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NUMERACY SOLUTIONS

The Effectiveness of Integrow Professional Development

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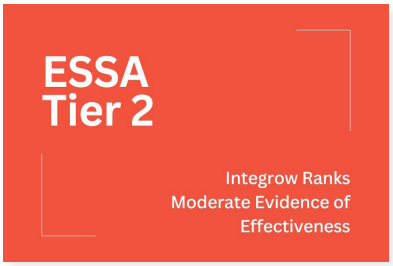
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Introduction



Integrow provides a comprehensive set of resources that support mathematics teaching and learning, offering targeted resources and professional development for teachers, schools, and districts. Established as an evidence-based method for improving student outcomes, Integrow products (e.g., books, curriculum materials, and professional development) are designed to address numeracy challenges and foster long-term mathematics achievement for all students. The Math Recovery Specialist training, a cornerstone product of Integrow, is designated a Tier 2 intervention by the What Works Clearinghouse. The purpose of this white paper is to highlight key research findings related to the impact of Integrow products and to share how these align with the Every Student Succeeds Act (ESSA) Tier 2.

ESSA requires state and local education agencies to use "evidence-based strategies to improve student achievement" (Every Student Succeeds Act, 2015) a mandate which has caused many districts and schools to reassess the strategies they have been using in classrooms. There is an important distinction between "research-based" and "evidence-based" strategies. As defined by the U.S. Department of Education, research-based strategies are grounded in educational research on how students learn. These strategies are developed based on theories or studies about learning, but they do not necessarily have direct evidence showing they improve student outcomes. Evidence-based strategies, in contrast, often begin as research-based but are then subject to experimental or quasi-experimental studies to demonstrate their impact on student achievement.

As educators seek programs that are not only research-based but also proven to improve student achievement, understanding how Integrow products align with federal standards can help school and district leaders make more effective decisions about resources to adopt.

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The Research Base

The products offered by Integrow are based on decades of mathematics education research (Phillips et al., 2003; Wright, 1989, 1994, 2000, 2003; Wright et al., 2006). The initial Math Recovery training was developed through a three-year project at Southern Cross University in New South Wales (1992-1995), which drew from Wright's doctoral research on numerical development (Wright, 1989, 1991, 1994). This first project was funded by the Australian Research Council with contributions from local school systems and involved 20 teachers and over 200 students in developing interview schedules, teaching principles, a learning trajectory (i.e., the Learning Framework in Number, LFIN), and instructional settings (Wright et al., 2006).

The LFIN, which is at the core of all Integrow products, provides a comprehensive description of children's early number or arithmetical knowledge, considering all aspects as interconnected rather than distinct. It covers eleven essential areas, including the Stages of Early Arithmetical Learning adapted from research by Steffe and colleagues (Steffe et al., 1983; Steffe et al., 1988) and research on number sequences, combining and partitioning numbers, spatial patterns, and other foundational mathematical concepts (Cobb & Wheatley, 1988; Wright, 1991, 1994). Integrow's approach integrates research on intensive, problem-based instruction methods with a Piagetian and constructivist framework (von Glasersfeld, 1995). The many products offered by Integrow are built upon this robust research-base.

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The Evidence Base

The What Works Clearinghouse (WWC) review is considered the gold standard, as it evaluates educational programs using strict criteria for quality and evidence. In 2020, the WWC reviewed the evidence on the Math Recovery Specialist training and assigned a rating of Tier 2 Moderate Evidence of Effectiveness (U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse). The Tier 2 designation awarded to Integrow signifies that this training has demonstrated statistically significant effects in a well-controlled study. Few math programs have received such a high designation from the WWC.

The study that the WWC reviewed was conducted by Smith and colleagues (2013), which is one of the largest and most comprehensive evaluations of Integrow professional development to date. This two-year, longitudinal study involved 775 students across 20 elementary schools in rural, urban, and suburban settings. Math interventionists in the study were teachers at the schools who participated in Math Recovery Specialist professional development. Students were then randomized into treatment and delayed treatment groups, with delayed treatment serving as the control group. Smith and colleagues found that receiving intervention from a trained Math Recovery Specialist impacted students' math growth, with an effect size of g = 0.30 on the Woodcock Johnson III Math Reasoning assessment. Moreover, this effect size was even larger, g = 0.40, for students scoring in the bottom 25th percentile on the preassessment. These findings indicate that Math Recovery Specialists are particularly impactful for first graders who have the greatest need for support.

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A more recent study found substantial effects of Integrow professional development for teachers, not only on student achievement in mathematics, but on their reading, attendance, and reduction in disciplinary incidents (Xu et al., 2025). Xu and colleagues examined the effects of Kentucky's Math Achievement Fund (MAF), a state-level program to enhance math interventions in elementary schools. They also examined the differential impact of participating in the program on students from historically underserved groups. Schools participating in the MAF program had the choice of Integrow's Add+VantageMR professional development, Integrow's Math Recovery Specialist professional development, or HGH's Do the Math curriculum. Of the schools that participated, 78% chose Add+VantageMR, 18% chose Math Recovery-Specialists, and 4% chose Do the Math (a non- Integrow intervention). Given that 96% of schools chose Integrow professional development as their intervention, we consider the results of this study to be representative of the effects of Integrow.

After 3 years, MAF schools had statistically significantly higher math and reading scores on end of grade state tests (Xu et al., 2025). This is particularly important given that MAF targeted interventions in K-3 for students identified as struggling, whereas reading and math achievement were measured with state testing of the whole student body in grades 3-5 (i.e., not just the students who received intervention). After three years, the effect size on math achievement for all students in grades 3-5 was 0.08 and on reading it was 0.04. Moreover, the effects were much larger for students from racial minority groups, 0.13 in math and 0.10 in reading, even though these students were not more likely to receive interventions. The importance of these findings cannot be underscored enough: Interventions provided by Integrow-trained teachers in K-3 supported math and reading achievement on state tests in grades 3-5 and were more impactful for students from minoritized groups!

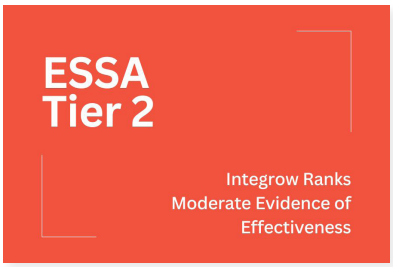
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The impacts of Integrow extend beyond standardized test score gains. Xu and colleagues (2025) also found that participating in MAF significantly improved attendance and reduced disciplinary incidents. MAF led to a decrease in percent days absent by 0.2-0.3 percentage points in the first four years. The average percent days absent in a never-MAF school was 4.6 (e.g., 4.6% of days were missed by students overall). In a 180-day school year, this would amount to approximately 8.3 days absent on average per student. A decrease of 0.2-0.3 percentage points indicates that after participating in MAF, these schools would be expected to have a percent absence rate of 4.3-4.4%, or about 7.8 days absent per student. In a school of 500 students, this amounts to an additional 250 days of instruction. Regarding disciplinary incidents, they found that schools that had participated in Integrow professional development had decreased disciplinary incidents by 1 percentage point in the first year, 2 in the second year, and 3 in the third year. Again, these effects on attendance and discipline were found across the schools, even though only some students in K-3 received math intervention.

Integrow professional development is not only based on strategies that have evidence that meets WWC standards, but the WWC practice guide Assisting Students Struggling with Mathematics: Intervention in the Elementary Grades (Fuchs et al., 2021) was informed by a study of Integrow (i.e., Smith et al., 2013). That is to say, the evidence-based practices promoted by WWC to support math intervention were derived, in part, from research on Integrow Math Recovery Specialists. These studies and the designation from the WWC clearly show that Integrow training is not just research-based, but also evidence-based

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Conclusions



Integrow's strong foundation in research and demonstrated evidence-based effectiveness makes their suite of products standout for supporting student achievement in mathematics. The program's ability to meet ESSA Tier 2 standards positions it as an invaluable resource for schools and districts looking to implement proven strategies for math success. Educators and district leaders can use the evidence presented here to confidently adopt Integrow products, knowing that it provides both a research-based framework and proven strategies to support students with diverse needs. There are not many math programs that have received the Tier 2 designation from the WWC, indicating that they are evidence-based. Integrow products, which are based on decades of mathematics education research, have demonstrated evidence of effectiveness in impacting student learning growth and earned this designation.

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