



COLORADO EARLY LEARNING: UNIVERSAL DESIGN & INCLUSION PROJECT EVALUATION REPORT

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IN PARTNERSHIP WITH:

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**Rocky Mountain
Prevention Research Center**
colorado school of public health



Center for Inclusive Design and Engineering (CIDE)
Colorado Early Learning: Universal Design & Inclusion Project
UNIVERSITY OF COLORADO DENVER | AURARIA CAMPUS



Inclusion through Universal Design and Assistive Technology

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We sincerely appreciate the child care providers who participated in the Colorado Early Learning: Universal Design & Inclusion project. Your unwavering commitment to fostering inclusive environments for young children is truly inspiring. Your work is essential in helping all children in Colorado reach their full potential. Thank you for being an integral part of this important effort.

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TABLE OF CONTENTS

3	Executive Summary
5	Introduction
6	Project Description
8	Logic Model Development
10	Evaluation Background
11	Evaluation Methodology
18	Evaluation Results
36	Recommendations
37	Conclusion
38	References

EXECUTIVE SUMMARY

This report provides information on the evaluation of the Colorado Early Learning (COEL): Universal Design & Inclusion (UD&I) Project. This project was implemented by the Center for Inclusive Design and Engineering through the University of Colorado Denver to expand Colorado's child care providers' capacity to support children with delays or disabilities, ensuring all children have access to and can participate in their learning environments.

The Rocky Mountain Prevention Research Center (RMPRC) conducted an end-of-project evaluation to assess the implementation and impact of COEL: UD&I Project on licensed Colorado child care programs, with the goal of informing future work. The evaluation assessed each component of the project as well as the project as a whole.



To complement the survey, a focus group with seven child care providers provided deeper insights into participant experiences, covering project benefits, barriers, and suggestions for improvement. Thematic analysis of the focus group transcripts was triangulated with the survey data, offering a comprehensive evaluation of the COEL: UD&I project's reach and impact on early childhood settings. This combination of quantitative and qualitative methods provided a well-rounded understanding of both the numerical outcomes and personal experiences of participants.

The COEL: UD&I Project consisted of the following components, offered to the selected child care providers at no cost:

Training and Customized Coaching

Adapted Materials Kit

Access to Loan Library of Tools

The evaluation of the COEL: UD&I project employed a mixed methods approach guided by the Bowen Feasibility and RE-AIM Frameworks. A logic model was developed to connect the project's inputs, outputs, and intended outcomes, ensuring that evaluation questions and indicators aligned with the project goals. Quantitative data were collected through a 43-item survey distributed to 374 participants, with a 24% response rate. This survey assessed key areas such as demand, acceptability, practicality, and the project's impact on knowledge, teaching strategies, and children's participation.

The COEL: UD&I Universal Design & Inclusion project made a meaningful and lasting impact on child care providers and children by equipping child care providers with tools and strategies to enhance inclusive practices in early learning environments.



Provider Impact

Most providers (97%) agreed that the project increased knowledge of universal design (UD) and inclusion strategies, focusing on using adaptive materials to support children with diverse needs. The project not only boosted providers' confidence (96%) to experiment with new tools but also fostered an environment of creativity, making small, everyday adaptations. This resulted in significant improvements in their teaching practices. Additionally, 88% of providers experienced reduced stress levels as they felt more prepared to address children's varying needs. Many providers shared COEL: UD&I resources with colleagues and families, contributing to a culture of inclusivity, and over half pursued additional training in UD principles after the project.

Learning Environment Changes

The adaptive materials kits and loan library access allowed 71% of providers to experiment with low-cost tools. 97% continued to apply their new skills to create more accessible and inclusive environments. Changes like increased mobility access, visual aids, and creative material adaptations enabled providers to better accommodate all children. This led to an 84% increase in the retention of children with disabilities, as providers felt more equipped to meet diverse learning needs.



Child Impact

Children benefited directly from the project's focus on inclusion. Adaptive tools increased participation for 63% of children, helping them engage in activities they previously found challenging. Teachers also noticed improvements in communication and literacy skills (84% and 66%, respectively) and enhanced social interactions among children. In the long term, fostering a culture of empathy and inclusion led to reduced disruptive behaviors and helped prepare children for kindergarten, especially those with delays or disabilities.

Conclusion

The COEL: UD&I project successfully empowered providers with the knowledge, skills, and resources needed to create more inclusive learning environments. This, in turn, promoted greater engagement and success for children of all ability levels, fostering a lasting, positive impact on early education practices.

INTRODUCTION

Overview

This report evaluates the Colorado Early Learning: Universal Design & Inclusion (COEL: UD&I) Project, led by the Center for Inclusive Design and Engineering (CIDE) at the University of Colorado Denver and funded by the Colorado Department of Early Childhood (CDEC). The COEL: UD&I project aimed to equip Colorado's child care workforce with the skills and confidence needed to create inclusive, universally designed environments that accommodate all children, including those with delays or disabilities. Beginning in the fall of 2020, licensed family child care homes, child care centers, and preschools across Colorado were invited to participate in the project.

The Rocky Mountain Prevention Research Center (RMPRC) conducted this evaluation to assess how well the COEL: UD&I project met the needs of participating licensed child care providers. This report will provide a brief overview of the need for the COEL: UD&I project; it will describe the project components and intended outcomes using a logic model and detail the methodology and results of the current evaluation. Lastly, the findings will inform recommendations for future project expansions and improvements.



This report serves as a tool for the CIDE team to demonstrate the success and impact of the COEL: UD&I project to funders and stakeholders. By highlighting both achievements and areas for growth, the report aims to secure continued funding and support for the project. Continued funding will ensure the project's sustainability and ongoing contribution to the development of inclusive and accessible early childhood programs across Colorado.

Purpose of the Evaluation

The purpose of this evaluation was two-fold:

- 1) to assess the implementation of the COEL: UD&I project, and
- 2) to understand its impact on licensed child care programs in Colorado.

The results will provide a data-driven understanding of the project's strengths and areas for improvement, guiding strategic planning and supporting funding efforts. By presenting a thorough assessment of the COEL: UD&I project, this report aims to demonstrate its value and potential, ensuring its continued success in promoting inclusivity in early childhood education.

PROJECT DESCRIPTION

The Background for the COEL: UD&I Project

The COEL: UD&I project provides a model for the application of assistive technology (AT) and inclusive learning and universal design to a select number of licensed family child care homes, child care centers, and preschools across Colorado. The COEL: UD&I project was originally funded by the Preschool Development Grant (PDG), a federal grant awarded to Colorado, to expand child care providers' capacity to meet the needs of children with varying abilities by ensuring they can fully access and participate in quality early learning environments.

This project is grounded in research showing that universally designed, inclusive environments promote development and positive outcomes for all children. These environments ensure equal access to learning, full participation alongside peers, and system-level support (DEC/NAEYC, 2009). Providing children with delays or disabilities the same opportunities as their peers leads to improved academic and social outcomes (Kurth et al., 2015).

Universal design for learning principles address diverse learning needs, boosting student engagement and achievement (Rao et al., 2024). Inclusive learning environments promote social integration and positive peer relationships (Kwon, Elicker & Kontos, 2011), while fostering empathy and understanding toward peers with disabilities (Salend & Garrick Duhaney, 1999). These practices benefit all children.

Child care centers that promote a universally designed and inclusive environment often incorporate a variety of Assistive Technologies (AT). These include any equipment, tools, or adaptations that enhance the independence and functioning of children with delays or disabilities so they can participate with their peers. AT can range from simple tools like felt boards and pool noodles to advanced devices such as specialized software, communication tools, or modified equipment. While designed to assist children with varying disabilities, these technologies can benefit all children by supporting their engagement and learning.

The 2019 Colorado Birth Through Five Needs Assessment identified increasing inclusivity and access for children with special needs as a top priority for improving the state's early childhood system (Colorado Department of Human Services, 2019). In Colorado, 8% of parents report having a child with developmental delays or disabilities, reflecting national trends. Many parents, especially those with low incomes or a child with a disability, struggle to find affordable child care that can accommodate their child's needs. Over a third of the parents of children with disabilities say their preferred provider couldn't accommodate their child's special needs. With inclusivity training for providers being voluntary and not part of quality assessments, families face limited child care options. Investment in training, facilities, and programs that promote inclusivity is critical to addressing this gap.

THE COEL: UD&I PROJECT COMPONENTS

The COEL: UD&I project was specifically designed to meet the needs of child care providers by providing universal design training, adaptive materials, resources, and hands-on support at no cost to participating programs. In collaboration with the CDEC, the COEL: UD&I project identified over 25 media outlets to disseminate information about the project and how to apply to child care providers across the state. Interested child care providers then completed a brief online application that included demographic information for the center, staff, and the children they serve, and why they were interested in participating.

Child care providers were selected to proportionally represent home care programs vs. programs, urban/suburban vs. rural programs, and ensure representation across all Colorado counties. Attention was also given to programs serving children from vulnerable populations and/or low socioeconomic status (SES), and those with a clearly stated need, actively serving children with disabilities. A total of 25 participants were accepted in Cohort 1. Cohorts 2-5 included 48 participants each. These numbers do not reflect attrition. Each cohort lasted approximately 9 months from application to completion of project activities.

Once selected to participate, licensed child care providers received:

Loan Library: Access to a library of low-tech and adapted tools and equipment to borrow for up to 6 weeks to trial in the learning environment to determine its value and applicability in the settings before deciding to purchase the item. Child care providers could pick up and return borrowed items through the interlibrary loan courier service.

An Adaptive Materials Kit: Providers were given numerous (20-30) low-cost, low-tech adaptive materials, assistive technologies, and resources to support the development of universally designed and inclusive learning environments.

Universal Design and Inclusion Trainings and Customized Coaching: Up to 9 hours of free training through webinars and online courses including an Introduction to Universal Design course available through zoom or the Colorado Shines Professional Development Information System (PDIS), monthly follow-up topic trainings and small-group implementation sessions. Additionally, CU Denver faculty provided coaching based on the unique needs of the children, staff, and child care program

Ongoing improvements were made to the training content, delivery, and resources. Strategic changes enhanced participant engagement and the application of content, along with significant updates to project assessment methods.

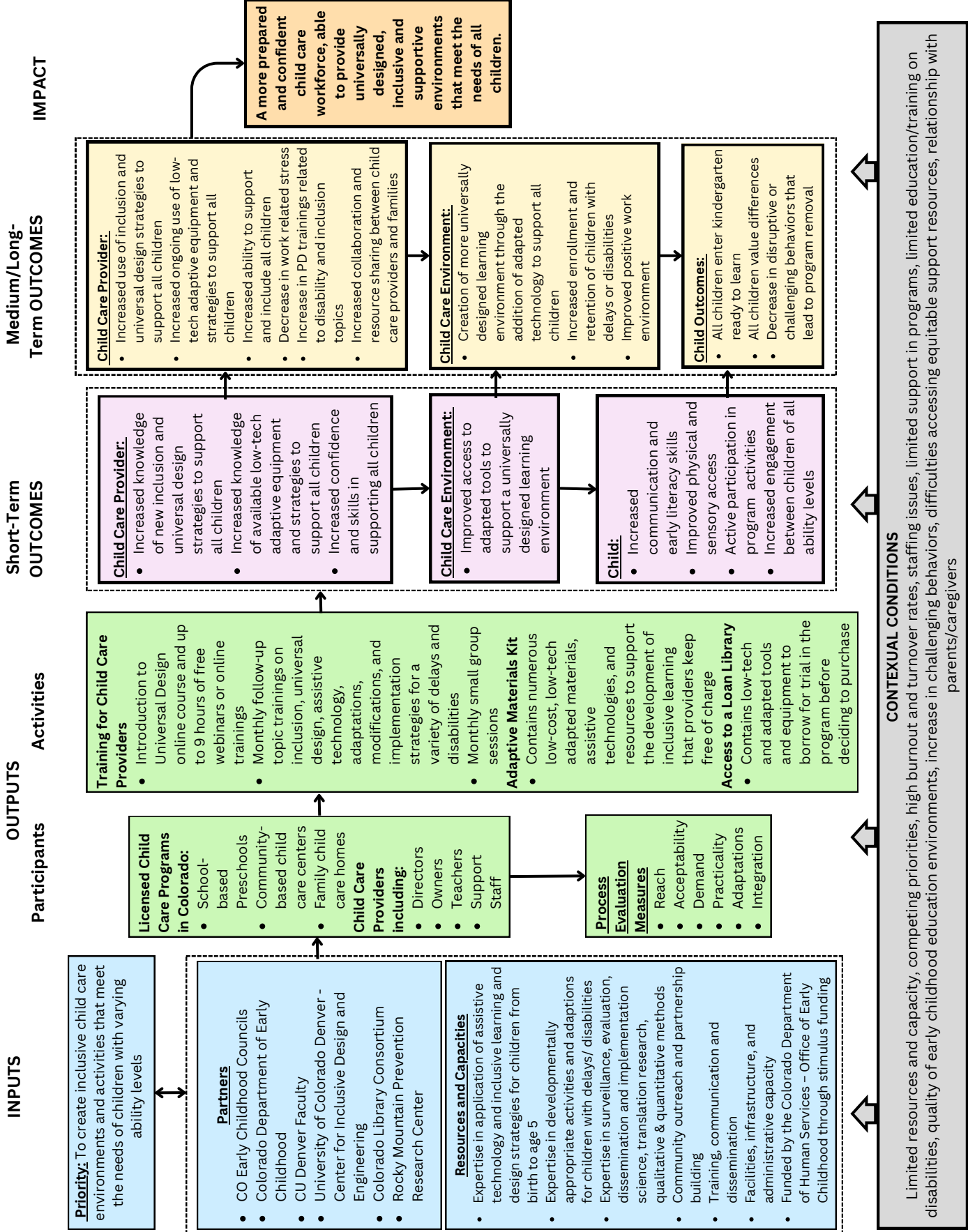
LOGIC MODEL DEVELOPMENT

To clarify the connection between the COEL: UD&I project components and their intended impacts, a logic model was developed by the RMPRC evaluation team in partnership with CIDE. A logic model is a visual tool that outlines the structure and relationships within a project, functioning as a roadmap to achieve specific outcomes. It guides stakeholders in understanding how project inputs (resources) are converted into outputs (activities), which then lead to desired short-term, medium-term, and long-term outcomes. By clearly defining the project's theory of change, the logic model aids in planning, implementation, and evaluation, ensuring all elements align with the project's goals. The logic model for the COEL: UD&I project is shown in Figure 1 below. The components of the logic model consist of:

- **Inputs:** The partnerships, resources, and capacities essential to the project's success. The CIDE team collaborated with several key partners, including the Colorado Department of Early Childhood, Colorado Library Consortium, Colorado State Library System, Early Childhood Council Leadership Alliance, CU Denver Faculty, and the Rocky Mountain Prevention Research Center. These partners supported the development or implementation of the outputs.
- **Outputs:** The specific actions or interventions (activities) carried out to the target audience. The COEL: UD&I project components are mentioned in detail above.
- **Outcomes:** The execution of these activities leads to outcomes, reflecting the changes or benefits resulting from the project. The outcomes are categorized as short-term (e.g., increased knowledge or skills), medium-term (e.g., behavior changes), and long-term (e.g., improved health or well-being). The short and medium/long-term outcomes in the logic model are split into three categories related to the population or setting the COEL: UD&I project intended to benefit, these include child care providers, child care environments and the children attending the child care center.
- **Impact:** The COEL: UD&I project aims to positively impact child care providers, environments, and the children served by these centers, with the ultimate goal of enhancing the Colorado early childhood system.

The COEL: UD&I project was shaped by various contextual factors within the early childhood system, including limited resources and capacity among child care providers, competing priorities, high burnout and turnover rates, staffing challenges, insufficient learning environments support, inadequate training on inclusion and disabilities, quality concerns in early childhood education environments, a rise in challenging behaviors, difficulties accessing equitable support resources, and relationships with parents/caregivers. These factors often hinder child care providers' ability to offer high-quality inclusive care, particularly for children with delays or disabilities. To address these challenges, the COEL: UD&I project provided comprehensive training and support resources to child care providers at no cost.

Figure 1: Colorado Early Learning: Universal Design & Inclusion Project Logic Model



EVALUATION BACKGROUND

The following report presents a comprehensive evaluation of the COEL: UD&I project over the last 4 years, documenting the success, effectiveness, and short and long-term impacts. A mixed methods design was used to conduct a process and outcomes evaluation based off the logic model outputs and outcomes. The results will detail the reach, demand, quality of implementation and impacts of the COEL: UD&I project. CIDE will use these findings to present to funders to support the project's continuation due to its contribution to the development of inclusive and accessible early childhood programs across Colorado.

EVALUATION TEAM

The evaluation was led by members of the Rocky Mountain Prevention Research Center (RMPRC), with guidance from the Center for Inclusive Design and Engineering (CIDE). CIDE contributed insights on the project's history, provided access to previous data collection and evaluation efforts, and facilitated connections with key stakeholders. Together, RMPRC and CIDE developed the projects logic model (Figure 1) and crafted the evaluation questions. RMPRC aligned the evaluation questions using the logic model to create the corresponding data collection tools, incorporating feedback from CIDE on the final data sources. RMPRC was responsible for collecting, managing, and analyzing the data. The evaluation took place from May to July 2024 and covered all project components outlined in the logic model.

EVALUATION DATA COLLECTED BY CIDE

The CIDE team collected data through a survey given to providers at the end of their participation in the COEL: UD&I project to assess immediate outcomes.



Outcome Result Highlights

- On average, providers strongly agreed that after participation, they felt more confident and had an increased ability to support children with delays and disabilities.
- On average, providers strongly agreed or agreed that participation in the project increased their comfort level for enrolling children with delays and disabilities in their program.
- After participation, providers felt they could accommodate children with language delays, limited verbal speech, fine motor difficulties, and emotional or behavioral challenges “quite a bit”.

EVALUATION METHODOLOGY

EVALUATION FRAMEWORK

A logic model (Figure 1) was developed to first, illustrate the connection between the project’s inputs, outputs (components), and intended outcomes. Second, this model served as the foundation for the evaluation, ensuring that project components were aligned with evaluation questions and measurable indicators. The evaluation framework was informed by the Bowen Feasibility Framework (Bowen et al., 2009) and the RE-AIM Framework (Glasgow et al., 2019), which guided the evaluation dimensions and associated indicators. Using these frameworks, we evaluated the relevance and applicability of the COEL: UD&I project across various early childhood settings in Colorado and provided recommendations for project refinement to enhance its impact and sustainability. Beyond feasibility, the evaluation also measured impact, assessing whether the COEL: UD&I project improved outcomes for child care providers, their learning environments, and the children they serve.

EVALUATION QUESTIONS AND INDICATORS

Table 1 displays the evaluation dimensions and indicators assessed for the process evaluation. The definitions and indicators assessed for each evaluation dimension were informed by the RE-AIM (Glasgow et al., 2019) and Bowen Feasibility (Bowen et al., 2009) frameworks. The indicators assess how the evaluation dimensions were measured based off the logic model (Figure 1) outputs.



Table 1: Summary of Process Evaluation Dimensions

Evaluation Dimension	Definition	Indicators
Reach	The absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative, intervention, or program, and reasons why or why not. (Glasgow et al., 2019)	Child care providers served ^{^+} Children served ^{^+}
Demand	To what extent is a new idea, program, process, or measure likely to be used (i.e., how much demand is likely to exist?) (Bowen et al., 2009)	Actual use ^{^+*} Expressed interest or intention to use ^{^+}
Acceptability	To what extent is a new idea, program, process or measure judged as suitable, satisfying, or attractive to program deliverers? To program recipients? (Bowen et al., 2009)	Satisfaction ^{^+*} Perceived appropriateness ^{+*}
Practicality	To what extent can an idea, program, process, or measure be carried out with intended participants using existing means, resources, and circumstances and without outside intervention? (Bowen et al., 2009)	Quality of implementation ^{+*} Ability of participants to carry out intervention activities ^{+*} Barriers and facilitators to implementation ^{+*}
Adaptations	To what extent does an existing idea, program, process, or measure perform when changes are made for a new format or with a different population? (Bowen et al., 2009)	Modifications with rational ^{+*} Identified needs for future adaptations [*]
Integration	To what extent can a new idea, program, process, or measure be integrated within an existing system? (Bowen et al., 2009)	Sustainability ^{+*}

Previously collected quantitative data by CIDE=[^], The COEL: UD&I Evaluation Survey=⁺, Focus Group=^{*}

Table 2 displays the outcome evaluation questions and indicators that were assessed. The indicators map to the logic model (Figure 1) short-term and medium/long-term outcomes the project sought to impact.

Table 2: Summary of Outcome Evaluation Questions and Indicators		
Evaluation Question	Short-Term Indicators	Medium/Long-Term Indicators
What impact did the COEL: UD&I project have on child care providers?	Knowledge+* Confidence and skills+*	Use of strategies and adaptive equipment+* Ability+* Work related stress+* Professional development trainings+* Collaboration and resource sharing+*
What impact did the COEL: UD&I project have on the universal design of the learning environments?	Access+*	Change in environment through addition of adaptive materials/ equipment+* Enrollment+* Retention+* Work environment+
What impacts did the COEL: UD&I project have on children of all ability levels?	Communication and early literacy skills+* Physical and sensory access+ Active participation+* Engagement+*	Kindergarten readiness* Children value differences+* Disruptive or challenging behaviors+

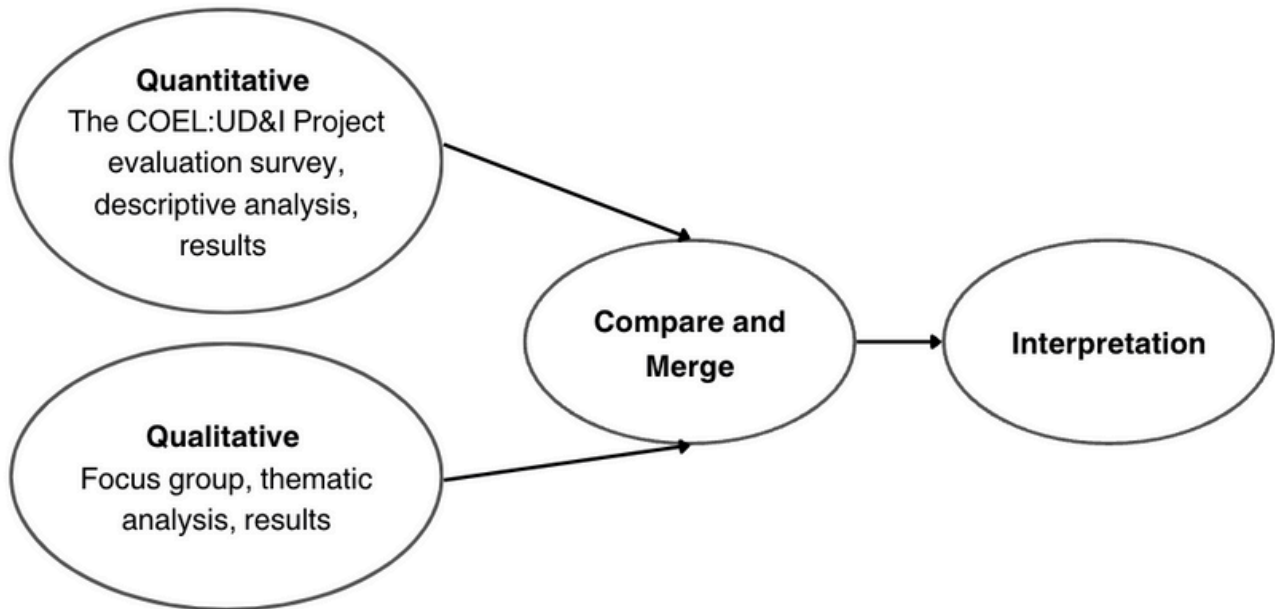
The COEL: UD&I Evaluation Survey=+, Focus Group=*

DATA SOURCES

We utilized a mixed methods design for evaluation, integrating both quantitative and qualitative data collection and analysis techniques. We aimed to capture a comprehensive understanding of the project’s reach and impact. A convergent parallel mixed methods design (Creswell & Plano Clark, 2018) shown in Figure 2, was used to collect and analyze the quantitative and qualitative data separately but concurrently followed by an integration of the data to draw the final conclusions. Using this design, we were able to analyze the patterns in data along with participants personal experiences in a balanced manner, providing a rich evaluation of the COEL: UD&I project.

To evaluate the indicators in Table 1, the quantitative data included the COEL: UD&I Project evaluation survey developed by the RMPRC, along with previously collected data during project implementation by the CIDE team to inform the overall reach and demand. The qualitative data included a focus group conducted by the RMPRC. To evaluate the short- and medium/long-term indicators in Table 2, the COEL: UD&I Project evaluation survey and focus group data were used to draw conclusions.

Figure 2: Mixed Methods Evaluation Design



QUANTITATIVE DATA COLLECTION

A COEL: UD&I Project evaluation survey was developed to gather quantitative data from all participants who had participated in the project over the last 4 years. We utilized a convenience sampling technique to distribute the survey via email for participants to complete online through the REDCap platform. Study data were collected and managed using REDCap electronic data capture tools hosted at the University of Colorado Denver (Harris et al., 2009). REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing: 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources. Three follow-up reminder emails were sent to the participants who had not responded on different days of the week to enhance response rates.

The survey aimed to assess participants' demand of project components such as the use or intended use of available resources; the acceptability of the project by assessing the satisfaction level overall and of specific components; the practicality of the project by questions related to the barriers and facilitators of implementation, followed by recommendations for future improvements to assess adaptations and sustainability. See Table 1 for a complete list of indicators assessed by the survey. The perceived benefits and impacts were assessed by questions related to indicators such as the increase in knowledge gained, the use of universal design and inclusion teaching strategies and adaptive tools and the perceived impact on children's participation, engagement and challenging behaviors. To see a complete list of short and medium/long-term outcomes addressed in the survey, refer to Table 2. Key components of the survey included Likert-scale questions, multiple choice questions and open-ended responses. See appendix section 1 for the full survey questions. The project participants had 3 weeks to complete the survey. We also used previously collected data by the CIDE team to report data on the total reach and demand of COEL: UD&I over the project implementation period.

The COEL: UD&I evaluation survey had 43-item survey was sent to 374 participants, we received 91 responses indicating a response rate of 24%. The low response rate was impacted by collecting data at the end of the school year and provider turnover within the centers. See the limitations section below for a further explanation on impacts affecting the response rate and evaluation results. The COEL: UD&I evaluation survey data was analyzed using descriptive statistics to summarize the responses and identify trends through presenting frequency distributions.

QUALITATIVE DATA COLLECTION

To enhance the quantitative data, qualitative data was collected by conducting focus groups that sought to elicit deeper insights into participant's experiences and perceptions of the project. A convenience sampling technique was also used to invite participants who had completed all project components and had an established relationship with the project implementation team. This criterion ensured that the focus group discussion included project participants with comprehensive project experience who could provide detailed insights that the survey might not reveal.

The RMPRC team developed a flyer that the CIDE team emailed to potential participants asking if they wanted to participate in the online focus group. If they were interested, a Zoom invite was sent by the RMPRC evaluation team. The focus group included 7 child care providers, lasted 60 minutes and was moderated by two members of the RMPRC evaluation team. The discussion was guided by a semi-structured interview guide that was mapped to the indicators listed in Tables 1 and 2.

The focus group covered topics such as overall satisfaction with the project, specific benefits/impacts gained using universal design teaching strategies and adaptive tools, barriers faced during project participation, and suggestions for improvement. Focus group participants received a Tabletop Light Panel with manipulatives valued at over \$190 as an incentive for completing the focus group.

The session was audio-recorded and transcribed verbatim by the RMPRC evaluation team for qualitative analysis. The focus group transcript was analyzed using thematic analysis principles (Squires, 2023), a method widely recognized for identifying, analyzing, and reporting patterns within data. The analysis began with an initial round of coding by one RMPRC evaluator, followed by a review and refinement of these codes by a second evaluator. Any discrepancies in coding were resolved through discussion until consensus was achieved. Deductive, a priori codes were used based on the logic model indicators shown in Tables 1 and 2 to align analysis with the evaluation questions. This alignment enabled us to triangulate qualitative themes with quantitative survey data, providing a comprehensive evaluation of the project's impact.



EVALUATION RESULTS

PROCESS EVALUATION

REACH

The COEL: UD&I Project spanned over five years. The completion rate for participating in all project components was 97%. Over the project's implementation period:

216
child care programs
participated



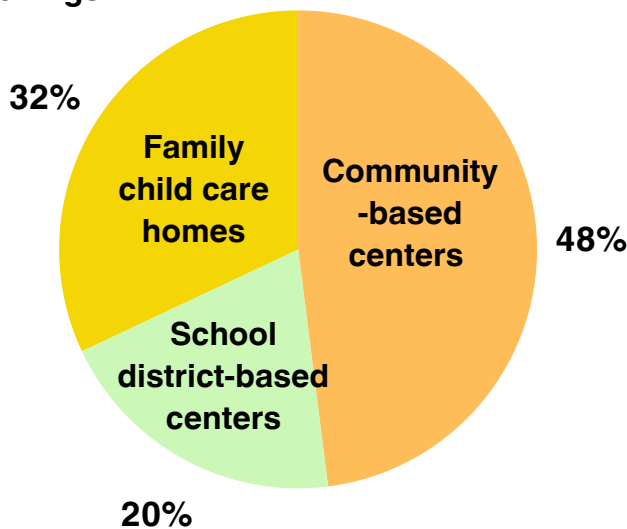
Serving over 11,000
children, with 16%
having ISFP or IEPs



spanning
48 out of 64
Colorado counties

After administering the COEL: UD&I evaluation survey, 91 participants responded (24% response rate). Participating programs reported serving an average of 16 children with diagnosed disabilities in the past year. This data suggests that the project reached experienced child care providers working in diverse settings with a significant portion of children from families with low income and those with disabilities.

Early child care program settings:



29%

Percent of children
participating in the
Colorado Child Care
Assistance Program
(CCCAP)

16

Number of children with
a diagnosed disability
served by the project

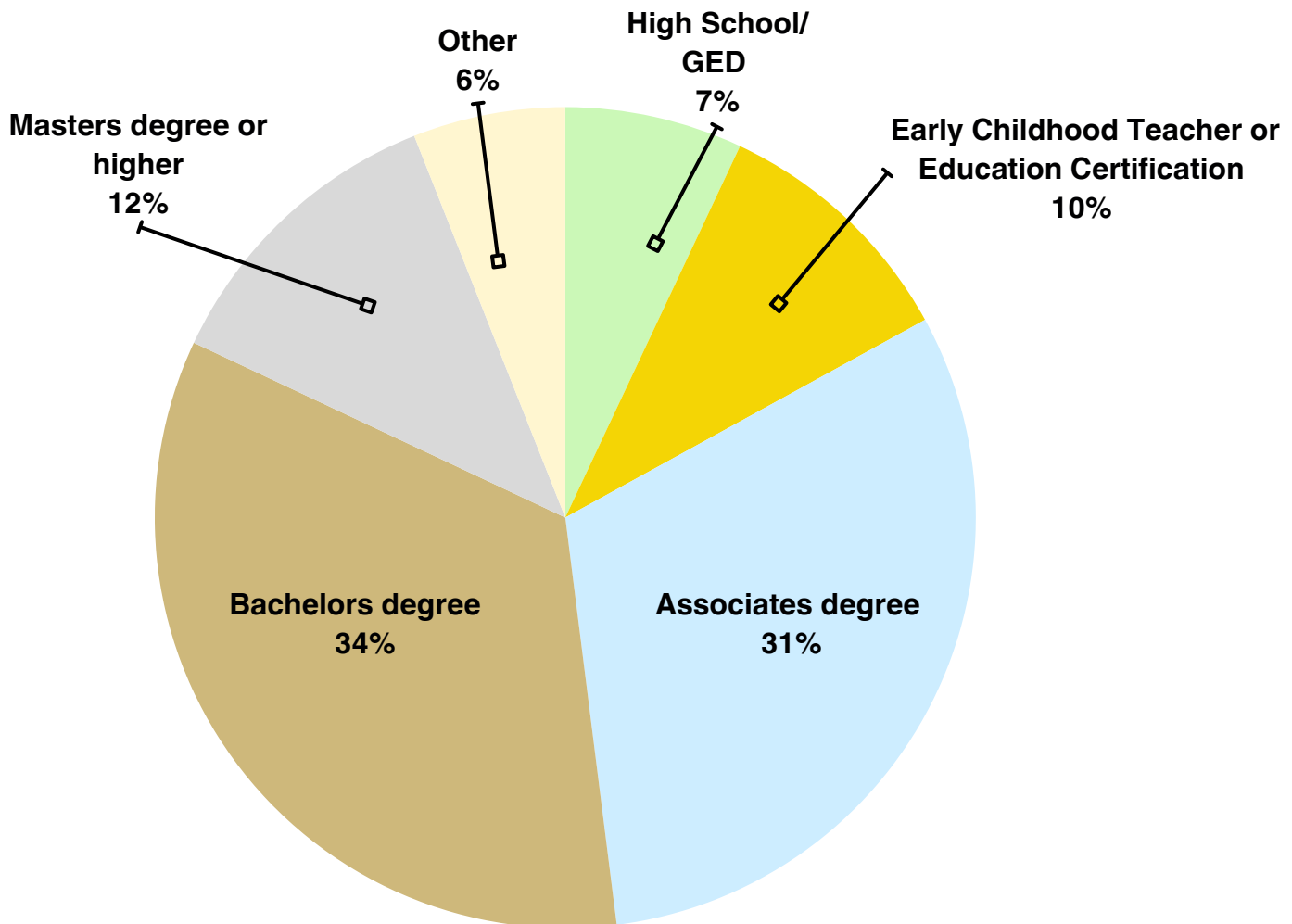
EVALUATION RESULTS

PROCESS EVALUATION

SURVEY PARTICIPANTS

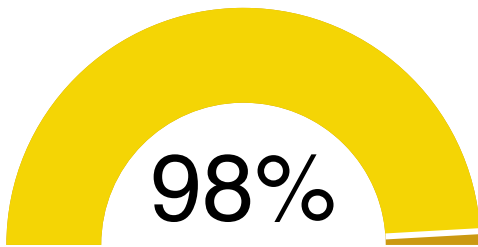
The majority (60%) held roles as directors or assistant directors, suggesting that leadership within child care settings engaged with the project. Other roles include teacher, early childhood special educator, coach, education manager, and occupational therapist. Participants, on average, had 19 years of experience in the field, highlighting a seasoned cohort of professionals (range of 2 to 43 years) with various educational backgrounds.

EDUCATIONAL BACKGROUND

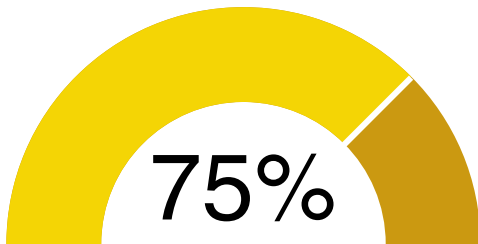


TRAINING & COACHING

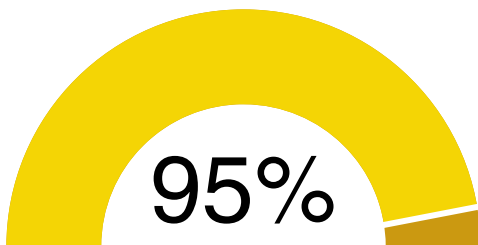
Providers who participated in COEL: UD&I project received free training, such as the Introduction to Universal Design course, and small group learning on topics such as inclusion, universal design, assistive technology, and adapting to various delays or disabilities. Of those who completed the COEL: UD&I evaluation survey, 96% completed the universal design and inclusion training (**demand**).



Agree the trainings were easy to understand



Agree the trainings were easy to fit into their schedule



Agree that the resources and support provided were relevant to their needs

“

I thought it was set up so thoughtfully with the way the categories were divided up. Of course, there were some that I liked better than others, and would have liked more of, you know, more of those things. But they really gave us a lot of information in links and on CDs, and that if we really went to all of that, we could fulfill our need for more in some of those areas.

-Provider on the training offered by COEL: UD&I

Project

”

The most common barrier to participating in the trainings for those who completed and those who did not complete project activities was time and staffing constraints (**practicality**). A participant noted, “It was just the mid-day trainings due to staffing,” highlighting the challenges of finding time to attend sessions. Some indicated that attending live sessions was more accessible for those in director roles, while others often relied on recorded sessions due to work interruptions (**practicality**).

This was addressed by the COEL: UD&I team by switching to self-paced online format for provider’s flexibility in participation (**adaptations**). Overall, the universal design and inclusion training provided valuable knowledge and resources that providers could apply immediately in their programs.

ADAPTIVE MATERIALS KIT

Participants received a free adapted materials kit with low-cost, low-tech tools and assistive technology to support inclusive environments. Providers learned how to use the materials through trainings and could keep them for future use. The kits were well-received, with most respondents agreeing that the kits included high-quality (97%) and easy-to-use items (94%) (**acceptability**). Providers appreciated the variety, noting that the materials fostered creativity and engagement (**practicality**). The materials were simple yet effective and versatile in supporting various learning activities (**practicality**). Overall, the kits proved to be a valuable resource that enhanced the universal design of the learning environment and gave providers the tools to support diverse needs in the learning environment (**integration**).

“ The easel with the dry-erase board was amazing! It let all my children have an opportunity for vertical drawing/writing as I was able to set it to varying table heights! I tried a variety of tools to assist in holding markers/crayons with great success. The big chunky crayon was easily used by all. The highlight tape in the books helped kids ‘read’ the busiest word in the books.
-Provider on the practicality of the adaptive materials kit ”

Providers shared the items used in their learning environment to support participation for children with delays and disabilities (**practicality/demand**). These included:

Adaptive Tools for Fine Motor Skills

Adaptive Scissors:

Designed with features to make cutting easier for children



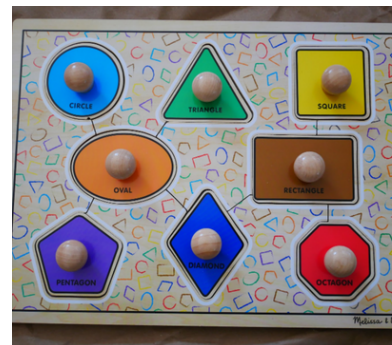
Adaptive Pencil Grips:

Helps children hold writing utensils comfortably and correctly



Adaptive Puzzles:

Include larger pieces, knobs, texture differences for fine motor grasps





Visual Supports and Schedules

Timers & Visual Schedules:
Helps children understand routines and manage transitions

Adaptive Seating and Sensory Support

Adaptive Seating: Items such as wobbly seat, spinner chair, bands on chair, stools for feet



Pool Noodle & Floor Tape:
Items create clear physical boundaries or sensory paths



Engagement and Interaction Tools

Adaptive Books: Modified books to include features like textured pages, flaps, or buttons



Highlighter tape: Used to distinguish specific words on pages for readability and engagement



LOAN LIBRARY

Providers could borrow materials from a COEL: UD&I loan library for exploration and testing in their programs. Of those who responded to the evaluation survey, 71% borrowed adapted toys and materials from the loan library (demand). This allowed providers to see how the children in their learning environment interacted with the items. After borrowing items, providers purchased (51%) or intended to purchase (41%) similar items (integration).

“

The Loan library, I love it. I was able to borrow and then buy some of the things that I borrowed on my own. And then some of the stuff that didn't work, I didn't even buy. But I love that, and I love all the tools that you gave us to work with kids. The kids love it. They do. They love all the little things that I've tried with them.

-Provider on the benefits of the loan library

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For those who did not borrow items (29%), barriers included not having the time to pick up items or learn how to use them, items that weren't relevant to the provider's learning environments, not knowing how to borrow items, and the availability of items (practicality).



OUTCOME EVALUATION

As part of the COEL: UD&I project evaluation, we asked providers to assess how the project impacted their knowledge, confidence, and skills, as well as impacts on the learning environment and the children they serve. In this section, you will find project impacts on providers, the learning environment, and child-related outcomes.

What impact did the COEL: UD&I Project have on child care providers?

Short-Term Outcomes

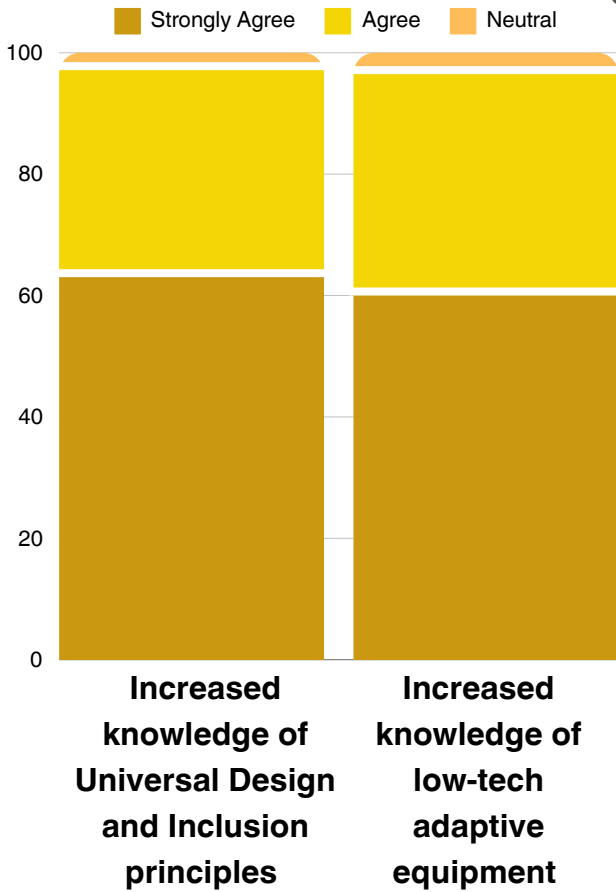
Providers who completed the COEL: UD&I evaluation survey found the project to be highly effective at providing new information on universal design and inclusion teaching strategies and how to use low-tech adaptive materials. Most agreed (97%) that the universal design and inclusion trainings increased their **knowledge of universal design principles**. Child care providers equipped with universal design and inclusion knowledge can more easily identify barriers to children’s engagement and participation and incorporate a broader range of strategies. Most providers also agreed (97%) that the adaptive materials kit increased their **knowledge of low-tech adaptive materials** available to support all children, particularly those with delays or disabilities. The kits were especially helpful in sparking new ideas with simple materials they may already have in their learning environment or materials that are easy to use and integrate into program activities.

tools and strategies, leading to creative adaptations. The project also helped providers understand both their strengths and limitations in supporting children with disabilities, enabling them to identify when external support might be necessary. Participants felt more confident in advocating for adaptive strategies for their children since they were supported by expert guidance.

The focus on smaller, everyday strategies fosters a mindset of inclusivity. Providers noticed that small adaptations make big improvements. Over time, this attention to detail can lead to sustained long-term changes in learning environments. The newfound knowledge and confidence not only expanded their toolkit but also fostered excitement and engagement among teachers to create more ways to promote inclusivity in their learning environments.

A majority of child care providers (96%) felt a significant increase in their **confidence** to support children of varying ability levels after receiving the trainings and adaptive materials kit. The increased confidence empowered them to experiment with new





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I felt like the major things...we kind of already had a lot of experience with, but it was more like the small little things that you just don't think about.

Like taping the bubbles onto a fence or doing things like that. Where you're more specific in the smaller, everyday things that you do versus, just like the big things that you're already focused on. So that was very helpful for me just to revisit that and keep thinking to always have it on your mind so definitely the gain in knowledge. – Provider on knowledge gained from training courses

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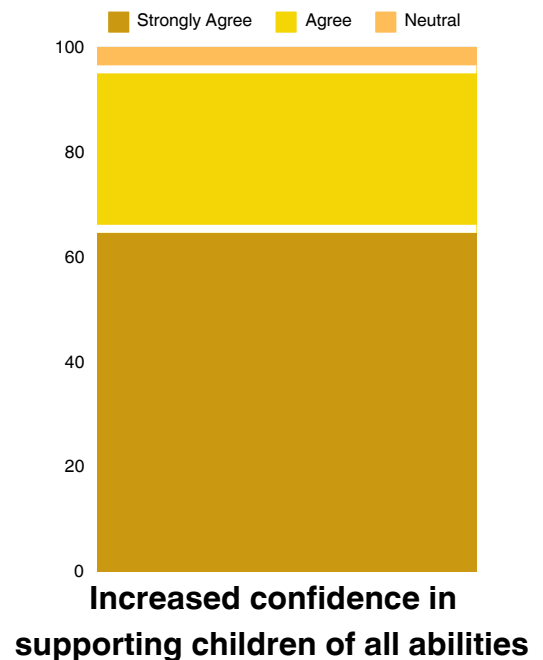
It just gives you more tools in your tool belt... Things like, the wiki sticks on a pencil...I never even thought about that, and it worked really well. – Provider on knowledge gained from adaptive materials kit

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I would say that before I had the program that I was probably 10 to 15% confident in... dealing with those kinds of things, and after I was probably closer to 70%, it just was such an amazing progression...all the ideas and everything just kind of got me thinking so then I could come up with some ideas of my own even, so it gave me a definite jump start. – Provider on increased confidence due to participation in the project

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Medium- and Long-Term Outcomes

Moving beyond knowledge, the COEL: UD&I project effectively increased providers' **ongoing use** of universal design and inclusion teaching strategies in their learning environments. Most providers (97%) have **continued to use UD&I teaching strategies** to support all children in their learning environments. Gaining a more proactive mindset allowed providers to better anticipate and manage different adaptations and needs, encouraging more creative and flexible thinking in their approach. The combination of sustained application and expanded use of strategies supports the project's success in embedding universal design and inclusion principles into everyday teaching practices.



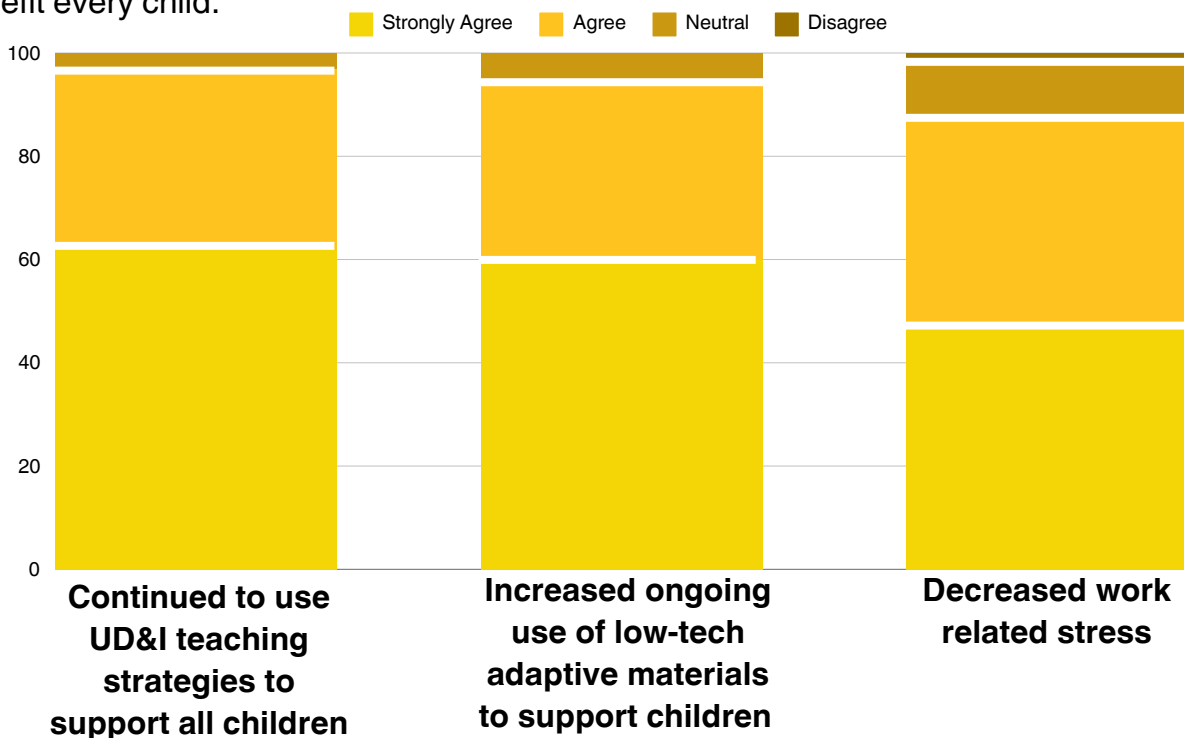
Providers agreed (97%) that the COEL: UD&I project significantly improved their **ability to adapt materials** using low-tech adaptive tools. Providers highlighted how they were able to add more tools to their learning environments to support more children and find creative ways to use existing tools. Providers are now regularly using this mindset when purchasing or using materials to make adaptations to support all children, ultimately leading to more personalized and responsive teaching.

“ I benefited a lot just because it helped me to be proactive instead of reactive. So, I was prepared for a lot of things. And I didn't get thrown for a loop so often whenever a child needed a different kind of adaptation, or just had a different need, a different experience. Whatever it was, it allowed me to think out of the box a little more and so I feel like I could handle all of that a little better and not be quite as reactive. – Provider on use of UD&I teaching strategies ”

“ Because I didn't understand really what inclusion and universal design really was, and so I thought it had to do with wheelchair ramps, and it was so much more than that. Now I look at every little purchase I make, and I think you know, how can I adapt that? How many kids will that work for? What would be better? So, I think it's all about how we look at things with a different eye now...I think deep down I knew, you know, it was or wasn't going to work for some kids, but now I figure out how to make things work and how to adapt or change them.”

– Provider on ability to adapt materials due to participation

The COEL: UD&I project also increased the support systems available to child care providers. As providers experienced increased knowledge, confidence, and skills, they also reported that the COEL: UD&I project **decreased their work-related stress level** (88%). This is likely interconnected as feeling unprepared to meet the diverse needs of children can be a source of stress for child care providers. Additionally, 90% of providers **shared COEL: UD&I resources**, such as handouts, training slides, adapted toys, or materials) with colleagues, staff, or families. Resource sharing promotes a culture of inclusivity and enhances the home-to-school connection, which fosters a supportive community. Additionally, around half of the providers that participated in the COEL: UD&I project have **continued to pursue more training in universal design and inclusion principles** due to the positive impact it has had in their learning environments. This ongoing effort helps create learning environments that are designed to support and benefit every child.



Have shared resources with colleagues, staff and/or families



Have taken more professional development trainings related to disability topics since completing the COEL: UD&I project



“ But I'm thinking, probably the biggest benefit that my kids had was the confidence that I gained. So, you know how they kind of have a feel for it when you're stressed, and all of that, so that I was able to be a little less stressed and more able to handle things. And I think that's help the kids in my care benefit.

– Provider on impact COEL: UD&I Project had on work-related stress



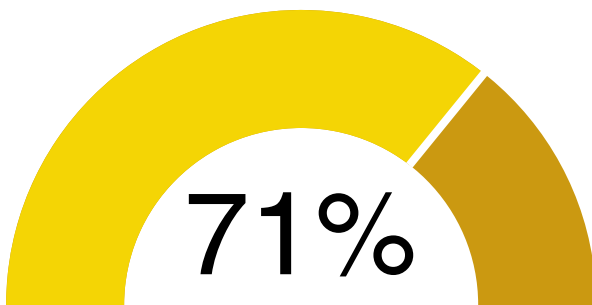
“ Something I'm actually looking forward to when we come back to school for the fall is taking the adaptive materials kit and doing a training with our occupational therapists. Reviewing the tools with them and setting up little breakout groups with adaptive materials and letting the teachers kind of decide how they could use them with their class list in their classroom and going over that. So that part, all the talks, really helped spark that for me. And I'm really looking forward to that, too.

– Provider on sharing COEL: UD&I resources with colleagues

What impact did the COEL: UD&I Project have on the universal design of the child care environment?

Short-Term Outcomes

In addition to personal development from the COEL: UD&I project, providers found the learning environments in which they worked also benefited. Providers were able to keep the items in the adaptive materials kit. This **ensured access** to adaptive materials and tools for future years. Providers who borrowed items from the loan library (71%) had increased access to adaptive tools, which allowed them to experiment with various tools without the financial burden, helping them identify which materials were worth investing in for long-term use. This confirmed that valuable center resources were invested in materials that were practical and impactful.



Borrowed adaptive tools/materials from the loan library

“ And then, just having the access to try and see what we think will help our program or benefit our program. – Provider on increased access to adaptive tools/materials ”

“ I think a lot of these ideas were things we had thought of, we'd figured out, but we just didn't have all of those things to try. And it can get really expensive to try so many different things. So, I think for us, the greatest benefit was access to so many of the materials. We used up quite a few things from the loan library. But even the adaptive materials kit was just really helpful for us to figure out what we actually wanted to invest in, rather than just making a guess and trying something. So, we really benefited from the access to the materials. ”

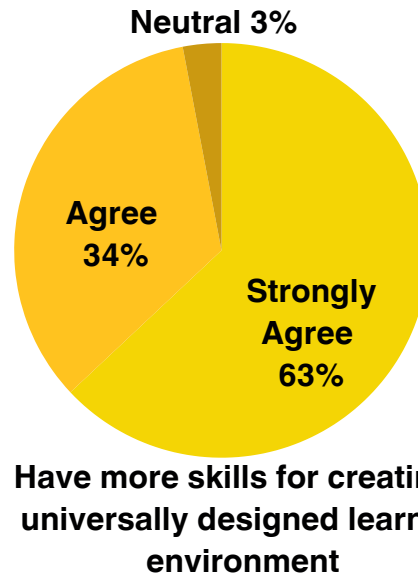
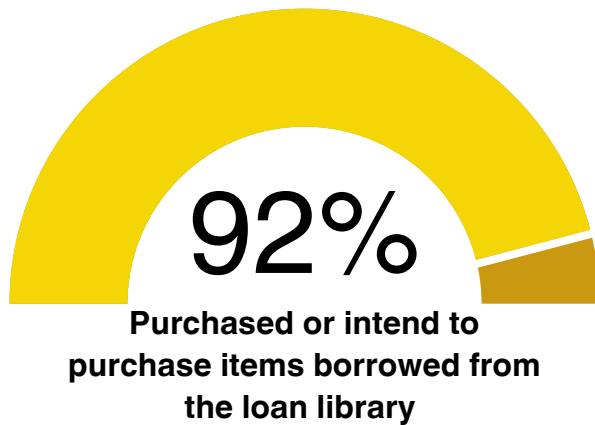
–Provider on borrowing items from the loan library ”



Medium- and Long-Term Outcomes

Through the trainings, adaptive materials kit and use of the loan library child care providers (97%) could apply the knowledge gained to **create more universally designed learning environments** to support all children. They made thoughtful adjustments to increase mobility access, add visuals throughout, and feel well-prepared to handle a range of needs without worry. The increased access to adaptive materials from the loan library led to most providers (92%) purchasing useful and needed adaptive tools for their learning environments. These additions increased their ability to support all children, especially those with less obvious delays or disabilities.

These resources increased most child care providers' **readiness to welcome and accommodate** (94%) children with a variety of delays, disabilities, or needs into their learning environments. The project empowered providers to support children with diverse needs better while also recognizing when to seek external resources, thereby contributing to **higher retention rates** of children with delays or disabilities (84%). By having multiple support resources and new ways to meet children's needs, providers (90%) felt the project helped to **create a more positive work atmosphere**, demonstrating the project's lasting benefit.

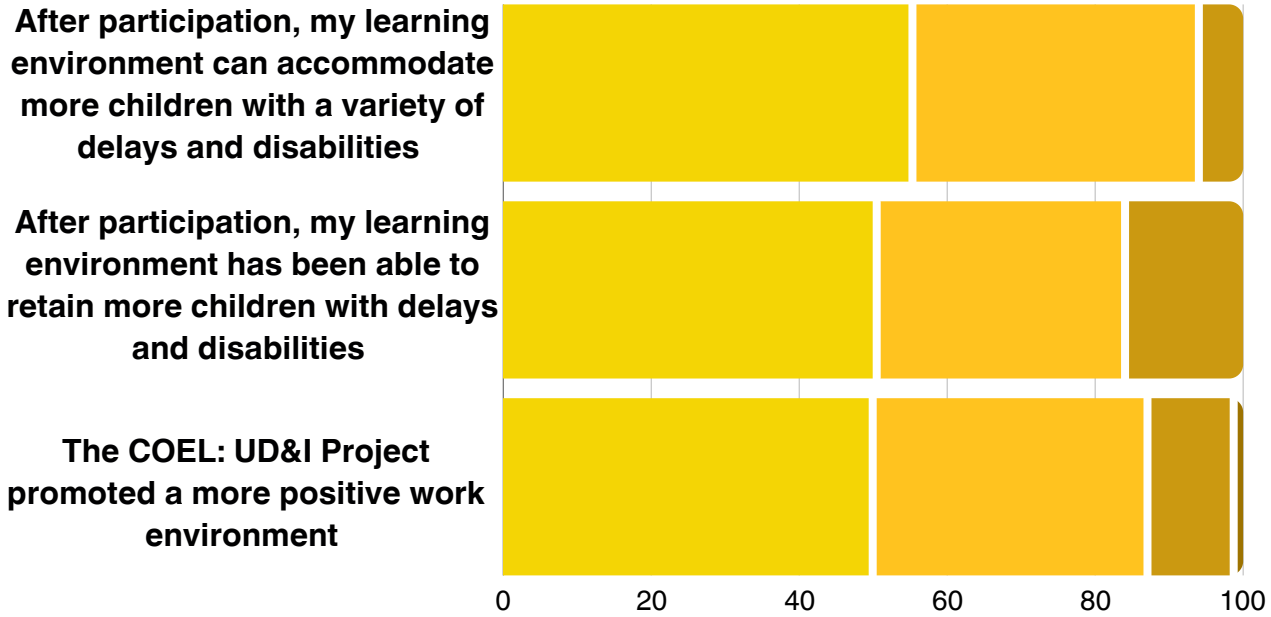


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I think that I feel more prepared...Because all of the things we're doing are really good for all children. I realize now that I've done a few things to make the spaces a little freer to get to for mobility issues and get rid of some throw rugs. And just the way we run our day now, using lots of visuals. So, I don't think anything now would really stump me.

– Provider on creating a universally designed learning environment

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“ I feel I would be able to work with the parents and be able to adequately accommodate most children. – Provider on ability to enroll children with varying ability levels ”



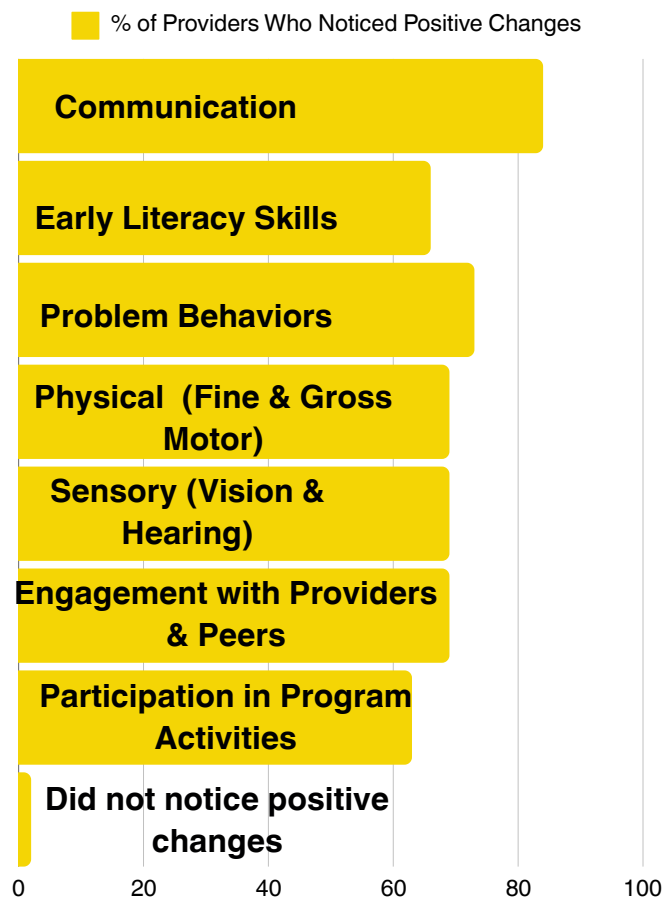
“ I think we also feel a little bit more able to help with some of those disabilities that we see very often. But I also feel like we have come to realize our limitations in what we do have those abilities for, and places where we would need those extra supports. And you know there are just some things that we might not be the best place for a child that has a disability of a certain kind, because we might not have those exact resources. And from learning this, there are small ways that we can help but I do think that it really helped us to kind of identify what we are equipped to help with and ways in which we might need extra support or might need to encourage families to seek extra support outside of our school, too. But, I think our confidence grew in helping some, but also really helping us to understand our own limitations because we're not necessarily the specialists in every regard. - Provider on impact the project had on retention of children ”

What impacts did the COEL: UD&I project have on children of all ability levels?

Short-Term Outcomes

The COEL: UD&I project made significant short-term impacts on children's learning environments by increasing their **active participation**, fostering **greater engagement with peers**, **enhancing communication and literacy skills**, and **improving physical and sensory access**. The adaptive materials allowed children to participate (63%) in activities they previously disliked or could not complete. Children worked together more (69%) and showed mutual excitement when they each accomplished the given task, enhancing their social interactions. The adaptive tools to support growth in communication (84%) and literacy (66%) enabled children who previously could not express themselves to gain the confidence and skills to begin communicating with their peers. The project successfully enhanced children's ability to interact with their environment, making learning opportunities more accessible to those with physical (69%) or sensory (69%) challenges. These changes reflect the project's success in creating more inclusive and supportive educational settings for all children.

“ We had one particular student who had a diagnosed fine motor delay, and he would absolutely refuse to use scissors. He would never participate in those activities, and oftentimes would become very defiant in the activities that required him to use scissors. And we had him practice independently with the adapted scissors that came initially in the materials kit, and ultimately gained the confidence to do it in class. I remember his teacher called me, and was like ‘He sat at the table that had the scissor crafts today. And he didn't fight back. He really wanted to do it. He really participated.’ And that was just a huge win for us. That was really helpful, just to see his confidence in that grow and to see he really wanted to be able to participate with his peers. And that often the defiant behavior was really coming from the feeling of insecurity of not being able to participate like that. So, that was a huge moment for us. - Provider on impact on child's fine and gross motor skills



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I think that some of the way they encouraged us to make partnerships with the sets of children or you know, through their varied experiences or strengths or challenges, to set them up with a little buddy or a helper. And how much both of the parties loved that, whether it was the one who needed the partner or just the helper partner. And they didn't always know which one it was because I would just set people up to work together in things. Just the excitement the kids would see when their partner accomplished something.

– Provider on increased engagement between children



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Seeing the confidence in some of the kiddos, I think, on the other end. I borrowed something from the loan library that allowed a child to kind of use his words. He doesn't have his own words, he has a talker and kind of got the whole class's attention. And after that, watching how the kids interacted with him. When they were able to see that he could do that, that shift was really cool to see, too. So, it gave him the confidence that changed how the other kids saw him and really changed how they interacted with him. – Provider on impact on child's communication skills

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I would say additional engagement just another added layer. We had the engagement, this is just extra, even more engagement. So that's been helpful as well. - Provide on increased engagement

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Medium- and Long-Term Outcomes

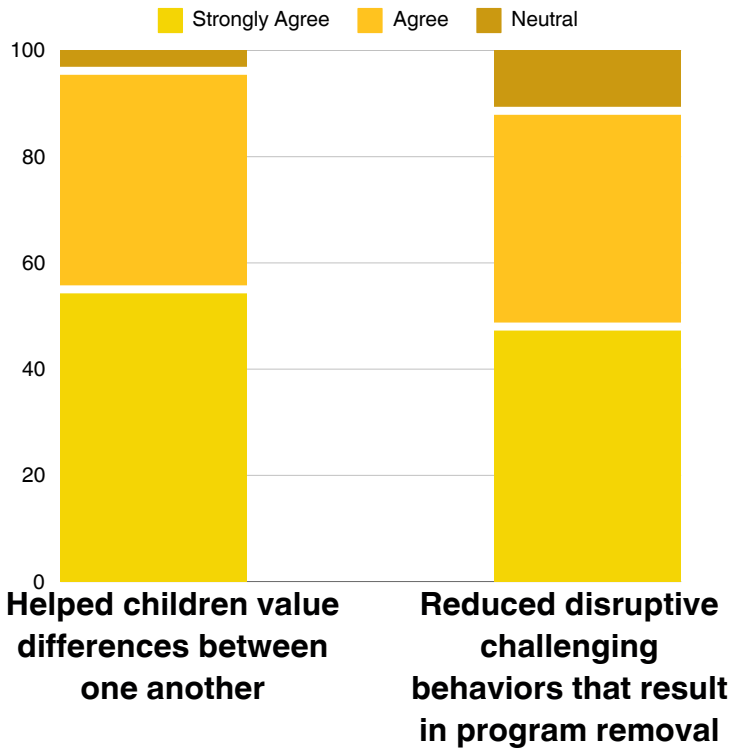
The immediate gains providers noticed in child outcomes turned into long-lasting impacts, particularly in **preparing them for kindergarten**, fostering a culture of **valuing differences**, and **reducing disruptive behaviors**. Using universal design and inclusion teaching strategies and the adaptive tools/materials, children gained practical skills that enhanced their success in the learning environment and prepared those moving into kindergarten. The project fostered a culture of empathy and belonging among children (96%) of varying ability levels, leading to a more inclusive environment where differences are valued and accepted. Providers (89%) saw instances of disruptive or challenging behaviors reduced as adopting inclusive and supportive practices helped children feel more confident and engaged. Disruptive behaviors often can be preceded by children struggling to communicate or feeling incapable of participating in program activities. Children gain confidence when materials and activities are adapted for them, and they are less inclined to act out to meet their needs. These outcomes reflect the project's success in creating a more inclusive, supportive, and effective learning environment that benefits all children.

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I also think, as a retired teacher, we do have all the support in a school. But now that I'm on my own teaching in a private preschool for UPK, I didn't have a lot of the stuff that I had at school. So, it's so helpful. Our little UPK preschoolers, they just graduated from the adaptive scissors that we got to real scissors. So, when they go to kindergarten now, they know how to use real scissors. So, I really appreciate that, too. – Provider on projects impact on children's kindergarten readiness

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“ I think that when you start valuing everybody and nurturing empathy, and creating a sense of belonging and positive self-images, and all of that between the children, that becomes an important part of your room. And the children start modeling that. That empathy just carries down into the group of parents who come in, who then, don't maybe see one child as like, 'oh, that child's really noisy and kind of a pain in the behind.' They also begin to be a little more, I don't know nurturing, empathetic. And I mean, kids can teach their parents a lot. So that's kind of what I noticed. Hopefully that went into the homes and families and out into the community. But it definitely went from the children to a change in the parents' reaction. – Provider on projects impact on children valuing differences

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LIMITATIONS

Several challenges affected the response rate and overall evaluation of the COEL: UD&I Project, which should be considered when interpreting the results. High turnover among child care program providers means some likely are no longer reachable as they have left the program. Duplicate or inactive emails also impacted response collection, lowering the overall response rate.

The timing of the focus groups and survey, which coincided with the busy end of the school year, further reduced availability and shortened the response window. Additionally, focus group participants had fully completed project components, which may have biased the sample toward more positive feedback. Finally, the lack of pre-program data limited the ability to measure long-term impacts.

These limitations suggest areas for improvement for future evaluations, such as ensuring up-to-date contact information, allowing more time for response collection, and implementing pre/post data collection methods.

RECOMMENDATIONS

Based on the insights gathered from the evaluation focus groups, the following recommendations are proposed to enhance the effectiveness and quality of the COEL: UD&I project:

Improve Access to the Loan Library:

- **Enhanced Library Access:** For providers in remote or rural areas, offer clearer instructions on how to arrange for local library pickups or deliveries. This information should be made more visible on the website or during the sign-up process.
- **Item Requests:** Make the process for suggesting new items for the Loan Library more visible and accessible, possibly through website FAQs or instructional videos.

Designate Age Appropriateness for Materials:

- **Age Appropriateness:** Ensure that items in the Loan Library and Adaptive Materials Kits are clearly categorized or labeled by age for providers, such as family home providers, with mixed-ages.

Optimize Training Sessions:

- **Session Structure:** Consider extending the time between the initial training session and the follow-up implementation meetings to give participants more time to apply what they've learned and provide comprehensive feedback.

Expand Course Content:

- **Inclusive Playgrounds:** Add content on designing inclusive and universally accessible playgrounds to the training curriculum. This could help providers create more inclusive outdoor environments for children.

By implementing these recommendations, the COEL: UD&I project can better meet the needs of its participants and enhance the overall quality of its resources and supports.

CONCLUSION

The COEL: UD&I project had a significant and lasting impact on child care providers, learning environments, and children of all ability levels. Providers gained valuable knowledge about universal design and inclusion principles, as well as practical strategies for using low-tech adaptive materials to support diverse learners. The training and resources boosted providers' confidence and empowered them to apply new tools and techniques in their learning environments, leading to more inclusive teaching practices. The project fostered a proactive mindset, enabling providers to better anticipate and manage the varying needs of children, resulting in a more creative, flexible approach to education. Providers also reported reduced work-related stress as they felt better equipped to meet the diverse needs of children in their program.

Learning environments were transformed through the use of adaptive materials, loan library resources, and sustained application of UD&I strategies. These changes enhanced access and support for children with a range of abilities, particularly those with physical or sensory challenges. Providers felt more prepared to welcome and accommodate children with disabilities, leading to a more positive, inclusive atmosphere. The adaptive tools and ongoing use of UD&I principles fostered a culture of inclusion and collaboration, benefiting both child care providers and children.

Children experienced immediate and long-term benefits from the COEL: UD&I project. In the short term, they showed increased participation, improved communication and literacy skills, and greater engagement with peers. Adaptive materials enabled them to take part in activities they had previously struggled with, fostering confidence and social interaction. Over time, the project helped children develop practical skills for success in kindergarten while nurturing empathy and acceptance among their peers. Disruptive behaviors decreased as children felt more capable and included, contributing to a more supportive and effective learning environment.

Overall, the COEL: UD&I project succeeded in embedding universal design and inclusion principles into early childhood education, creating more accessible and inclusive environments that support the diverse needs of all children. The project's lasting impact is reflected in the enhanced skills, confidence, and inclusivity among both providers and children.

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“It was one-of-a-kind training that was extensive. I thought I don't even have children who are really going to use this, but I'm going to learn it, and it turned out to be so the opposite of that, that all of the children needed that. I would say that they should run to find this training. It would be perfect, I can't imagine any classroom that couldn't use it.

And I'm always forever thankful for it.”

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