



SEPTEMBER 2022

CEDIL Evidence Brief 2

Translating effective education approaches, such as targeted instruction, across contexts



While access to primary education has improved globally in recent years, learning progress lags behind. An estimated 617 million school-age youth are unable to achieve minimum proficiency levels in basic reading and mathematics (UNESCO, 2017). One of the few educational reforms that has successfully addressed this “learning crisis” is targeting instruction to a child’s learning level, rather than their age or grade.

Multiple randomised trials have proven that targeted educational instruction is an effective approach to addressing learning gaps in low- and middle- income countries.

This approach has been tested in multiple rigorous studies, including in Ghana, Kenya and India. This evidence brief reports a formal synthesis of the evidence and assesses the

strength and generalisability of the evidence and the factors that drive the largest frontier effects in the literature.

This brief also provides practical guidance on elements of targeted instructional approaches that drive the greatest impacts for students, and which are critical for the successful adaptation and scale-up of the approach across contexts.

The persistent presence of COVID-19 and continued lockdown measures of varying degrees around the world have amplified concerns that millions of students worldwide are experiencing an unprecedented level of learning loss. As a result, there is an acute need for impactful approaches that improve the quality of learning.

Main findings

The examination of evidence covered a wide range of studies on targeted instruction.

These included rigorous trials administered in **three countries (India, Kenya and Ghana)** involving nearly **100,000** children. The most frequently assessed programme was “Teaching at the Right Level” (TaRL) – an approach originally developed by Pratham in India and tested for over 15 years across six randomised control trials (RCTs).

Targeted instruction has been shown to yield consistent positive results for children, regardless of country context. Reported effect estimates are large and range between 0.08 and 0.70 standard deviations (Banerjee et al. 2007; Banerjee et al. 2010; Duflo, Dupas and Kremer 2011; Banerjee et al. 2017; Duflo et al. 2020).

When accounting for implementation models, effects are consistently large and generalise across contexts. Implementation fidelity and teacher vs. volunteer delivery models are important factors in determining the level of programme success, even more than geographic or baseline learning levels.

A promising solution: instruction targeted to the level of the child

A simple pedagogical shift – teaching to the level of the child – has been proven (in six randomised trials conducted over 15 years by J-PAL) to dramatically improve learning across multiple contexts in India, Kenya and Ghana (J-PAL, 2013). A specific model for this intervention, called “Teaching at the Right Level” (TaRL), has been developed by Pratham in India. A recent study, from 2016, shows that the number of students who could read a paragraph or story more than doubled after the intervention (Banerjee et al., 2017).

Targeted instructional approaches are currently being adopted by dozens of countries and are projected to reach over 60 million students by 2025. Given this rapid expansion, and the host of other effective methods for delivering targeted instruction, including learning camps that focus on short bursts of learning, professional development programmes to support teacher practice, and computer-assisted learning, it is necessary to review programmes from across the world that offer targeted instruction. This will help to answer broad questions about the general trends in effects across contexts and the specific elements that are key drivers of increased student learning.

Figure 1: A step-by-step process for targeting instruction

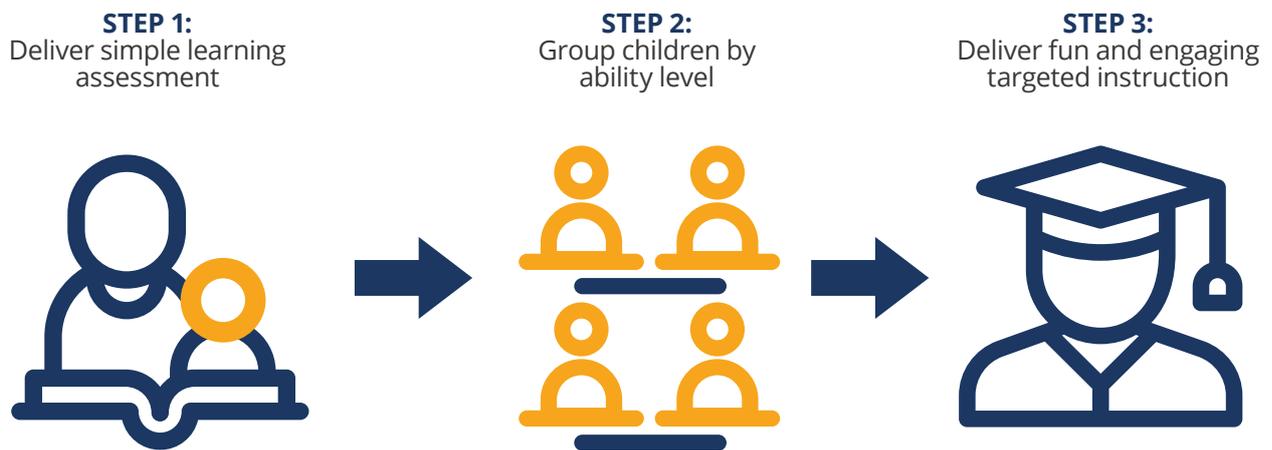
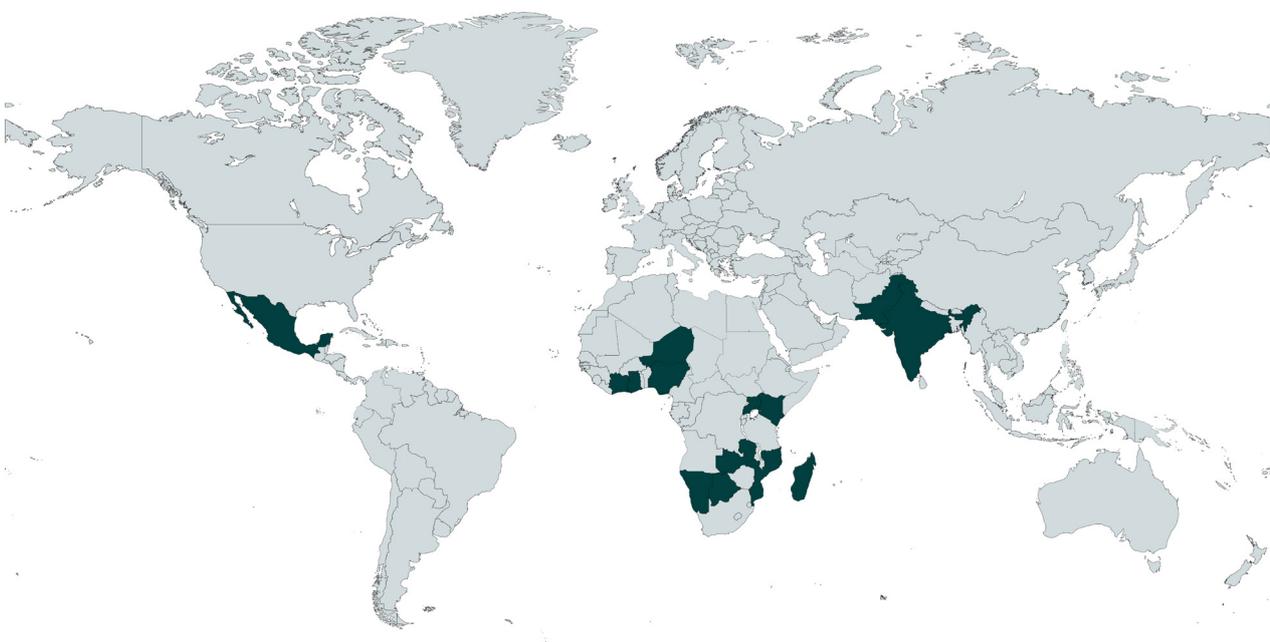


Figure 2: Targeted instruction scale-ups around the world



Findings: determining the effectiveness of targeted instruction approaches

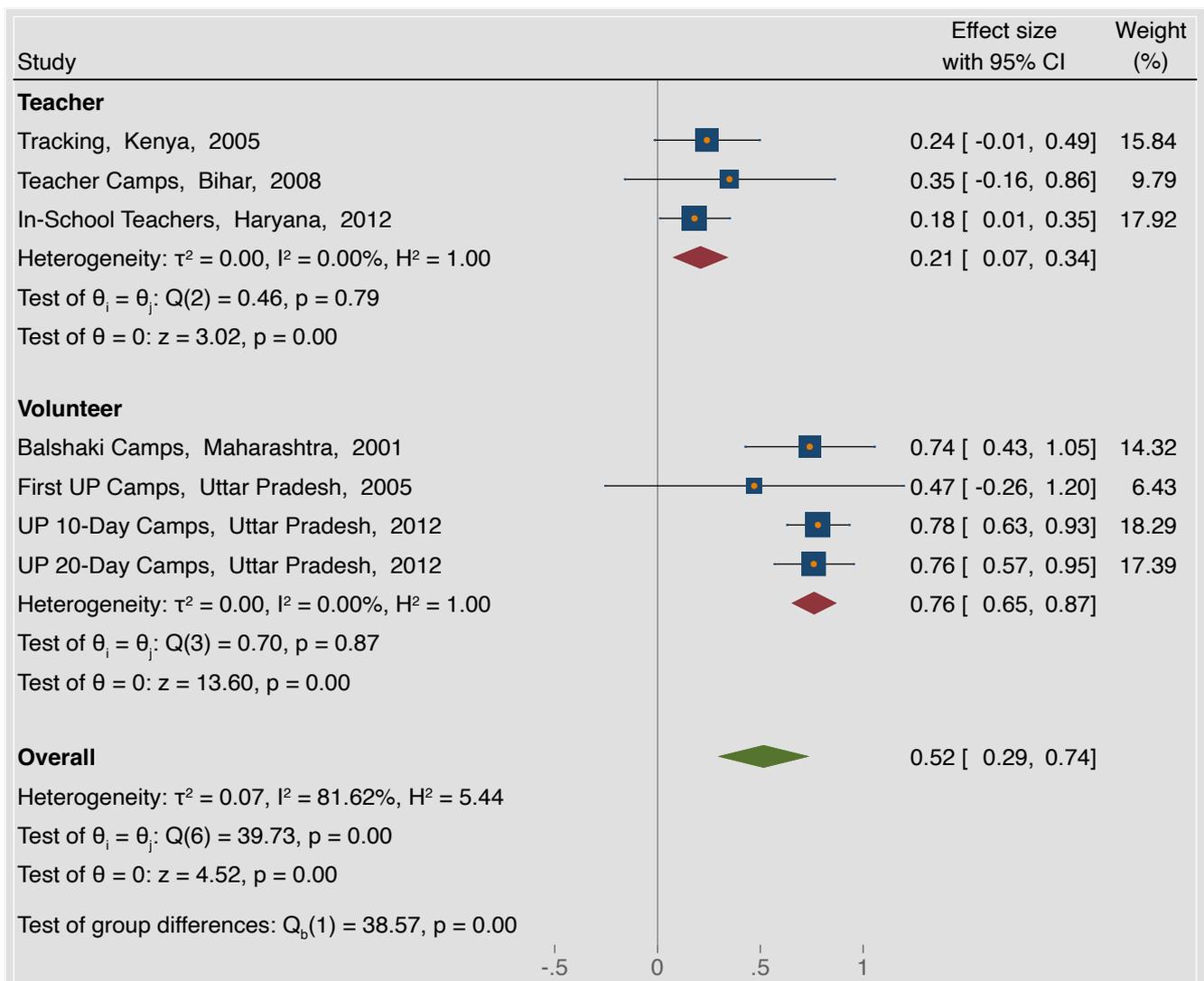
While targeted instruction has been shown to be consistently effective, effect sizes range from 0.08 to 0.70 standard deviations – an order of magnitude difference. Analysing what drives these differences could enable scaling efforts to achieve the largest effects in the literature. Synthesis of the evidence on programmes across multiple contexts has uncovered a striking finding: when accounting for implementation features, such as delivery model (teacher or volunteer deliver) and the degree of implementation (such as take up of the programme), effects of targeted instruction are large and generalise well across contexts. Indeed, these two implementation factors account for most of

the difference between effect sizes from one context to another, with effects similar in size when these factors are considered. Figure 3 below shows average effect sizes and confidence intervals, segmented by delivery model and accounting for effects for those who received the programme as intended (referred to as “treatment on the treated estimates”).

The greatest impacts on student learning occur where (1) the implementation of targeted instructional programming involves a high degree of fidelity (student attendance and successful delivery of one hour of targeted instruction per day) and (2) the delivery models involve young teacher aides or volunteers delivering the programme.

This analysis reveals promising avenues for achieving the largest effect sizes in the literature.

Figure 3: Random effects meta-analysis, treatment-on-treated estimates



Random-effects REML model

Optimising implementation of targeted instruction for scale-up

Given the central role of implementation factors identified in the synthesis, approaches to increase the fidelity of targeted instruction in the context of Teaching at the Right Level (TaRL) in Botswana were directly tested. The country is actively scaling and testing the programme in partnership with Youth Impact, one of the largest NGOs in the country, as well as partners such as TaRL Africa. The team conducted a rapid trial to optimise TaRL implementation (Angrist et al, 2022) and programme fidelity, achieved via more detailed learning assessments and grouping of students relative to standard implementation. Youth Impact refers to these rapid randomised optimisations as "A/B tests" and conducts them on an ongoing basis to maximise cost-effectiveness at scale. Results show additional 0.22 standard deviation gains relative to standard implementation, revealing concrete mechanisms to enhance implementation and achieve the largest effects identified in the literature. The marginal cost of this targeted instruction implementation optimisation is small, estimated at just a few cents. To this end, enhancing implementation fidelity may be a particularly efficient use of resources for governments and for educational approaches that are designed for delivery at scale.

Implications: applications for new and ongoing scale-up efforts

Targeted instructional approaches have gained momentum as a cost-effective solution for addressing the global learning crisis. The World Bank, UK Foreign, Commonwealth and Development Office (FCDO) and United States Agency for International Development (USAID) have featured these approaches in multilateral policies and lists of evidence-based interventions, and USAID is on track to deliver the intervention to over 60 million children in South Asia and sub-Saharan Africa by 2025. Furthermore, the many promising studies showing the positive impacts of TaRL in developing countries warrant a careful investigation into the factors that drive this success.

Given the growing trend towards targeted instructional approaches, it is critical to identify the extent to which popular programmes like TaRL can be generalised across national and cultural contexts. Implementation is complex and includes both take up as well as program fidelity. Given the importance of the take-up metric of implementation in the TaRL case, investigating the role of these broader conceptualisations of implementation may be an important avenue for future work.

Questions for future work

The results of the study motivate future inquiry along multiple dimensions. One important issue for TaRL practitioners is understanding why volunteer-led programmes appear to be so effective even, and especially, when accounting for implementation. A second important research agenda is optimising implementation, motivated by the first-order role of implementation identified in our synthesis and follow-on A/B test. Maximising take up and fidelity of targeting instruction at scale could yield highly cost-effective returns. The study found that effect sizes of TaRL when implemented are up to five-fold higher than the typical effective education intervention, which, on average, improves learning by 0.10 standard deviations. These results suggest that research into increased uptake of productive interventions, such as targeted instruction, can be higher return than identifying new effective interventions.

Endnotes

Angrist, N. and Meager, R. (2022). The role of implementation in generalisability: A synthesis of evidence on targeted educational instruction and a new randomised trial. CEDIL Syntheses Working Paper 4. London and Oxford: Centre of Excellence for Development Impact and Learning. <https://doi.org/10.51744/CSWP4>

Banerjee, A. V., Cole, S., Duflo, E. and Linden, L. (2007) Remedying Education: Evidence from Two Randomized Experiments in India. *The Quarterly Journal of Economics* 122, 3: 1235-1264.

Banerjee, A. V., Banerji, R., Duflo, E., Glennerster, R. and Khemani, S. (2010) Pitfalls of participatory Programs: Evidence from a Randomized Evaluation in Education in India. *American Economic Journal: Economic Policy* 2, 1: 1-30.

Banerjee, A. Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M. and Walton, M. I. (2017) From Proof of Concept to Scalable Policies: Challenges and Solutions, with an Application. *Journal of Economic Perspectives* 31, 4: 73-102.

Duflo, E., Dupas, P. and Kremer, M. (2011) Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya. *American Economic Review* 101, 5: 1739-74.

Duflo, A., Kiessel, J. and Lucas, L. (2020) External Validity: Four Models of Improving Student Achievement. *National Bureau of Economic Research Working Paper* 27298.

J-PAL (2013) Improving Learning by Increasing Motivation, Targeting Instruction, and Addressing School Governance. J-PAL Policy Insights.

UNESCO (2017) More Than One-Half of Children and Adolescents Are Not Learning Worldwide. *UIS Fact Sheet No. 46*.

About this brief

This brief was written by Noam Angrist and Rachael Meager. It is partly based on Angrist, N. and Meager, R. (2022). The role of implementation in generalisability: A synthesis of evidence on targeted educational instruction and a new randomised trial. CEDIL Syntheses Working Paper 4. London and Oxford: Centre of Excellence for Development Impact and Learning. <https://doi.org/10.51744/CSWP4>

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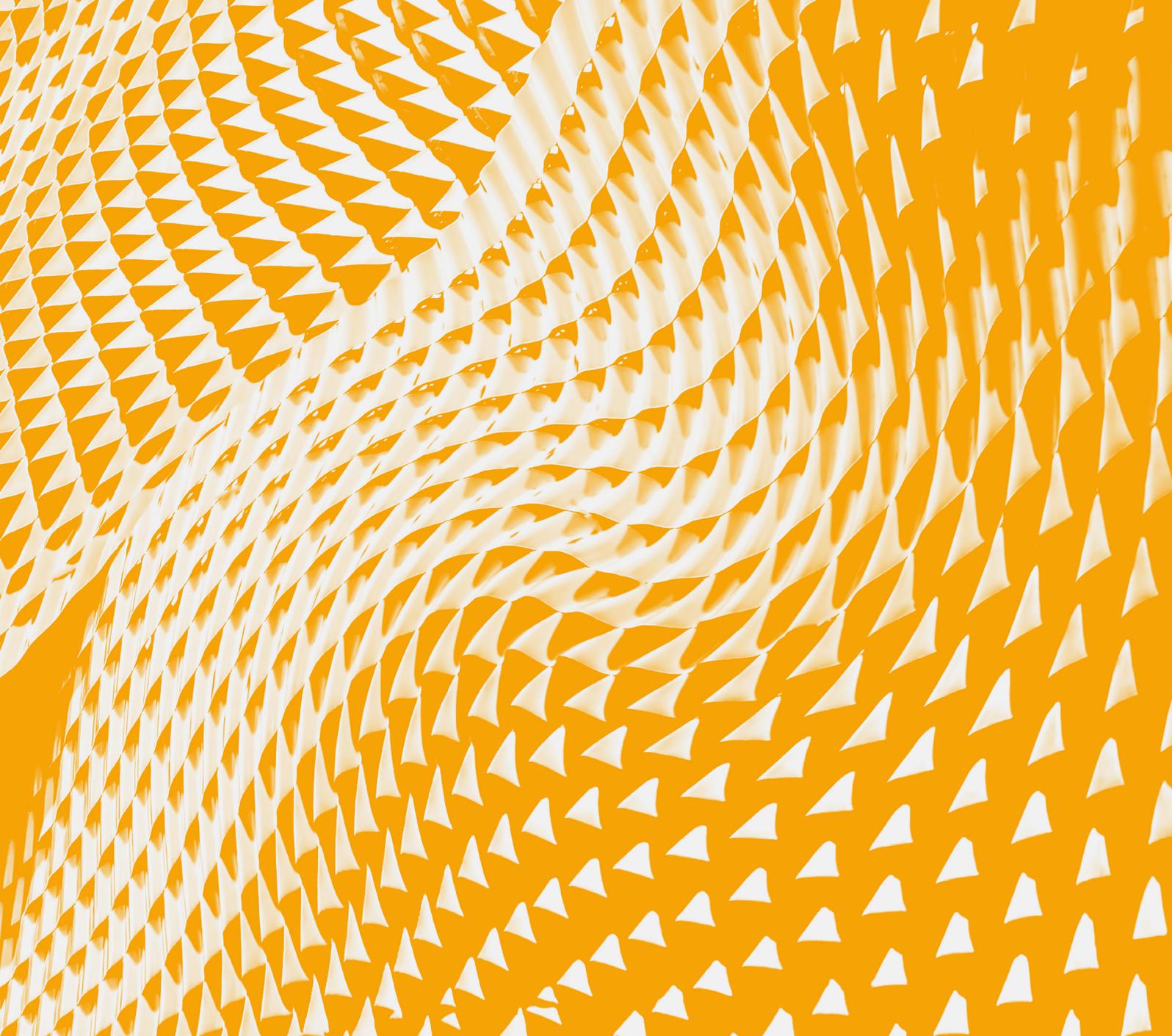
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