their emotions.

Next, educators should intentionally extend the children's learning through a variety of play experiences and engage them in multiple senses in all activities. They should recognise that children consider enjoyable activities to be play and resist the temptation to insert their own ideas into the children's play. Instead, they should allocate time for the preschoolers to develop deeper learning through play and ask open-ended questions to extend their play.

Providing and maintaining an atmosphere of acceptance of all levels of socialisations from setting up of a quiet place for the children to chill or self-direct to recharge when tired by social interaction, to places to accommodate one or many children or for solitary to cooperative play will teach the preschoolers to respect each other's need for alone time. The author encouraged educators to resist the urge to force children to play together or out of their comfort zones. This is food for thought. I wonder if this will compromise children's learning of the different ways that people interact, manners and etiquette and the roles of leader, follower, authority and subordinate.

How to Tackle Challenging Behaviours

One of the biggest challenges for educators is tackling challenging behaviours of preschoolers. Educators are reminded that preschool classrooms need to provide an environment that encourages academic, social and behavioural exploration. This is because socialisation, behaviour and academics are inextricably intertwined as the components of a well-rounded early childhood experience. Also, educators need to set reasonable expectations of behaviour and be aware of what preschoolers can or cannot do without assistance. Too many rules for the children are not realistic.

I concur with the author that classroom rules fulfil educators' own need for order and control but not communicate realistic expectations to the children. Educators should reflect and review their classroom rules keeping in mind that the rules of behaviour should facilitate positive socialisation. Establishing reasonable boundaries teaches children that the world has rules and that those rules are required for orderliness. Therefore, it is important to teach them about safety and health as well as respect for people, property and the community.

The author sternly reminded educators that it is not their job to punish children. Educators should see challenging behaviour as a moment in real time that they can use to educate children. Young children need to learn how to cope with frustration, think about their reactions and value order over chaos. They need to develop understanding that their decisions impact other people and that the world responds when they behave beyond the limits. Until the children develop a more global view of the world and can see events from multiple perspectives, educators need to be that

lens for them. They need to recognise that the children are trying to find their power over their own lives and not as a personal challenge to the adults around them. Older methodologies taught that children need to be told what to do, what to play with and how to accomplish every task. Educators can reflect if these methodologies should be applied and if so, how and when do they use them.

How to Use Behaviours as a Teaching Tool

To use a behaviour as a teaching tool, educators can identify what behaviour they wish to teach in place of the inappropriate behaviour, find a way to include the child in the lesson and teach conflict resolution skills. To determine the behaviour, ask

- Is the behaviour that you are about to teach possible for the young child, specific enough, and one that you will model?
- Can you and how will you facilitate a discussion that will help the child decide upon a more appropriate behaviour?

Ideally, educators should pay more attention to good behaviour and not reward the inappropriate behaviour such as responding to attention seeking misbehaviours. It may not be easy. However, acknowledging good behaviour teaches the preschoolers about pride. Shaping children's behaviour takes time. Educators need to keep in mind that they can only try to change one behaviour at a time. They need to prioritise if the child exhibits several challenging behaviours. Use these guiding questions to identify the behaviour to teach.

- What behaviour needs to be changed to a new behaviour first?
- What behaviours can wait?

To teach a behaviour, educators can ask:

- What is a logical consequence of this behaviour?
- What behaviour do I want to teach in place of this behaviour?

Communicating effectively with the preschoolers is important. The author had offered tips to rephrase what educators can say to communicate clearly with children, teach them empathy, guide them to make the apology meaningful and conclude the behaviour lesson with choices. Here is the step-by-step approach to address the misbehaviour and conclude the lesson.

<u>Phrase Your Response</u>

Bring the preschooler to you. Clearly state the action that is not allowed. The 'action' should be in your first word in the sentence, such as,

· Hitting is not allowed.
· Pushing is not allowed.
· Throwing blocks is not allowed, etc.

To teach empathy

Follow up the first sentence with the reason that the behaviour is not allowed by relating to the preschooler who performed the action. For example,

- Hitting is not allowed. Hitting hurts just like when you fell on the playground yesterday.
- Pushing is not allowed. Ann can bang her head just like when you banged your head on the bookshelf.
- Throwing blocks is now allowed. The block hurt Sam's eye like when you hit your head on the edge of the table at home.

To make the apology meaningful

Then, ask the preschooler to go to the victim to apologise and state what he/she will not do again. For example,

- I'm sorry. I will not hit you again.
- I'm sorry. I will not push you again.
- I'm sorry. I will not throw a block at you again.

To conclude the behaviour lesson with choices

Next, give the preschooler a choice of two other activities. Calmly repeat the choice until the child chooses. If the preschooler wants to return to the original activity, remind him/her of your expectation. For example,

- Blocks are for building. You can go there and build.
- If the inappropriate behaviour is repeated, repeat all the steps above.

How to Help Children Manage Emotions

Educators need to be aware that preschoolers have limited emotional capacity and they sometimes have a bad day, too. Therefore, set realistic expectations so that they will not be burdened with the notion that their happiness influences the mood of educators. Educators should remember unrelenting happiness is an unrealistic goal and all human emotions are normal and acceptable.

Educators have mantras such as 'practice makes perfect' or 'patience is a virtue' to remain calm when faced with children's emotional upheavals. The author suggested adding these mantras too.

- Emotions are normal.
- Emotions are all acceptable.
- Emotions come and go.
- Emotions are not facts.
- We cannot always control our emotional instincts, but we can control our reactions to them.

I agree that self-examination is hard. Educators can use mindfulness techniques to separate their emotions from facts. They should avoid invalidating or offensive statements. When overwhelmed, the author suggested educators engage their senses by taking a few deep breaths and

- feel the floor beneath their feet;
- identify three sounds that they currently hear; and
- open their eyes and name the first three things that they see.

Simultaneously, educators can ask these questions to teach preschoolers to apply logic to emotion and think critically at the same time.

- What are you feeling?
- Why are you feeling that?
- What can you try?
- What else can you try?
- What was the result?

And to enable preschoolers to catch how adults cope with emotions, educators can demonstrate that they also experience a range of emotions and real-life ups and downs.

How to Rethink Classroom Routines

The author advised educators to rethink the classroom routines to support the children's need to discover independently and explore with all their senses to learn to care, be intrigued and be an active part of their own learning. Routines in preschools have remained unchanged over time. Educators should examine and dissect preschool routines – to refine and retire those routines that no longer make sense. Here is an interesting suggestion. Call 'circle time' group meeting time instead to provide an opportunity for the children to sit where they wish and a chance to make a personal decision or learn about coping skills.

Another routine – cleaning up time often becomes fraught with unrealistic expectations when educators sing about it, repeatedly tell preschoolers to clean up and think that they will follow all the required steps. When involving preschoolers in routines, educators can reflect and ask:

- Why am I doing this?
- What does this teach?
- What measurable knowledge do I observe the children learning from this?
- Why is this part of my routine?

Would there be routines that you can refine or retire in your classroom to make group time more fun, engaging and meaningful? Are there opportunities for the preschoolers

to learn about their world freely through dumping and spills, mixing and matching, for example, to pique and satisfy their curiosity?

How to Resist the Temptation of Intervention

Allowing preschoolers self-expression and develop confidence to make decisions everyday and throughout the day is important. Educators should provide opportunities for them to create their own pieces of art, write their own books and explore the world without unsolicited adult intervention.

The preschoolers are not participating in an art activity when educators pre-cut paper and then tell them to glue it. Instead, they learn following directions and glueing. To ignite the preschoolers' brains and to allow self-expression, educators should allow them to create from scratch.

There are ample opportunities in literacy activities that allow preschoolers' self-expression and a glimpse at their thinking. Preschoolers who are allowed to be storytellers, authors and illustrators get to explore literacy rather than just observe it.

I concur with the author that educators unfortunately fail to capitalise on this. Dramatic play areas are the creative and oral story centres in the classrooms. Preschoolers often talk to themselves as they create stories for their cars, dolls or structures when immersed in play. These oral stories can become pieces of art and literature if they are encouraged to create them from their own experiences. Educators should, therefore, ask questions and allocate time to extend their self-expression.

The preschoolers' literacy development begins in the less obvious classroom activities such as understanding symbolism with dramatic play, art experiences that build fine motor muscles and cross-lateral brain connections, drawing, playground time and more. Indeed, literacy activities should cross all curriculum activities and educators are encouraged to make observations across the wide array of activities and the development of the whole child to identify their readiness for reading and writing and to support their literacy development.

How to Cope with the Excitement in the Classroom

The book offers practical tips for educators to cope and embrace action rather than constant reaction to ride the excitement from an early childhood classroom. Educators can begin by distinguishing what was possible from what was not as well as what was priority and what was not. This is because planning to reach it all at once is not realistic. Therefore, plan for who the children are and not who you need them to be. The school's mission, goals and general statements do not address individuality of the preschoolers. It is the educators' job to address the individuality in the class. Also, educators can aim to be intentional by setting additional goals that relate to each child in the classroom.

The author advised educators to spend the first few weeks observing the children, and ask:

- Who is each child?
- What needs does that child bring to your classroom?
- What strengths, what gifts, does each child bring to the world that can enhance the environment?

The observations will show how the preschoolers complement each other.

Then, determine what goals you have socially, communally and individually for the social and behavioural growth of the children. Take into consideration the developmentally appropriate and reality-based skills you want the children to have learned before leaving at the end of the preschool year?

Next, prioritise and dissect the goals and write them on index cards or list them in your computer. To deconstruct a goal and become intentional, educators can ask:

- What behaviour do I want to teach instead of this behaviour?
- What are the specific steps to teaching it?
- How can I acknowledge success?
- When do I consider this skill mastered?

Once the specific list of action items and the priority order have been decided, educators can determine how it can be taught to the preschoolers who have agendas of their own.

How to Cope with Preschool Changes

The author invited educators to do a reality check. The preschool has a life and its morphing require educators to change with it. The educators' approach and methodology for being proactive must change as the preschoolers change emotionally and grow socially.

Becoming more reflective and proactive rather than reactionary can become a habit of how educators approach every child, every class, every year. Hence, they should embrace action rather than constant reaction, plan for who the preschoolers are rather than who they wish preschoolers would be, set goals that are for the actual individuals in the class, not just for the class or the school.

Most importantly, write a list of goals and revise the list based on observations of the preschoolers' abilities, and for every action, continue to reflect and query what and how each preschooler can be supported to achieve success.

How to Overcome Fears of Educating Parents

In addition to *Conversation Points When Communicating With Parents*, the author offered suggestions for educators to share knowledge and communicate in non-early childhood jargon with parents and respect the latter's emotions to connect with and educate them. These suggestions will certainly benefit educators who fear educating parents.

Typically, parents tend to be very interested in pre-literacy and pre-math skills, and they can access information on the internet at their fingertips. Their desire to want results immediately reflects the society in which we live. To meet this expectation, educators can use a variety of channels and platforms including sending home newsletters, articles or reminders to communicate updates of academics, social and emotional development of the preschoolers.

Educators can also invite parents to the classroom to participate in multi-sensory activities for them to identify how and what children are taught. To enrich parents' knowledge, educators can narrate what they have prepared in the classroom and explain the curriculum and pedagogy. This will enable parents to support what educators do and support their children's learning and development and provide regular updates of their children's progress to educators. In turn, educators can use the information to tailor their facilitation or provide resources that can better meet the individual child's learning needs.

In addition, educators can teach parents that if they push their children before they are developmentally ready for concepts does not guarantee future success. Ultimately, communication educators have with parents should be aimed at easing the latter's fears if their children will succeed in this highly competitive world.

Summary

Reading this book is like attending a professional development session. This book is written by an author who understands educators. She shared the natural development of the preschoolers found within the realities of the classroom. She reminisced that educators spend their time trying to connect their preschoolers to new concepts and reaffirmed that in every generation, the educators' biggest challenge is to take the information to the preschoolers rather than expect the preschoolers to come anxiously ready to receive learning. She reminded educators to go to the world that the preschoolers reside – in an instant information, highly paced, always connected world that revolves consistently. She reiterated that educators should accept that the preschoolers today know no different, and so they can be happy and be taught in a developmentally appropriate manner within the confines of current trends.

To embrace the whole preschooler approach, educators need to recognise that the children are not only vessels for information. They are emotional human beings with

newly emerging socialisation skills and cognitive abilities who need to figure out their world. They need to be the doers and educators need to help them to expand their thinking about themselves and the world around them. Changing dated approaches or practices is not easy but it can be worthwhile.

Educators, you must believe that you can make a difference by being an intentional teacher who questions the current constructs and be willing to change. You should see ideas in a new way and analyse them for use in your own classrooms.

I encourage all educators and leaders to read this book, to reflect deeply so that they can adapt or change their practices to enable them to connect with the 'digital native' children who are still attempting to overcome the challenges of the pandemic that curbed their freedom to socialise beyond their homes or classrooms. Educators and leaders will need to be flexible and will require new strategies to lead classrooms to intentionally nurture the whole preschoolers' developing minds.

The small changes and modifications can help the preschoolers to fully engage with play, support their development of critical thinking and problem-solving skills, practise calculated risk taking, form meaningful relationships and develop a sense of self, resilience, and perseverance.

The book is an absolutely good read for novice educators who will garner a lot of what happens in the preschool classroom and benefit from the detailed narratives and explanations of what can be done to quickly embrace the situations and think creatively to connect with the preschoolers.

Experienced educators can speed read the examples to make sense of what the author is relating to. You may wish to adopt the strategies in the Quick Notes to enhance your current practices as you reflect on how you can further intentionally teaching to become more effective educators.

Educators, if you are facing challenges connecting children to concepts and shaping their behaviours, it is worthwhile reflecting deeply to refine or retire some old pedagogical approaches and routines so that you can be aligned with the world that the preschoolers reside. Afterall, you will derive fulfilling outcomes only if you are reflective and are willing to make changes to nurture the preschoolers' developing minds within their window of early childhood development.

Don't wait – start to think seriously about why you do, what you do and how to teach. Nurturing the whole preschoolers can be more enjoyable as you give a good start and strong foundation in life.