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Research Report

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Microschools as an Emerging Education Model

Implications for Research and Evaluation

Microschools are an alternative to more-traditional school settings for students and parents, many of whom are dissatisfied with their other locally available schooling options, such as traditional public schools, charter schools, and private schools. As we show in this report, there is no single agreed-on definition of a microschool, and the flexible nature of the concept is perhaps its most-defining feature.

However, there are some characteristics common across microschools. These include their small size, an individualized approach to instruction, and a shared belief among founders, families, and students that an alternative to traditional schooling could better serve certain students.

Although the modern microschool movement first began to emerge in the United States in the early 2000s (Horn, 2015), the coronavirus disease 2019 (COVID-19) pandemic significantly accelerated interest in microschools, as families sought safer and more-adaptable educational settings amidst widespread school closures and the shift to remote learning (McShane and DiPerna, 2022a). Beginning in March 2020, when the effects of the COVID-19 pandemic first took hold at scale in the United States, more than 50 million school-aged children in the United States had little or no access to the support systems that are often provided by schools (García and Weiss, 2020). Students were isolated from peers and teachers, and the pandemic made it more difficult to participate in after-school activities, including athletics and art programs (Digital Promise, 2021). During the 2020–2021 school year, public school enrollment declined by nearly 3 percent (National Center for Education Statistics, 2021) and continued to decline through the 2021–2022 school year (Dee, 2023). In some communities, parents enrolled their children in charter schools or opted out of public education entirely (Bouzaghrane et al., 2021; Mahnken, 2021).

One notable microschool network that gained significant traction during the pandemic is Prenda, which was founded prior to the pandemic in 2018 with only seven enrolled students. By the 2019–2020 school year, Prenda had grown to serve approximately 900 students. By January 2023, the network had grown to serve more than 3,000 students in 300 microschool settings in six states (Bedrick and Ladner, 2023). Although it is difficult to get accurate counts on microschool enrollment, estimates are that between 750,000 and 2.1 million students currently use microschools as their main schooling provider (Hamlin, Searcy, and Cheng, 2024; McShane and

KEY FINDINGS

- Microschools typically are small, have multi-age classrooms, and focus on self-paced learning. But they vary tremendously in setting, size, and focus. The best currently available estimates are that between 750,000 and 2 million students attend microschools full time, and many more attend part time.
- Microschools seek to serve students with learning differences and students whose social, emotional, or behavioral needs are not being met in traditional learning environments.
- Free from the state and federal accountability requirements and reporting requirements faced by public schools, microschools often make decisions about how (and whether) to assess students' academic proficiency and growth on a student-by-student basis.
- Increasing the efforts to regulate the sector has implications for the sustainability of individual microschools. Forced closures have occurred when microschool leaders struggle to navigate increasingly stringent regulatory environments.
- Microschool leaders view securing stable sources of funding as a critical challenge to sustainability.
- Data on microschool students' backgrounds, proficiency, and academic growth are often unavailable, inconsistent, or unrepresentative. This lack of data poses threats to both the internal and external validity of studies intending to evaluate the impact of the sector on student outcomes, particularly those leveraging existing administrative datasets.

DiPerna, 2022b). This means that the number of students enrolled in microschools is slightly larger than the number enrolled in kindergarten through grade 12 Catholic schools (McShane and DiPerna, 2022b).

Growing interest and enrollment in microschools has fueled media coverage, including a series of articles in the *New York Times* (Goldstein, 2024; Moyer, 2020; Zimmerman, 2020).

However, the existing scholarly literature on microschools is highly limited. The literature available falls into three categories. First, there are position papers in which authors use theoretical and empirical evidence to try to persuade readers about the merits of the microschool model (e.g., Bedrick and Ladner, 2023). Second, there are survey studies, often employing a convenience sample (e.g., Soifer and Soifer, 2024). Finally, there are case studies, which rely on qualitative methods to describe microschool models and policy contexts (e.g., Smarick, 2022).

Given the rapid growth of the microschool sector, there is a compelling need for evidence on the impact of microschools on student outcomes. Quantitative literature on the effects of microschools on academic growth or achievement is virtually nonexistent. There are many potential factors that impede conducting such research, ranging from the diversity of microschool models to the idiosyncratic approaches each school takes to data collection.

Using a combination of systematic literature review and surveys and interviews with microschool leaders, we provide in this report an overview of the current microschooling landscape and articulate key design considerations so that future impact studies can be designed to support valid and trustworthy inferences about microschool impacts. (We discuss our methodologies for the literature review, surveys, and interviews in detail in the appendix.) Specifically, we address five broad research questions:

1. What are some common microschool models, and what are the key characteristics of those models?
2. Who do microschools serve? Why do families choose microschools for their children?
3. How do microschools track and monitor student progress toward goals?

Given the rapid growth of the microschool sector, there is a compelling need for evidence on the impact of microschools on student outcomes.

4. What evidence is there about microschools' impacts on students?
5. What are some key challenges regarding the short-term and long-term sustainability of individual microschools and the microschool sector overall?

In the remainder of this report, we discuss key findings for each of these research questions. We conclude with a discussion of the implications for research and evaluation. This report should be of interest to researchers and other individuals who rely on research to inform decisions and strategic planning, including grantmakers and state officials driving policy around alternative schooling.

What Are Some Common Microschool Models?

The modern microschool movement in the United States began to emerge as families and educators, dissatisfied with local schooling options, began to seek alternatives to traditional public schools. In some ways, microschools have their roots in the one-room schoolhouses of the 19th century, where a single teacher educated children of various ages and grade levels in a small, community-focused setting. However, because microschools are, by design, deinstitutionalized, and many are created in "permissionless ways outside of the education system" (Soifer and Soifer, 2023, p. 1), there is little consensus

on what it means to be a microschool or what characteristics define a microschool and differentiate it from other alternative school models, such as homeschooling, schools within schools, schools without walls (Nanda, 2008), and unschooling (Rolstad and Kesson, 2013). See Box 1 for some of the characteristics most common to microschools.

From our research, we identified four general dimensions that are useful for understanding microschooling: enrollment and size, educational philosophy, operating model, and microschool costs. We also provide background on state policy environments as a way of providing context for microschool growth and development.

Enrollment and Class Size

Microschools tend to be very small. Some microschools, however, have enrollment numbers that are comparable with those of small independent schools or private schools. In a 2022 report on alternative education sectors from the Center on Reinventing Public Education, McShane and DiPerna (2022a) define microschools as enrolling 15 or fewer students. The large microschool network Prenda notes that microschools typically enroll five to ten students (Prenda, undated-a). Some microschools have much larger enrollments, especially if they serve students across multiple grade bands or on a rotating schedule. Although the majority of schools in both our interviews (62 percent) and surveys (75 percent) had fewer than 30 students, 74 percent of survey respondents indicated that their school was either currently growing or planned to grow within the next five years, and many cited their ideal school size as more than 50 students. Relatively few (14 percent of the school leaders interviewed and 32 percent of survey respondents) said that their schools had 15 or fewer students, although many researchers use that number in their definition of a microschool. Some schools in our survey indicated that their ideal size fell between 100 and 300 students, well above what is often discussed in the context of microschools.

Microschools often serve mixed-age students simultaneously and do not group students by traditional grade levels. In our interviews, mixed-age classrooms were almost universal. In some cases, these were classrooms that spanned all ages attending the school (e.g., kindergarten through grade 8), and, in others, there were multiple classrooms grouped approximately by age or grade bands (e.g., kindergarten through grade 2, grades 3 through 5, grades 6 through 8). Mixed-age classrooms were most common with the smallest schools, which generally had only a single classroom.

Educational Philosophy

The mixed-age grouping common in microschools is closely associated with the microschool educational philosophy that is characterized by a focus on nontraditional teaching and personalized curriculum.

BOX 1

Common Characteristics of Microschools

Many microschools share the following characteristics:

- **Small size:** Although some microschools are considerably larger, many researchers define microschools as having an enrollment of 15 or fewer students. Those that are larger typically have students divided across small classes.
- **Multi-age classrooms:** Microschools often serve mixed-age students simultaneously and do not group students by traditional grade levels.
- **A focus on individualized, self-paced learning:** With fewer students, teachers can focus on individual learning styles and needs and offer a more customized educational experience.
- **Nontraditional teaching methods:** Microschools often employ nontraditional teaching methods, such as experiential learning, outdoor education, and technology integration, to engage students.
- **Tuition based:** Although a few microschools function as public or charter schools, most operate as private institutions that rely on tuition for funding.

The Micro Schools Network emphasizes this piece of the microschool model. Its website explains that microschools typically do not use fixed curricula but instead use personalized daily lesson plans based on students' passions, strengths, curiosity, learning style, and prior knowledge (see Micro Schools Network, undated). However, some large microschool networks, such as Prenda, report using a common (but adaptive) online curriculum for core content areas, with the remainder of the instructional day remaining flexible (see Prenda, undated-a).

Microschools might use all in-person learning, or they might use a hybrid approach that incorporates elements of online programs. The National Microschooling Center's Preferred Provider Directory allows insight into the types of curricula and educational technology products that many of the Center's member microschools likely use.[1] For example, microschools with an emphasis on project-based learning might use Rock by Rock, one of the Center's preferred providers, which offers a library of interdisciplinary projects for kindergarten through grade 5 (see Rock by Rock, undated-a). Another preferred provider, QuantumCourses, offers self-paced, hands-on science, technology, engineering, and mathematics (STEM)–focused instruction and labs designed specifically for microschooled students in grades 7 through 9 (see QuantumCourses, undated). Although similar instructional approaches (i.e., project-based learning or STEM-focused instruction) might be found in more-traditional settings, the resources offered by organizations in the Preferred Provider Directory are designed specifically for a microschool setting.

Microschools are pedagogically diverse, and many follow well-known nontraditional pedagogical approaches, such as Waldorf, Montessori, Reggio Emelia, or forest schools. In our interviews, almost all participants described pedagogy that included elements consistent with one or more of these, although only one specifically identified with one of these defined approaches. In describing the driving philosophy behind their educational approach, four of the 12 microschool leaders we interviewed specifically mentioned project- and place-based learning as key drivers of their educational approach, and five cited a focus on individualized education. One interviewee noted, "We have our individualized learning plans that we use . . . and their individualized learning plans are pretty much based on the data that we get from the standardized assessment and from the i-Ready diagnostic, to be able to determine what we're going to focus on with that student." See Box 2 for an example of the approach taken by another school.

Operating Models

The literature, our survey, and our interviews indicate that there is considerable variation in how microschools operate. According to the organization Navigate School Choice, three of the most common types of microschools are (1) learning centers for homeschoolers, (2) in-person private schools, and (3) hybrid schools (Navigate School Choice, undated). A 2023 National Microschooling Center survey of microschool leaders shows that about 45 percent of microschool survey respondents operate as home-

BOX 2

Inquiry-Based Learning in Microschools: The Nevada School of Inquiry

The Nevada School of Inquiry (NVSI) is a nonprofit private school serving a maximum of 28 students in grades 6 through 8 in the Las Vegas area. The school's founders believe that keeping enrollment low allows for personalized attention to each student's intellectual and character development, addressing both their social and emotional needs.

NVSI reports offering an inquiry-based learning model that encourages students to explore and question the world around them, fostering critical thinking and problem-solving skills. NVSI extends learning beyond the classroom through real-world experiences, including numerous field trips that connect academic content with practical applications. By integrating inquiry-based instructional units across all subjects, students engage with material that is relevant and meaningful, which NVSI hopes will prepare them to tackle real-world challenges.

SOURCES: McDonald, 2023; NVSI, undated; Soifer and Soifer, 2023.

schools under state law, and about 36 percent operate as private schools (Soifer and Soifer, 2023).

However, some organizations that self-identify as microschools use other operating models. These include charter schools, stand-alone programs within public schools, and programs at two- and four-year colleges intended to give high school students early access to college credits in a particular field. For example, Synergy Middle School, a microschool for middle school students that uses project-based learning, was launched at Kuna Middle School in Idaho, and the Purdue Polytechnic High School Lab School in Indiana operates as a part of a larger charter school network (see Box 3).

Additionally, most students attending a microschool do not use it as a full-time replacement for a traditional school: About one-quarter of microschool students attend their microschool full time, and the other three-quarters use microschooling as a supplement to another type of school, such as a homeschooling cooperative, traditional public school, or virtual charter school (McShane and DiPerna, 2022b). In a study of homeschoolers across three waves of the National Household Education Survey, Cheng and Hamlin (2023) similarly found that at least two-thirds of homeschooled students were also affiliated with another type of educational organization, whether that was brick and mortar, a tutoring or homeschool cooperative, or an online program. In our interviews and survey, the majority of school leaders reported that their schools offered full-time programs that were intended to serve as students' primary source of instruction, although around half of the school leaders interviewed indicated that at least some of their students were also homeschooled. Many participants reported that their schools also offered flexible options, such as part-time programs, participation in only a subset of subject areas, and online programs, for students who were also receiving instruction from other sources. They also reported providing homeschooling resources to families of children who did not attend microschool classes.

A related aspect of microschool operation is their governance structure and the amount of autonomy that the microschool is allowed. Some microschools operate as independent learning environments (e.g., stand-alone private schools, homeschool cooperatives), in which case they likely have nearly full autonomy over their operational and instructional practices (Smarick, 2022). Others use a partnership model with a host (e.g., a microschool operated within a traditional public school district), in which case the school will be governed in a more traditional manner by their host district. Others are affiliated with established multistate organizations (e.g., Prenda or Acton Academy), in which case there is some operational and instructional flexibility within a common framework established by the network. However, even within these broad categories of governance structures, there is substantial variation, in part because of local policies (which we discuss in more detail in the "States' Microschool Policies" section). For example, states offering education savings accounts (ESAs) for private school tuition have different accountability mechanisms in place for schools that accept ESA funds (e.g., Tennessee), some states

BOX 3

A Microschool Operating as a Part of a Charter School Network: Purdue Polytechnic High School Lab School

Purdue Polytechnic High School Lab School is a public microschool serving students in grades 9 and 10 as a part of the Purdue Polytechnic High School charter school network.

Students seeking a more tailored educational experience may join the Lab School following recommendations from Purdue Polytechnic High School teachers. The school's model combines elements of a one-room schoolhouse and an all-day advisory period, allowing students to work at their own pace on personalized learning plans. This flexibility extends to extracurricular activities, such as job shadowing and community service, facilitated by the school's two all-purpose coaches.

The Lab School benefits from the resources of the Purdue Polytechnic charter network, including administration and extracurricular support. The school intends to provide a nurturing environment where students can thrive academically and personally.

SOURCES: Appleton, 2024; Getting Smart, undated.

use various methods for monitoring homeschooled students (e.g., Pennsylvania), and some states have legislated requirements for microschools as the sector has grown (e.g., West Virginia).

Microschool Cost

The median monthly fee for microschools in a 2023 survey was $650—or $6,500 for a typical ten-month school year (VELA, 2024). However, there is wide variation in tuition and fees across the sector. For example, Prenda charges $220 per month (or $2,200 per year) for each student to access its centralized platform, and individual Prenda microschool leaders determine how much they charge on top of that for leading the microschool (Prenda, undated-a). Microschools affiliated with traditional public school districts likely have little to no cost to families, although other microschools operating as private schools likely charge much more than the median cost. As school voucher and ESA programs expand, families might be more able to use public funds to support full- or part-time enrollment in microschools. We discuss these programs further in the "States' Microschool Policies" section that follows.

States' Microschool Policies

Microschools might be regulated under and interact with various state-level education policies, such as state-run scholarship or tax credit programs or homeschooling regulations. As of early 2024, the Education Commission of the States reported that 13 states and Washington, D.C., have voucher programs; 21 states have tax credit scholarships; and 19 states have ESA programs (Roy, Schwartz, and Gable, 2024).

How much microschooled students can benefit from these choice policies is determined on a case-by-case basis depending on whether the microschooled student is homeschooled, paying private school tuition, or enrolled part- or full-time in public school. For example, tax credit programs in Oklahoma, Indiana, and Ohio can be used toward curriculum, tutoring, or extracurricular activities for homeschoolers (Navigate School Choice, undated). In other states, such as Arizona, even students enrolled in public schools may be able to access funds to supplement their education with microschooling via an ESA (Navigate School Choice, undated).

As school voucher and ESA programs expand, families might be more able to use public funds to support full- or part-time enrollment in microschools.

Although these types of choice policies might affect microschooled students, few states mention microschools specifically in their statutes. One exception is West Virginia; West Virginia Code § 18-8-1 specifies several requirements for microschooled students. These requirements include that (1) parents must notify the county that their child will be enrolled in a microschool and must notify the county if their microschool enrollment is terminated; (2) microschool students must participate in nationally normed annual assessments of academic performance; and (3) a portfolio of student work must be annually reviewed by a certified teacher who will then write a narrative assessment of the student's work. Despite this statute, the recent failure of a West Virginia microschool funded in part by the state's ESA program has led to a state investigation and raised concerns over whether there is sufficient public accountability in place for microschools that use public funds (Jacobson, 2024).

Who Do Microschools Serve?

Characteristics of Microschoolers

It is challenging to obtain accurate counts of the national population of microschooled students and to

describe its demographic composition because many state and local education agencies do not distinguish between homeschooled and microschooled students. During the COVID-19 pandemic, the national homeschool rates doubled from 5.4 percent in spring 2020 to 11.1 percent in fall 2020 (Dee, 2023). But how many of these students went to microschools (or pandemic-era learning pods) is unknown. Using national homeschooling rates and their own surveys of microschooling families, McShane and DiPerna (2022b) estimated that between 1.1 million and 2.2 million students in the United States were enrolled full time in microschools; many more participated in microschooling on a part-time basis. While this is perhaps the most widely cited reference on microschool enrollment, some scholars believe that McShane and DiPerna overestimate the size of the sector, and that enrollments are closer to 750,000 (Hamlin, Searcy, and Cheng, 2024).

In our 2024 survey, microschool leaders reported that they aim to serve marginalized students. A 2023 survey by the National Microschooling Center also found this to be the most commonly cited reason for founding microschools (Soifer and Soifer, 2023). VELA's survey of educational entrepreneur grantees found that 93 percent of its grantees serve low-income and/or other historically underserved students, and 38 percent of its grantees consider serving these populations to be a core focus of their model (VELA, 2024). Prominent examples of subgroups that VELA grantees reported aiming to serve are low-income students; students who are Black, Indigenous, or people of color; neurodivergent students; multilingual students; foster youth; lesbian, gay, bisexual, transgender, queer, and other sexual and gender minority youth; remote rural students; unstably housed students; students with incarcerated parents; and migrants. Less commonly reported examples were girls, children of single parents, students with special medical needs, and survivors of domestic violence.

A majority of the schools that participated in our interviews and survey served students with learning differences. In the survey, 48 percent of the school leaders indicated that at least half of their school's students had a learning disability, such as dyslexia or dyscalculia, and 56 percent said that at least half of their students were neurodivergent. Four school leaders interviewed highlighted that their school served gifted students, another four mentioned students with emotional or behavioral issues or trauma, three said that their schools were focused largely on serving students from particular marginalized communities, and one said that their school was specifically set up for students with severe cognitive disabilities.

However, it is also important to look at who is not served by these schools. Several of the school leaders mentioned that they were not equipped to handle students with high needs, such as significant physical disabilities, severe emotional or behavioral issues, or learning disabilities that required significant one-on-one attention. Although some school leaders would have liked to be able to serve these populations, their schools generally did not have the resources or staff ratio necessary to accommodate them.

Our interviewees discussed what types of students were and were not a good fit for a microschool environment, and a theme that arose in four of the interviews was independence. Because of the focus on individually paced work and self-motivation, four school leaders mentioned that students (or families) who are not ready for that level of independence are likely not a fit for these schools. See Box 4 for more from microschool leaders on the students they are not able to serve.

BOX 4

Microschool Leaders on the Students They Serve

"Most learners thrive at the school. The ones who do not are learners who have gone through some significant or recent trauma and really do require quite a bit of scaffolding and direct instruction, and the level of supports they need exceeds that which our staffing ratio are able to provide . . . and maybe for some very significant learning differences that require, again, massively different amounts of capacity in terms of one-on-one instruction."

"The family profiles that do not work well with this are families . . . that don't believe that children are capable of shouldering the responsibility for their learning and they are unwilling to let children experience the natural consequences of their choices."

Family Motivations for Choosing Microschools

Although there have been surveys of microschool leaders and grantees, there have been no surveys, to our knowledge, of the families who choose to enroll in microschools. Therefore, the available information on family motivations for choosing microschools is limited in that it typically comes from school leaders or microschool advocacy organizations. The 2023 Emerging School Models conference at the Harvard Kennedy School included a panel session on homeschooling options (EducationNext, 2023), during which some sector leaders described the reasons families sought out their organizations. A representative from the Engaged Detroit Homeschool Co-op described the development of her organization as a response to parents whose children were not being adequately served by the public school system during the pandemic and wanted training so that those parents could be empowered to instead provide their children with a high-quality education at home. The founder of the Haven School in Colorado described how the traditional school schedule and school values are not aligned with the reasons that many parents want their children to receive an education. To accommodate these parent preferences, the Haven School operates a flexibly scheduled, publicly funded academic program and a parallel, privately funded faith-based program (EducationNext, 2023).

In our interviews and survey, it became apparent that many of these decisions not only are motivated by ideological dissatisfaction with public schooling but are also student-driven decisions made because previous schooling environments (public or private) were not adequately serving those students. On the survey, 72 percent of school leaders said that at least half of their students had struggled academically in a previous learning environment, and 28 percent said that at least half had struggled behaviorally. These themes came up frequently in the interviews as well, and three interviewees also mentioned students who had dealt with bullying or safety issues in a previous school.

Other themes that arose frequently in discussions of parent motivations for sending their child to a microschool included small class sizes and the level of individualization the school afforded. The school leader we spoke with whose school served students with severe cognitive disabilities indicated that many parents said that some of the academic standards public schools had for their students were not appropriate, and they wanted the flexibility to set more meaningful goals. See Box 5 for more about the families who choose microschools.

How Do Microschools Assess Student Progress?

Microschools by design typically operate outside public school systems (Soifer and Soifer, 2024), and, because of this, they are not required to participate in the same performance and accountability frame-

BOX 5

Who Are Microschools Serving?

Microschools typically serve a diverse variety of students, including those who might not thrive in traditional educational settings because of their unique learning needs or preferences. According to recent survey data, 40 percent of microschool families are below the average income for their area (Soifer and Soifer, 2024).

Although some research suggests that students of color are underrepresented in microschools, these demographics are changing, and more schools are focused on addressing the specific challenges faced by Black and Hispanic families in conventional public schools. Over half (52 percent) of prospective microschool founders surveyed by the National Microschooling Center indicated that they were interested in starting a microschool to offer better educational opportunities to systematically underserved or marginalized communities (Pillow and Daramola, 2023; Soifer and Soifer, 2024).

Families turn to microschools when they are dissatisfied with their other schooling options for a variety of reasons. Parents choose microschools for their ability to offer personalized and customized learning experiences that can be tailored to meet the specific needs and interests of each student. Small class sizes and a close-knit community atmosphere can provide a more supportive and engaging educational experience.

works that report student proficiency and growth (Pillow and Daramola, 2023). In fact, just around one-fourth of microschools (26 percent) use letter grades as a way of communicating information about student learning and progress to students and families. Many structural features of microschools—their independence and the personalized learning and unconventional arrangements of learning environments (e.g., ungraded classrooms)—mean that typical methods of measuring student performance are not suited for microschools. Additionally, many families opt into microschools because they are dissatisfied with the traditional school-based education system in the United States, and, as is the case with homeschooling families, some of this dissatisfaction likely reflects a distrust of standardized testing, or at least a belief that a focus on standardized testing is not aligned with their own educational values or beliefs (Goymer, 2000; Pillow and Daramola, 2023). Accordingly, microschool approaches to student assessment vary widely from place to place (see Boxes 6 and 7).

The most recent survey data from the National Microschooling Center (Soifer and Soifer, 2024) show that slightly more than one-third of surveyed microschools (36 percent) use standardized assessments, including summative assessments (e.g., state standardized tests) and interim assessments (e.g., NWEA MAP or i-Ready), and 9 percent provide such assessments when requested by parents. The most commonly mentioned forms of assessment were observation-based assessments (67 percent), portfolio assessments (48 percent), and formative assessments embedded within digital learning tools (45 percent). (Survey respondents were encouraged to select more than one answer.) A survey of VELA grantees (VELA, 2024) likewise found a heavy reliance on performance-based assessments (including project-based methods) and observations. VELA grantees are less likely to rely on traditional written summative or formative assessments, such as standardized (11 percent) or nonstandardized (18 percent) assessments, to determine whether their programs are successful. However, it is important to keep in mind that only 30 percent of VELA's grantees identify as microschools.

BOX 6

Seven Common Approaches to Assessment in Schools

Assessment takes many forms, all of which provide different kinds of information about student learning and progress. The following are among the most common approaches that schools take to assess students:

- **Summative assessments** (such as state standardized tests) are administered at the end of an instructional period, typically annually, to evaluate student learning against a defined set of content standards.
- **Interim assessments** (such as NWEA MAP) are administered throughout the year to monitor student learning relative to a specific set of academic goals.
- **Formative assessments** are embedded within learning activities and linked directly to instructional units. Teacher-made examples include quizzes and exit tickets, but this category also includes assessments that are embedded into digital learning platforms, such as Zearn or Khan Academy.
- **Performance-based assessments** require students to demonstrate their knowledge and skills through projects, presentations, or practical tasks and often integrate multiple subject areas.
- **Portfolio assessments** require students to compile their work over time, which is then assessed to evaluate learning.
- **Observation** offers a way for teachers or other adults to assess students through observation of their participation, behavior, and interactions in the learning environment and provide qualitative insights into student learning and development.
- **Student conferences** are one-on-one meetings between a teacher and student to discuss progress, set goals, and reflect on learning. Teachers can use these meetings to offer personalized feedback and support.

SOURCE: Perie, Marion, and Gong, 2009.

BOX 7

Microschool Leaders on How They Monitor Student Academic Proficiency and Growth

"Measures of achievement are really individualized. We do give report cards, every student receives a report card, and we do follow the traditional A through F grading scale, but really those grades . . . we don't modify the grades, but really we are operating in such an individualized way that we're modifying the work that the kids are doing, so the grades that they're earning are accurate, but what might look like an A for one student wouldn't necessarily be an A for another."

"We have four categories of learning outcomes that we're trying to cultivate in students. The first is our social and emotional factors, and we call them 'Learning to Be,' and they include things like resourcefulness, gratitude, flourishing, and purpose. The second set of learning outcomes are called 'Learning to Do,' and those are key marketplace skills like storytelling, design thinking, creativity. The third category is 'Learning to Learn,' that includes the traditional academics: math, science, social studies, reading, history, as well as learning science. The fourth category of learner outcomes is called 'Learning to Live Together,' which includes collaboration, social capital, empathy, trust."

These results were consistent with findings from our survey and interviews. Nine of the school leaders interviewed indicated that they used some form of standardized assessment, with one more considering adopting one for the following year, although three of them indicated that participation was optional and that not all students at the school participated. Similarly, 54 percent of survey respondents who answered the question about assessment indicated that they used standardized assessments, although only 42 percent said that all students took them. NWEA MAP was the standardized assessment most frequently cited in both the interviews and survey, although it was still used by a small minority of schools. About half of the schools used formal report cards and grades, and others used more–narrative-heavy progress reports. However, it is important to note that a significant majority of interviewed school leaders (ten) indicated that the grades or progress reports are aligned to the level of the individual students and the goals that students, parents, and/or teachers have set rather than norm-referenced criteria aligned with grade-level standards.

A significant majority of interviewed school leaders indicated that the grades or progress reports are aligned to the level of the individual students and the goals that students, parents, and/or teachers have set.

Some more-established microschool networks, particularly those that rely primarily on virtual instruction, have a greater capacity and more-established infrastructure to systematically capture academic performance through common computer-based assessments administered across their campuses. For example, the large microschools network Prenda reports on its website that all students participate in reading and math computer-adaptive diagnostic testing, which allows it to measure growth in these subjects over time. Additionally, Prenda uses a four-part "empowerment framework" to assess students' (1) motivation, (2) control, (3) differentiation, and (4) happiness. These are measured using a student survey (Broadbent, 2024). Given the varieties of goals that families might have for choosing a microschool, customized measures (such as this survey created by Prenda) aligned to each school's needs can

provide useful data for microschool leaders to evaluate and improve their school's performance.

Assessments embedded in digital learning platforms were the most common type of assessment found in our survey, with 71 percent of respondents indicating that they used them to track student progress. However, the specific platforms used varied from school to school, and even within a school, few respondents indicated that all students within the school took assessments within any given platform.

When we look at how schools themselves evaluate student growth and what criteria are most emphasized, it is clear why traditional forms of academic assessment paint only part of the microschool assessment picture. Although five of the schools we spoke with mentioned academic gains in traditional subject areas as a key indicator of student growth, seven noted social and emotional growth as a top priority, and four also talked about gains in soft skills needed for long-term success (e.g., critical thinking or problem solving).

Given that many microschooled students are formally classified as homeschooled, nationally representative data on homeschooled students might also shed some light on assessment in microschools. Information provided by the U.S. Department of Education on state homeschool regulations shows that, as of 2017, 30 states required homeschooled students to have some form of evaluation or assessment, and eight more allowed homeschooled students access to state assessments (U.S. Department of Education, 2017). These requirements suggest that the majority of states do have administrative data on homeschool student performance, although the extent to which the available data might be comparable with those of traditionally educated students remains unclear.

What Evidence Is There About Microschools' Impacts on Students?

Given the tremendous diversity of microschool models and the general lack of test data for microschooled students, it is not surprising that identifying the educational effectiveness of microschools has been challenging for researchers, policymakers, and funders.

We conducted a systematic literature review to identify prior research on the effectiveness of microschools, focusing our search on journal articles, white papers, book chapters, and dissertations published between 2000 and 2024.[2] Although our search yielded more than 100 sources, most of this literature was primarily focused on pandemic-era learning pods, many of which did not continue to operate after the pandemic, and therefore was not very useful in informing our knowledge of the microschool sector more broadly.

Ultimately, we identified 22 relevant sources (see Box 8 for an overview of these sources, and see the appendix for a full list). None of these sources provided experimental or quasi-experimental evidence that demonstrated the promise of microschooling for student academic growth and development. Most of these sources fell into one of three categories:

1. survey studies employing a convenience sample of microschool families or microschool operators (e.g., Hitchcock, 2023; Soifer and Soifer, 2024; VELA, 2024)
2. case studies (e.g., Yin, 2014) in which researchers use (primarily) qualitative methods to deeply describe a specific microschool (or network of microschools) in a particular context at a particular moment in time (e.g., Pillow and Daramola, 2023; Doss and Steiner, 2022)

BOX 8

Overview of Sources Identified in Our Literature Review

We identified 22 relevant sources on microschools, which included no peer-reviewed journal articles. These sources were

- five unpublished dissertations
- six pandemic-pod case studies published by the Center on Reinventing Public Education
- nine reports written by research or advocacy organizations
- two book chapters.

We supplemented this search on microschools with peer-reviewed research on homeschooling, personalized learning, and small schools.

3. position papers, usually written by an advocacy organization or by an author who is otherwise politically motivated, using theoretical and empirical evidence to convince readers that their position on microschools has merit (e.g., Smarick, 2022; Tarnowski, 2022; Thayn, 2023).

None of the studies used statistical methods that could identify whether the observed improvements in academic performance should be attributed to the microschool or whether those gains reflect systematic differences between students and families who choose a microschool as compared with those who choose to attend a traditional public or private school. For example, Prenda complied an impact report for the state of New Hampshire (Prenda, undated-b) suggesting that more than half of students performing below their traditional grade level showed at least one full grade level improvement in one school year in English language arts on the i-Ready interim assessment, and nearly two-thirds (62 percent) showed at least one full grade level of growth in mathematics on the i-Ready interim assessments. The Prenda network as a whole reported that, in the 2021–2022 school year, 47 percent and 37 percent of students exceeded normal growth expectations in reading and math, respectively (Broadbent, 2024). The lack of a comparison group, however, prevents attributing those gains to microschools per se.

Evidence on Other Common Features of Microschools

Research about three of the most common features of microschooling—homeschooling, individualized instruction, and school size—have implications for the study of microschool effectiveness. All three areas have suggestive, positive effects for students in some contexts.

There is a large body of scholarly research on homeschooling, dating back nearly 30 years. Comparisons of homeschooled and observationally similar traditionally educated students have found that homeschooled students tend to perform either the same as or better than traditional students. In an exploratory study of the relationship between homeschooling and academic outcomes, Cogan (2010) found that homeschooled students had higher ACT scores, high school grade point averages (GPAs), and high school graduation rates than similar traditionally educated students, as well as higher college GPAs, college retention rates, and college graduation rates. Other descriptive evidence finds similar results—Martin-Chang, Gould, and Meuse (2011) found that students in a structured homeschool performed better on standardized tests than children attending public school. Using a survey, Drenovsky and Cohen (2012) found that homeschooled students experienced less depression, more academic success, and a better experience at the college level than traditionally educated students. Other evidence shows no difference in college GPA or retention rates between homeschooled and traditional students (Yu, Sackett, and Kuncel, 2016).

Likewise, there is a growing body of literature on personalized learning. Similarly to microschools, the definition and implementation of *personalized learning* varies widely (Bernacki, Greene, and Lobczowski, 2021), and there have been few studies of the effects of whole-school personalized learning on student academic outcomes (Zhang, Basham, and Yang, 2020). Most prior studies of technology-mediated personalized learning found some positive effects on student learning outcomes (e.g., Zhang, Basham, and Yang, 2020; Pane et al., 2014). However, a key difference between the schools studied in this literature and the microschool sector is that microschools are often not intended to use technology to personalize instruction at a large scale. Therefore, evidence on the value of student input and perception of personalization might be more relevant to the microschooling sector. Several studies have found that learner self-selected content has mixed results on student outcomes, but when students report a higher level of connectedness and support from adults, they tend to have higher test scores (Zhang, Basham, and Yang, 2020).

Another similar education reform on which there is available evidence is the Small Schools Movement, which was funded largely by the federal government and the Gates Foundation in the early 2000s. That said, similarly to microschools, there is no common definition of *small*, and schools funded by these initiatives were often much larger than a typical microschool (the federally funded enrollment limit was 300 students, and the Gates-funded limit

was 500). Early evidence on the effects of school size found that smaller schools had better outcomes, but more-recent research using more-rigorous methods is mixed (Schwartz, Stiefel, and Wiswall, 2013). Some quasi-experimental studies of school size have found positive effects of smaller schools on attendance and graduation rates (e.g., Barrow, Claessens, and Schanzenbach, 2010; Bloom, Thompson, and Unterman, 2010), although others have found no effects on achievement (e.g., Schneider, Wyse, and Keesler, 2007). It is important to note, however, that even if the evidence suggests that smaller schools are related to better performance, the mechanisms by which size affects performance are not clear, which limits our ability to use evidence on school size to inform microschooling practices.

What Are Some Key Challenges Regarding the Short-Term and Long-Term Sustainability of Individual Microschools and the Microschool Sector Overall?

There has been considerable attention paid to microschools in the national media. Many of these articles focus on the promise of microschools and their rapid growth as an option in the school choice landscape. For example, a commentary in *EdSource* written by Anaheim Union High School District Superintendent Michael Matsuda notes that, because they are smaller and often exist outside formal regulatory frameworks, microschools can adapt more quickly to meet the needs of students and families than the larger, more-bureaucratic traditional public schools (Matsuda, 2024).

However, although their size and flexibility are assets in terms of microschools' ability to adapt and innovate, there are downsides in terms of sustainability. There are two interrelated kinds of sustainability concerns that face microschools: the sustainability of microschooling as a movement and the sustainability of individual schools or networks of schools. Concerns about the sustainability of microschooling as a movement focus on the health and stability of the idea of microschooling and the space it occupies in opposition to institutional schooling (see Kunzman and Gaither, 2013, for a similar perspective on homeschooling). Individuals concerned about the sustainability of the movement recognize that some school closures are inevitable and that school operators might choose to close schools for a variety of reasons (e.g., the students the microschool was designed to serve age out) (Soifer, 2024). Concerns about the sustainability of specific schools or networks of microschools focus on *forced closures*. Research suggests that forced closures occur because of challenges with funding (Soifer, 2024), challenges navigating regulatory frameworks (Soifer, 2024), or challenges with staffing or enrollment (Pillow and Daramola, 2023). We consider each of these sustainability challenges in the following sections.

Sustainability Challenges Concerning Funding

Funding was the most frequently cited challenge for microschool operators surveyed in the 2024 National Microschooling Center survey (Soifer and Soifer, 2024). Microschools have historically relied on private tuition as their funding source for operations. VELA's 2023 survey of educational entrepreneurs found that 70 percent of grantees relied on tuition or fees as their primary source of revenue, and only 10 percent received public funding (VELA, 2024). But microschools are becoming less dependent on tuition as other funding sources become available. However, a panel discussion at the 2023 Emerging School Models conference at the Harvard Kennedy School titled "Bringing Emerging Models to Scale: Are ESAs a Regulatory Nightmare?" demonstrates that educational entrepreneurs are hesitant to rely on vouchers or ESAs to sustainably fund their operations, because the policies, so far, have been changing, and the specific educational products that can be purchased with state money vary on a state-by-state basis. In this session, the panelists argued that the more complex the ESA policy becomes, the more difficult it gets for entrepreneurs to benefit from it (EducationNext, 2023).

Grantees also reported that staff and facilities make up most of their operational budgets (VELA, 2024). The ways that grantees cited most to cut costs were to create their own curriculum (as opposed to

purchasing a curriculum) and to rely on volunteers for much of their staff labor.

Funding came up as a key issue in our interviews as well, with five of the six people who answered questions about the challenges faced by the microschooling community citing funding as one of the major threats to sustainability, as did 77 percent of school leaders who responded to a survey question about funding. In interviews, microschool leaders identified several major issues around funding. First, the small enrollments of their schools often necessitated higher tuition rates than desired to cover basic operating costs. Second, leaders noted that it was often difficult to get loans from banks because the business model is not well understood. Microschool leaders also noted that philanthropic support might not be sustainable long term. See Box 9 for examples of microschool funding issues.

BOX 9

Microschool Leaders on Select Funding Issues

"At a certain size, it's just very hard to make the money and the dollars work. There's two key financial things most schools . . . have to deal with, which is paying for human capital and paying for facilities . . . . Those things are challenges for microschools. If there are only ten kids, how do you make the numbers work without charging families $50,000 a year . . . ? It's not uncommon to see microschools close not because parents don't want it or they can't do it, but because the business model isn't good."

"Not depending on philanthropy; the margins are so small and thin. You do have some families that have a higher amount of ESA funds awarded, but a lot of times with microschools the hardest part is you have teachers that are used to getting a paycheck every two weeks who all of a sudden are now carrying purchases on their credit cards until the parents are able to get the ESA . . . . That creates a problem with funds in those first six months of having to carry all of that, especially if they're using a business loan."

Sustainability Challenges Regarding Regulation

Although funding was the greatest challenge identified in the National Microschooling Center's 2024 report (Soifer and Soifer, 2024), in 2023, the most cited challenge for effectively developing and implementing a microschool was that founders struggle with understanding and meeting local statutory and regulatory requirements for operating a school (Soifer and Soifer, 2023). For example, local policies requiring a certain acreage or number of bathrooms for a school to be legally operable might create unanticipated problems for founders who are seeking (or mistakenly believe that they have found) a facility to operate their school in.

Issues with policy and regulatory requirements came up frequently in our interviews as well. Some of the issues were ideological, with concerns that subjecting microschools to the same regulations as other types of schools would stifle the type of innovation and entrepreneurship that often characterizes microschools. Others were more practical, with interviewees talking about navigating zoning regulations that were not written with their use cases in mind.

In a report for the Manhattan Institute, Smarick (2022) describes the trade-offs of the expansion of government involvement in microschooling for the sector: "Microschool advocates need to consider these trade-offs—e.g., at what point do the costs of government regulation exceed the benefits of financial support?" (Smarick, 2022, p. 10). Smarick argues that highly flexible ESAs might be the best way to enable growth of the sector while allowing the "sector to remain vibrant, diverse, and responsive" (Smarick, 2022, p. 11). However, he acknowledges that policies affecting microschools are complex, because some microschools might be categorized as public or private schools or might be regulated by homeschooling, charter, or virtual/hybrid policies as well.

Summary

In this report, we used a mixed-methods approach to better understand (1) common features of microschool models, (2) the characteristics of microschool students, and (3) how microschools are assessing student

Although some features are frequently mentioned as hallmarks of microschooling, the microschool sector has tremendous variability along almost every dimension.

proficiency and growth. In the following sections, we discuss our findings from our interviews, survey, and systematic review of the research literature.

There Is Tremendous Variation in Microschool Models

Although some features are frequently mentioned as hallmarks of microschooling (small size; multiage classrooms; focus on individualized, self-paced learning), the microschool sector has tremendous variability along almost every dimension. Perhaps this should not be surprising, then, given the spirit of innovation and entrepreneurship that is commonly articulated by microschool advocacy organizations (Soifer and Soifer, 2024). We found evidence of schools operating across a broad spectrum of organizational formality, with some schools whose online presence consists of only a Facebook group and other schools that are affiliated with nonstate networks that operate around common principles regarding teaching and learning. There were schools operating out of private homes and schools operating without a physical campus (schools that meet in parks or other public spaces), and there were schools that were affiliated with charter school networks and schools that operated as small academies or lab schools within larger traditional public schools. There were microschools that offered full-day instruction and microschools where students were co-enrolled, attending for only after-school activities or for a specific educational purpose. Some microschools enrolled fewer than ten students, and others had more than 100 students. We found a wide variety of curricula and educational philosophies, ranging from project-based learning to schools operating in a Montessori tradition. The single most common feature of microschools is that their formation was driven by the perception that a specific set of educational needs is not being met by local traditional school options, be they public or private.

It Is Difficult to Obtain Comprehensive Demographic Data About Microschoolers, but the Choice to Enroll in a Microschool Is Intentional

In part because microschools are, by design, deinstitutionalized and often operate in loosely regulated ways outside state and local education systems, obtaining comprehensive data on microschoolers is nearly impossible. Estimates of the size of the microschool population are often based on projections from polls or from national surveys, such as the National Household Education Surveys (McShane and DiPerna, 2022b; Cheng and Hamlin, 2023). According to our review of the literature, there are no studies using a nationally representative sample that report the demographic composition of the microschool sector in terms of race and ethnicity, English learner status, or socioeconomic status.

We found that microschools are often formed to meet the needs of a specific group of students. For example, this could be students who are at risk of dropping out, students with specific social or emotional needs, students who are confronted by bullying or cyberbullying, or students who do not feel engaged or challenged in traditional school settings. As with homeschooling, the specific reasons that families choose to enroll in microschools are likely highly dependent on their particular context and circumstances, which could include their perceptions of the quality of local public and private school options, perceptions of the emphasis that local schools place on standardized testing, perceived racial microag-

gressions or racially biased disciplinary systems, or the perception that their values are at odds with the values of the local school system (Pillow and Daramola, 2023; Kunzman and Gaither, 2013). What is clear, though, is that students and families who attend in microschools do not do so randomly, and that these decisions are made strategically.

Free from the Accountability and Reporting Requirements Faced by Public Schools, Microschools Make Highly Localized Decisions About How (and Whether) to Assess Students' Academic Proficiency and Growth

We found almost as many approaches to assessment as we found microschool models. Schools assessed students in a variety of ways, and, although a sizeable percentage of microschools surveyed by the National Microschooling Center indicated that they administer standardized assessments to students, there is tremendous variation even among standardized assessments (Soifer and Soifer, 2024). In our interviews and survey, school leaders mentioned using NWEA MAP Growth assessments, i-Ready assessments, or year-end state standardized tests to appraise students. Importantly, several schools also indicated that, although they make standardized assessments available to families, participation is not required.

Although the Microschooling Movement Has Seen Steady and Robust Public Interest, School Finance, Stricter Regulatory Environments, and Student Mobility Threaten the Sustainability of Individual Microschools

First, we found that school leaders were concerned about the specific challenges that funding and regulation posed to their schools' viability. Microschool operators frequently rely on grants and donations to cover operating costs and sustain operations, but the long-term stability of these funding sources is questionable. Additionally, microschools often confront challenges in complying with local statutory and regulatory requirements. Both of these issues heighten the possibility of forced school closures. Second, we found that microschools often aim to serve vulnerable populations, including high-poverty populations and students affected by trauma. Research has shown that such populations can be highly mobile, changing schools or residences multiple times within a school year (Rumberger, 2015; Hoskins and Schweig, 2024). In their case study of the Black Mothers Forum in Arizona, Pillow and Daramola (2023) noted that increasing housing costs often force families to move out of state. Pillow and Daramola (2023) also discuss the issue of fit (discussed previously in the "Characteristics of Microschoolers" section) and its implications for student mobility, because students might decide that the microschool environment is not right for them and transition to a different school or learning setting.

What Are the Implications for Research on Microschool Impacts?

These four aspects of microschooling have big implications for researchers seeking to conduct research on microschool impacts. We view these implications through the lens of Campbell and colleagues' widely referenced validity framework (Campbell and Stanley, 1963; Cook and Campbell, 1979; Shadish, Cook, and Campbell, 2002). Broadly speaking, the term *validity* here refers to the degree to which information about the academic proficiency and growth of students enrolled in microschools can be used to make accurate and trustworthy claims about the effects of attending a microschool, in comparison with an experience in a traditional public or private school (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 2014).

The framework developed by Campbell and colleagues (Campbell and Stanley, 1963; Cook and Campbell, 1979; Shadish, Cook, and Campbell, 2002) defines internal and external validity (see Box 10), and we focus our discussion on the aspects of inter-

BOX 10

Internal and External Validity

Campbell and colleagues define *internal validity* and *external validity* as follows:

- **Internal validity** describes the extent to which the estimated effects of a program or intervention correspond to true causal effects. Selection bias is one particular threat to internal validity that arises when there are systematic differences between students who attend microschools and those who do not, particularly if these differences are also likely to influence outcomes. Another threat to internal validity is attrition, where students who are enrolled at the start of a study are lost. Attrition is particularly a problem if that loss is associated with outcomes.
- **External validity** describes the extent to which inferences about effectiveness can be generalized to other individuals, settings, instruments, or program variations (Briggs, 2008). In the context of microschooling, external validity would describe the extent to which the results from a study of one particular microschool or set of microschools are likely to hold if other kinds of microschools had been studies instead.

SOURCES: Briggs, 2008; Campbell and Stanley, 1963; Cook and Campbell, 1979; Shadish, Cook, and Campbell, 2002.

nal and external validity that are particularly salient to the study of microschools.

Families Who Choose to Enroll in Microschools Do Not Make This Choice Randomly, Raising Serious Concerns About Selection Bias and Internal Validity in Nonexperimental Studies

Study designs that employ randomization are widely regarded as having the strongest internal validity because the randomization process mitigates selection bias by ensuring that students who attend microschools are similar to those attending traditional public or private schools at baseline (before enrollment) on all observed and unobserved variables that could influence the study outcomes.

However, the decision to microschool does not occur randomly in practice, and it is often infeasible to implement a randomization scheme in school research, which introduces the possibility of selection bias as a threat to internal validity. Families make deliberate decisions to seek alternatives to traditional schools. Microschools actively seek to serve students with learning differences; students with emotional or behavioral issues or trauma; students who might face bullying based on race, gender identity, or sexual orientation; and students who were disengaged from schooling, and many of these aspects of identity have been shown by research to be systematically associated with academic performance, which raises the distinct possibility of selection bias.

Typically, researchers try to use complex statistical techniques to mitigate this possibility. The aim of these techniques is to create a comparison group that is as similar as possible to the microschooled students at baseline on observed variables (see Mihaly et al., 2024, for an example of such a design).

In the microschool context, there are two issues that might complicate the use of such techniques, one practical (data access and availability) and one conceptual. Practically speaking, these statistical techniques require background data on all microschool students in the study, as well as background data on a potential pool of comparison students, to be available and accessible. As mentioned earlier in this report, microschools are not subject to the same reporting requirements as public schools, so obtaining background data on microschool students might necessitate individual data requests from each school or family enrolled in the study, which can be time and resource intensive. Conceptually, such statistical techniques can control for selection on only the variables that are available and recorded in administrative datasets, and many such datasets do not include key information on students that might be associated with both why students choose to attend microschools and their academic performance. For example, existing data systems are unlikely to have information on emotional trauma, experiences with bullying, or family values. Because of this, conven-

tional quasi-experimental techniques cannot completely mitigate the possibility of selection bias, even if issues of data access are resolved.

Although addressing these two issues might seem nearly insurmountable, there are several promising paths forward for conducting impact studies using quasi-experimental designs. First, these issues largely apply to studies that rely on existing administrative data as the basis for analysis. Collecting data directly from microschools and suitable comparison schools might mitigate the challenges described here. As an illustrative example, Mihaly and colleagues recently conducted a study of schools employing Teach For All Fellows in Nigerian schools (Mihaly et al., 2024). That study employed a quasi-experimental design and recruited locally matched schools that served similar populations as those employing Teach For All Fellows. All background data on students and families, in addition to all outcome data, were collected as a part of the study, and researchers worked in direct collaboration with local school leaders. In the microschool context specifically, Rock by Rock is collaborating with Mathematica to conduct a study on the impact of project-based learning for microschooled students, and assessments are being administered as a part of the study activities (Rock by Rock, undated-b). Additionally, as both ESA policies and the microschool sector continue to expand, the potential opportunity for experimental or quasi-experimental studies might expand, too. In regions where microschool growth coincides with ESA policies, oversubscription to either ESAs or microschools might provide experimental conditions for studying microschool student outcomes (Roy, Schwartz, and Gable, 2024), similar to the approach taken in charter school lottery studies (Cohodes and Parham, 2021). Quasi-experimental studies could become possible if states develop the appropriate data infrastructure and research-practice partnerships needed to track microschooled student outcomes alongside their observationally similar nonmicroschooled peers (Roy, Schwartz, and Gable, 2024). Although we are hopeful that these opportunities might become available for future studies, the currently available data cannot facilitate such strong research designs.

Quasi-experimental studies could become possible if states develop the appropriate data infrastructure and research-practice partnerships needed to track microschooled student outcomes alongside their observationally similar nonmicroschooled peers.

The Facts That Test Participation Is Not Mandatory, That Students Might Move In and Out of Microschool, and That Microschools Face Concerns About Sustainability All Raise Concerns About Attrition Bias and Internal Validity

Attrition is a serious threat to internal validity in studies that aim to make causal claims about the impacts of microschools. What Works Clearinghouse, an initiative of the U.S. Department of Education that evaluates and disseminates evidence on the effectiveness of education programs and policies, defines *attrition* as the loss of sample during the study, and it occurs when students initially in a study sample are not included when outcomes are examined (What Works Clearinghouse, undated). Attrition can diminish internal validity even for studies employing randomization,

Variability in microschool models raises serious concerns about whether the results from a study of any particular set of microschools are likely to support general claims about the effectiveness of the microschooling movement.

particularly if there are systematic differences in which students are lost during the study.

Our research revealed three features of microschools that raise concerns about the potential for attrition bias. First, we found that even in schools that offer standardized testing as an option for students and families, participation in such assessments is not mandatory. This means that within a microschool, there might be systematic differences in who opts into (and who opts out of) test participation. Literature on student opt-outs in traditional school contexts generally shows that even small differences in who opts out of testing can have dramatic effects on inferences about school-level achievement. As one example, Beaver, Westmaas, and Sludden (2014) showed that removing 10 percent of low-achieving students from the estimation of a school's average student achievement could cause a school that would be identified as in need of support to be identified as making satisfactory progress (see also Cremata, 2019).

Second, we found that microschools often aim to serve vulnerable populations, including high-poverty populations and students affected by trauma. Research has shown that such populations can be highly mobile, changing schools or residences multiple times within a school year (Rumberger, 2015; Hoskins and Schweig, 2024). Students who transfer out of microschools are unlikely to be located for data tracking. To the extent that such students are likely to have systematically different achievement profiles than their less-mobile peers (Steinberg, Pileggi, and Neild, 2019), such mobility has the potential to induce attrition bias into effects estimates (What Works Clearinghouse, undated).

Finally, the sustainability challenges described by microschool leaders and the possibility of forced closure also raises the possibility of attrition bias, mainly because such closures would make it difficult to locate students for data collection.

Variety in the Microschool Model and a Lack of Information About the Population of Microschools Raises Concerns About External Validity

Broadly speaking, when researchers conduct studies of the effectiveness of an educational program or policy, they are interested in making inferences that generalize to other students in other similar contexts at other points in time (Kane, 2006). In other words, researchers are interested in taking results from a specific observed sample and making claims about a general population (also called a *universe*; Kane, 2006). Variability in microschool models raises serious concerns about whether the results from a study of any particular set of microschools are likely to support general claims about the effectiveness of the microschooling movement. For example, it is questionable whether the results of a study involving microschools that are networked with established organizations (such as Prenda or KaiPod) are likely to hold for smaller independent microschools, or whether the results based on a sample of microschools that serve ten students in an ungraded environment are likely to hold for microschools that use traditional grades and serve 100 or more students.

On the one hand, this aspect of heterogeneity is not entirely different than, say, the heterogeneity that would exist in a study of charter schools, where there is also a range of school sizes, educational philoso-

phies, settings, and enrolled student demographics. And, typically, what allows people to make general claims about charter schools is that the universe of charter schools and charter school students is fairly well understood. Researchers have access to fairly accurate counts of charter school enrollment at local, state, and national levels and have access to information about charter school size and structure.

What makes the issue of external validity more complex in the microschool context is that we have much less of an understanding of the universe of microschools or the universe of microschool students. This means that it is nearly impossible to know *how representative* any particular sample of students or microschools is of the general population of students and microschools. This, in turn, means that it is nearly impossible to know whether claims about microschools *overall* are warranted based on an effect found in a particular study.

This issue is further exacerbated by the fact that there is almost certainly an interaction between structural school characteristics and the availability of the kinds of standardized testing that would facilitate quasi-experimental studies of microschool participation. For example, schools need a certain kind of infrastructure and a certain amount of resources to offer assessments, such as NWEA MAP or i-Ready. Such structural features and resources might be more prevalent in networked microschools than in independently operating (and less formally organized) microschools. This suggests that, even if the universe of microschools was better understood, obtaining a representative sample of achievement measures from administrative data is highly unlikely.

The Facts That Many Microschool Students Are Labeled as Homeschoolers and That Many Microschools Operate Co-Enrollment Models Raise Other Concerns for Impact Attribution

Another issue that arose from our investigations that has implications for researchers concerns attribution. On one hand, there is the issue of being able to attribute students to a particular microschool in administrative data. In our research, we uncovered potential difficulties with identifying microschool students from datasets containing student test scores. First, many students in microschools enroll in these assessments as homeschool students, using such platforms as HomeschoolBoss. These students might not be associated with a particular school in a data file. Second, there are microschools that operate as small academies within larger private, charter, or public schools. In those cases, student records might be linked to the larger school with no indicator that the student engages with the microschool. Both of these scenarios present real challenges for identifying microschool students in administrative data and linking them accurately to their school of attendance.

On the other hand, there is a different kind of attribution issue, which involves the attribution of effects. In other words, to what extent is it possible to attribute an observed effect on academic proficiency or growth to a particular microschool? This issue arises because we found that it is frequently the case that students are enrolled in microschool settings for specific classes or are concurrently enrolled in a microschool and another school (possibly a traditional private or public school). Similar concerns about effect attribution have been articulated in research on teacher effectiveness (e.g., Baker et al., 2010; Isenberg and Walsh, 2014).

Limitations

There are several notable limitations to this report. First, because there are no peer-reviewed research publications on the microschooling sector, the preponderance of documents included in our literature review come from gray literature that was published by microschool-affiliated organizations or microschool advocates. This raises the possibility of *gray literature bias* (Booth, Sutton, and Papaioannou, 2012), a form of publication bias in which the results and conclusions presented in such reports might differ significantly from results found within peer-reviewed studies. Second, our original data collection comes from microschool leaders and other individuals working in the microschool sector. Although we have noted throughout this report that

the information presented is reported by microschool leaders or organizations or that these organizations hope to or intend to implement certain philosophies and instructional practices, it is important to reiterate that this report relies largely on self-reported information about microschools and is subject to the same potential biases that are commonly associated with self-report methods, including recall bias (i.e., individuals might have difficulty accurately remembering specific details or events; see Popham, 2013) and social desirability bias (i.e., individuals might give socially desirable responses instead of responses that reflect their true feelings; see Nederhof, 1985). We were unable to corroborate any of the claims made in our interviews or surveys using third-party observations or other more objective sources of data. For example, most microschool leaders reported implementing personalized or individualized learning practices, but the extent to which their actual practices are aligned with this philosophy or would be considered "personalized or individualized" by an outsider cannot be validated with the currently available information.

Third, our survey instruments and interview protocol did not provide detailed definitions of key topics of interest (e.g., curriculum, personalized learning, academic growth), and, therefore, it is possible that our sample of participants interpret or define these key topics differently. We urge our readers to keep in mind that these broad terms might be understood differently by various microschool leaders, and our findings should be interpreted accordingly.

Finally, the samples of microschool leaders included in the studies cited in this report and our own survey and interview data collection are, by necessity, convenience samples, and many of the participants were recommended or nominated by a network with a large microschool membership. Because of this, responses cannot be assumed to be representative of the microschooling sector at large. Because the sector is widely varied and broadly dispersed, we, and the other organizations cited in this report, relied on the networks available to us to recruit microschools for participation in our data collection, and such networks might systematically omit certain types of microschools (e.g., "invisible schools," such as those whose only official documentation is a private Facebook group), and microschools who are a part of such networks might systematically be similar in certain ways (e.g., VELA's survey of its own grantees).

Conclusion

Public interest in microschools is growing steadily, and, through this period of expansion, there has been a reluctance among microschool advocates to be prescriptive in defining microschools (see Soifer, 2022). Many schools self-identify as microschools under this broad umbrella, with some microschools sharing organizational features and approaches to instruction with public charter or traditional district-run public schools. Philosophically, microschools appear to be distinguished by a belief that traditional schools do not serve all students well and that regulation compromises the ability of schools to adapt to meet the needs of students and families. These factors likely create many trade-offs. On the one hand, keeping a broad definition might help facilitate innovation and the development and exchange of promising new practices. On the other hand, such a broad definition also makes it particularly challenging to make broad claims about the success of microschools or their impact on student learning. As microschools strive to adapt to meet the needs of specific students, given their relatively constrained administrative capacity, they might face challenges in increasing enrollment or in allocating resources to support other student needs. These issues make microschool evaluation critically important but also suggest that researchers seeking to evaluate microschools must attend to these potential threats to validity when designing studies.

APPENDIX

Methodology

The first stage of this research was a literature review and interviews with microschool leaders. The second stage involved a survey of microschool leaders and interviews with three funding agencies that support microschools.

Literature Review

In January through March 2024, the authors conducted a literature review seeking any prior research on the microschool sector. First, using RAND Primo, RAND's search engine across its universe of academic and nonacademic databases, we used a targeted search function for "microschool" OR "micro school" OR "learning pod" published between 2000 and 2024. This initial search yielded 398 results. After filtering by the type of resource and removing duplicates and international articles (written in a language other than English or written about a context outside the United States), we were left with 144 results.[3] We then screened all items for relevance to our study and retained a total of 22 items.[4] Of those 22, five were unpublished dissertations, six were COVID-19 pandemic–era learning pod case studies published by the Center on Reinventing Public Education, nine were reports written by research or advocacy organizations (the Center on Reinventing Public Education, EdChoice, Manhattan Institute for Policy Research, IGI Global, and the American Enterprise Institute), and two were book chapters. Most of this literature primarily focused on pandemic-era learning pods, many of which did not continue to operate after the pandemic, and therefore was not very useful in informing our knowledge of the microschool sector more broadly. For that reason, several of the 22 items that our search yielded are not included in this report.

Additionally, we checked known education research databases for any recent or unpublished research on microschools that our search might have missed. A search of the What Works Clearinghouse database for "microschool" OR "micro school" OR "learning pod" yielded no results, suggesting that there are no studies that have been reviewed by What Works Clearinghouse on these topics. Next, we searched the online repository of the American Educational Research Association for "microschool" OR "learning pod," which yielded only one item—an unpublished case study of a pandemic-era learning pod designed to serve Black middle schoolers.

Given the scarcity of the research literature on the microschool sector, where useful, we supplemented the literature found from this search with select literature on other common features of microschools (i.e., homeschooling, personalized learning, small schools). Our search for relevant literature across these topics was not comprehensive; instead, we sought the most up-to-date literature reviews or seminal pieces available for us to be able to efficiently summarize the knowledge base on each of these topics. Finally, we supplemented with systematic data and information about the microschool sector that is reported on the websites of school choice–oriented organizations, such as those of the National Microschooling Center, the VELA Education Fund, and School Choice Week.

Because we used a variety of sources, both those typical of comprehensive literature reviews and more unconventional sources, and because experimental or quasi-experimental evidence on the microschool sector is nonexistent, we organized our sources in Table A.1 by categories we found useful for understanding the scope of the information available to inform our review, noting (1) the primary topic of the source and (2) the type of source. This table illustrates that our search yielded no articles from research journals on the topic of microschools, so we supplemented with articles from research journals on related practices and supplemented with additional resources where necessary.

Interviews

For the interview stage of our study, we partnered with the National Microschooling Center to reach out to schools that were part of its network of more than 4,000 people involved with the microschooling movement. We asked them to identify school leaders who would represent a variety of different perspectives, including different school sizes, models, target populations served, and length of time in operation. They reached out to 18 leaders of microschools

TABLE A.1
Literature by Topic and Source Type

Source Type	References
Microschools	
Organization report	Bedrick and Ladner, 2023 Broadbent, 2024 Doss and Steiner, 2022 Hitchcock, 2023 McShane and DiPerna, 2022a McShane and DiPerna, 2022b Pillow and Daramola, 2023 Prenda, undated-b Smarick, 2022 Soifer and Soifer, 2023 Soifer and Soifer, 2024
Organization website	Libertas Institute, undated-a Libertas Institute, undated-b Navigate School Choice, undated Prenda, undated-a
News media	Jacobson, 2024
Homeschooling	
Research journal	Cheng and Hamlin, 2023 Cogan, 2010 Drenovsky and Cohen, 2012 Martin-Chang, Gould, and Meuse, 2011 Yu, Sackett, and Kuncel, 2016
Personalized learning	
Research journal	Bernacki, Greene, and Lobczowski, 2021 Bingham et al., 2016 Zhang, Basham, and Yang, 2020
Small schools	
Research journal	Barrow, Claessens, and Schanzenbach, 2010 Bloom, Thompson, and Unterman, 2010 Schneider, Wyse, and Keesler, 2007 Schwartz, Stiefel, and Wiswall, 2013
Other—school choice	
Conference proceedings	Education Next, 2023
Organization report	VELA, 2024
Organization website	Erwin, 2024
Research journal	Kunzman and Gaither, 2013

NOTE: *Organization report* is defined as a report published by an advocacy or research organization that, to our knowledge, has not been peer reviewed; *research journal* is defined as a research paper that has been published in a peer-reviewed journal; *organization website* is defined as information sourced from a webpage; *news media* is defined as a piece of journalism; and *conference proceedings* is defined as information presented in a conference panel presentation.

on our behalf, of whom 12 agreed to participate in 30-minute interviews.

Questions on the interview were grouped by category covering the following:

- role of the interviewee
- background and characteristics of the school
- curriculum and educational philosophy
- profiles and priorities of students and parents
- measuring student success
- support structures for running a microschool.

A subset of the school leaders also played a role in regional microschooling networks, and we asked

these participants additional questions about the broader microschooling landscape.

Following the interviews, notes and recordings were reviewed and coded for common themes and characteristics that arose in the discussions, as well as for themes identified from the literature review.

Additional interviews were conducted with representatives from three organizations that either provide funding to microschools or do work around microschooling policy. These representatives were also identified through the National Microschooling Center. These interviews focused on the microschooling landscape, the support structures necessary for running a microschool, and measuring student success.

Survey

Following the interviews, a ten-minute survey instrument was developed to further explore themes identified during the school leader interviews. The survey link was shared by the National Microschooling Center through its weekly newsletter in both spring and fall 2024, as well as through direct outreach to schools. The link was also shared by Getting Smart with the network of schools it supports. A total of 35 school representatives participated in the survey.

Notes

[1] For the most up-to-date Preferred Provider Directory from the National Microschooling Center, see National Microschooling Center, undated.

[2] We conducted the search on this broad range of years because microschools have been around, in some capacity, for a very long time. However, of the relevant items we retained from our search, all but two were published after 2020.

[3] When filtering by the type of resource, we retained items categorized as articles, dissertations, book chapters, books, reports, datasets, and primary sources.

[4] An item was retained as relevant if it could be categorized as research and was topically related to microschools or learning pods. Our search yielded several off-topic items with titles containing our search criteria (e.g., "The Machine Learning Pod (MLPod) Canvas; Learning POD of Complex Dynamics Using Heavy-Ball Neural ODEs"). Our search also yielded several blog posts and other types of opinion pieces on microschools, which we did not categorize as relevant, because they are not research oriented.

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About This Report

Microschools offer an alternative to traditional schools for families who might be dissatisfied with local school options. Typically, *microschools* are defined as small, tuition-based schools (serving around 15 students) that are designed to offer a more personalized and flexible learning experience compared with traditional schools. Growing interest and enrollment in microschools has fueled media coverage, including a series of articles in the *New York Times* (Goldstein, 2024; Moyer, 2020; Zimmerman, 2020). However, the impacts of microschools on student academic proficiency and growth are yet to be rigorously evaluated.

Using a combination of systematic literature review and surveys and interviews with microschool leaders, we provide an overview of the current microschooling landscape and articulate key design considerations so that future impact studies can be designed to support valid and trustworthy inferences about microschool impacts. Therefore, the primary audience for this report is researchers, although the report will also be of interest to individuals who rely on research to inform decisions and strategic planning, including grantmakers and policymakers.

RAND Education and Labor

This study was undertaken by RAND Education and Labor, a division of RAND that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking. This study was sponsored by the Walton Family Foundation, a family-led foundation that tackles tough social and environmental problems with urgency and a long-term approach to create access to opportunity for people and communities. For more information and research on its Education program, please visit waltonfamilyfoundation.org/our-work/education-program.

More information about RAND can be found at www.rand.org. Questions about this report should be directed to jschweig@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.

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