INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 16, Issue 9, (2026) E-ISSN: 2222-6990

Development of a Three-Dimensional Implementation Model and Promotion Strategies for the Free Pre-school Education Policy—Based on Practical Explorations in Jiangxi Province

Huang Jiadi*, Ahmad Nabil Bin Md. Nasir

Faculty of Educational Sciences and Technology, Universiti Teknologi Malaysia, 81310 Skudai, Johor, Malaysia

Email: ahmadnabil@utm.my

*Corresponding Author Email: huangjiadi@graduate.utm.my

DOI Link: http://dx.doi.org/10.6007/IJARBSS/v16-i9/28478

Published Date: 06 September 2026

Abstract

The implementation of a free pre-school education system is a key measure for improving the basic public education service system and ensuring equity in educational opportunities from the outset; it also represents the core reform direction as pre-school education shifts from mass expansion to high-quality, inclusive development. As a province in central China, Jiangxi has continuously advanced the creation of counties with universal and inclusive pre-school education, resulting in a steady increase in coverage. However, significant development disparities persist between the north and south of the province, as well as between urban and rural areas and across counties. Prominent issues include the weak foundations of rural pre-school institutions, pressure on local government finances, and a lack of momentum in improving the quality of inclusive education. Consequently, the practical conditions for implementing a free policy simultaneously across the entire province are not yet in place.To resolve obstacles to policy implementation and mitigate risks arising from the reform, this paper employs a theoretical framework comprising incremental decision-making theory, educational equity theory and the theory of equalization of public services. Drawing on Jiangxi's inherent conditions for early childhood education development and its pilot experience, the study constructs a model for the implementation of the free early childhood education policy that is stratified, categorized and advanced in stages, based on three dimensions: educational stage, geographical location and beneficiary groups. By examining the practical challenges encountered in policy implementation within the province, the study proposes phased implementation measures and comprehensive governance solutions tailored to Jiangxi's specific circumstances. The research findings provide theoretical references and practical insights for Jiangxi to advance the reform of free preschool education in an orderly manner and to achieve the coordinated development of expanding universal access and enhancing quality.

Keywords: Early Childhood Education, Free Education System, Equalization of Public Services, Implementation Model, Tiered Governance, Jiangxi Practice

Introduction

Early childhood education has increasingly been understood not merely as preparation for primary schooling, but as a foundational public service with long-term implications for children's development, family welfare, social mobility and inclusive growth. International evidence and policy discourse emphasize that early childhood education and care can reduce inequalities from the earliest stage of life when it is affordable, accessible, inclusive and of sufficient quality (Qi & Melhuish, 2017). From this perspective, free pre-school education is not simply a fee-reduction measure; rather, it represents a redistribution-oriented public policy through which governments seek to lower family costs, expand equal educational opportunities and strengthen the social welfare function of education. However, the benefits of such a policy depend heavily on whether public finance, service supply, teacher development and quality supervision can be coordinated within a sustainable governance framework.

In China, the development of pre-school education has entered a new policy stage. After years of rapid expansion in kindergarten capacity and enrolment, the policy focus has gradually shifted from scale expansion to universal, inclusive, safe and high-quality development (Rao et al., 2023). This shift has been further institutionalized through the Preschool Education Law of the People's Republic of China, which came into effect on 1 June 2025 and defines pre-school education as an integral part of the national education system and an important public welfare undertaking (Ministry of Education of the People's Republic of China, 2024). In addition, China announced the phased implementation of free pre-school education from the autumn semester of 2025, beginning with the waiver of care and education fees for children in public kindergartens in the year before primary school, while reducing corresponding fees for eligible private kindergartens (General Office of the State Council of the People's Republic of China, 2025). These policy changes provide a strong national mandate for free pre-school education, but they also raise important questions about how local governments with different fiscal capacities and uneven service foundations can translate national policy goals into workable implementation arrangements (Zhang, 2025).

The implementation of free pre-school education is particularly complex because it involves both demand-side affordability and supply-side capacity. If fee waivers are introduced without adequate fiscal compensation, kindergartens may face operational pressure, teacher turnover and reduced incentives to improve quality. If universal coverage is pursued too rapidly in areas with weak rural provision, the policy may expand access while unintentionally widening quality gaps. Conversely, if the policy is limited only to selected groups or regions for too long, it may fail to realise its intended function of promoting equal starting points for children. Therefore, the central research problem is not whether free pre-school education is normatively desirable, but how it can be implemented in a phased, differentiated and sustainable manner under conditions of regional disparity, fiscal constraint and uneven institutional capacity (He et al., 2026).

Jiangxi Province provides a meaningful provincial case for examining this problem. Located in central China, Jiangxi has continuously promoted universal and inclusive pre-school education

through the expansion of public kindergartens, support for inclusive private kindergartens and county-level efforts to improve access. The province has achieved relatively high coverage in three-year pre-school education, and several counties have passed supervisory evaluations for universal and inclusive development (Hong et al., 2015). Nevertheless, Jiangxi still faces pronounced development disparities between northern and southern areas, between urban and rural communities and among counties with different economic foundations. Rural kindergartens, especially those in underdeveloped counties and township areas, often face weaker infrastructure, shortages of qualified teachers and limited capacity for curriculum and quality improvement. In this context, a simple province-wide, one-size-fits-all implementation model may impose excessive pressure on local finance and service providers, whereas fragmented local pilot schemes may lack standardization, scalability and long-term policy stability (Qian et al., 2022).

Theoretically, this study positions the implementation of free pre-school education at the intersection of educational equity, equalization of public services and incremental decision-making. Educational equity theory highlights the need to priorities children from disadvantaged families, rural areas, left-behind households and other vulnerable groups so that public resources compensate for unequal starting conditions (Hong & Chen, 2017). The theory of equalization of public services emphasizes the responsibility of government to coordinate fiscal inputs, institutional supply and service standards across regions in order to reduce spatial and social disparities in access to basic public education. Incremental decision-making theory, meanwhile, suggests that reforms involving high fiscal and organizational uncertainty should be advanced through pilots, phased expansion, feedback correction and dynamic adjustment rather than abrupt uniform implementation. Together, these theories provide the analytical foundation for constructing a differentiated implementation model that balances policy fairness, fiscal sustainability and quality assurance (Alduais & Deng, 2023).

Against this background, the present study aims to develop a three-dimensional implementation model and corresponding promotion strategies for the free pre-school education policy in Jiangxi Province. Specifically, it examines how the policy can be sequenced across educational stages, geographical regions and beneficiary groups, and how supporting mechanisms related to finance, teacher development, quality supervision and risk prevention can be established. By using literature analysis and policy text analysis, and by drawing on the practical explorations of Jiangxi Province, this study seeks to address the limitations of existing research that has mainly focused on macro-level policy interpretation while paying insufficient attention to provincial implementation pathways and risk-management designs (Ahlers & Schubert, 2013). The findings are expected to provide both theoretical references for the study of incremental educational reform in central China and practical guidance for local governments seeking to advance free pre-school education in an orderly, equitable and sustainable manner.

Definition of Core Concepts and Theoretical Basis

Definition of Core Concepts

Free Early Childhood Education System: This refers to a public policy in which the government, supported by public finances and guided by the fundamental values of public welfare and universal access, implements institutionalized fee waivers for the care and education of

school-age children. This system aims to reduce the market-oriented nature of early childhood education and strengthen its public service attributes, legally safeguarding the fundamental right of all children to equal access to early childhood education. It also serves as a key mechanism for Jiangxi Province to deepen social welfare and promote educational equity.

Graduated Implementation Model: This is a differentiated governance approach in contrast to traditional, uniform reforms. It establishes a differentiated sequence of implementation based on the educational stage, regional development conditions and family characteristics, following the progressive logic of 'prioritizing the most vulnerable, gradually expanding coverage and achieving comprehensive coverage'. This model is highly suited to Jiangxi Province's specific circumstances, characterized by significant economic disparities between counties and varying standards of preschool provision between urban and rural areas, ensuring the policy is implemented smoothly, risks are managed and the system operates sustainably in the long term.

Universal, High-Quality and Balanced: This is the core objective of high-quality development in early childhood education in the new era. Its scope encompasses not only equal access to preschool places and comprehensive policy coverage, but also the balanced allocation of educational resources, the steady improvement of care and education quality, and targeted support for vulnerable groups. This is also the core objective of Jiangxi Province's efforts to promote universal and inclusive early childhood education.

Theoretical Basis

The theory of educational equity forms the core value of this study. Equity in educational starting points is the primary prerequisite for equity in basic education; this theory advocates for the prioritisation of public educational resources towards under-resourced rural areas, disadvantaged kindergartens and families in need. Given Jiangxi Province's relatively high proportion of rural population and large number of left-behind children, the free education policy adopts a design approach of tiered safety nets and targeted support, which is a concrete application of the principle of educational equity within the province's pre-school public service sector.

The theory of incremental decision-making provides the logical underpinning for advancing the reform. Public policy transformation requires full consideration of practical constraints and the avoidance of various risks associated with radical institutional adjustments; institutional iteration is achieved through pilot schemes, dynamic adjustments and steady expansion. This theory aligns with the fundamental provincial context of Jiangxi, where there are significant disparities in fiscal capacity and the infrastructure for running kindergartens across different regions.

The theory of equalisation of public services forms the institutional framework of this study. Providing equitable basic public education services is one of the core functions of a modern service-oriented government. Jiangxi Province's ongoing efforts to promote the integration of urban and rural public services—by optimizing systems, coordinating finances and integrating resources to narrow regional disparities in pre-school services—constitute a vital

institutional foundation for the province-wide implementation of the free pre-school education policy.

Implementation of Jiangxi Free Preschool Education Policy: Status and Challenges

Overall Trends in Policy Implementation

Currently, Jiangxi's inclusive early childhood education development system has largely taken shape. The proportion of inclusive kindergartens across the province has long remained at a high level, the capacity of public kindergartens to provide the bulk of services continues to strengthen, and incentive and support policies for inclusive private kindergartens are becoming increasingly refined. Based on local fiscal capacity and existing infrastructure, various regions across the province have successively explored fee waivers for pre-school education, resulting in a diverse pilot framework: former poverty-stricken counties in southern Jiangxi focus on providing a safety net for vulnerable groups; suburban counties trial fee waivers for the final year of pre-school; and urban districts refine universal subsidy schemes.

Some formerly impoverished counties in southern Jiangxi, capitalizing on the policy dividends of rural revitalization, have taken the lead in implementing full exemption from tuition and care fees for left-behind children and children from families receiving minimum living allowances in township-level public kindergartens; prefecture-level cities such as Nanchang and Jiujiang, meanwhile, have focused on urban inclusive kindergartens, reducing the financial burden on families through fiscal subsidies. Both types of pilot schemes have received a positive social response. Overall, the reform of free pre-school education in Jiangxi exhibits phased characteristics of scattered pilot schemes, local breakthroughs and independent exploration. In some rural areas, the implementation of fee waivers for families on minimum living allowances and left-behind children has effectively alleviated the childcare burden on rural households, whilst also accumulating grassroots practical experience for the systematic promotion of the free education system across the province. However, most pilot schemes within the province consist of isolated measures and have yet to form a unified, standardized and replicable province-wide implementation system.

Major Challenges Facing Policy Implementation

Firstly, reform approaches tend to be uniform, with insufficient differentiated governance. Most counties within the province have adopted a one-size-fits-all approach, failing to develop tiered plans that account for the financial capacities of northern and southern regions or the conditions of urban and rural kindergartens. Some economically disadvantaged counties in southern and western Jiangxi have blindly benchmarked against urban standards, resulting in increased pressure on fiscal revenue and expenditure, as well as the absence of supporting institutional frameworks.

Second, there is an imbalance in the allocation of urban and rural resources, making it difficult to improve the quality of universal access. Influenced by the urban-rural dual structure, kindergartens in townships and villages across Jiangxi generally suffer from a shortage of qualified teaching staff, an incomplete curriculum system and outdated facilities. Following the implementation of policies regarding fee waivers and reductions, many under-resourced rural kindergartens have fallen into the developmental trap of 'prioritizing coverage over substance', making it difficult to improve both universal access and quality simultaneously.

Thirdly, the fiscal cost-sharing system is inadequate, limiting the capacity of local authorities to provide support. Currently, responsibility for funding pre-school education in Jiangxi Province is primarily delegated to the municipal and county levels, whilst the provincial government's role in coordinating and allocating funds requires strengthening. Disparities in fiscal capacity between counties directly translate into disparities in the effectiveness of policy implementation; underdeveloped counties generally face issues such as low subsidy standards and unstable funding.

Fourthly, the quality supervision system is lagging, and the conversion of policy effectiveness is insufficient. In some parts of the province, after receiving subsidies to offset fee reductions, certain inclusive private kindergartens have experienced phenomena such as simplified curriculum content and increased staff turnover due to factors including delayed fund disbursements and reduced operational revenue; consequently, the policy benefits have failed to be effectively transformed into a driving force for improving educational quality.

Fifth, supporting systems are fragmented, and a long-term operational mechanism is lacking. Most existing measures focus solely on the single aspect of fee waivers; Jiangxi Province has yet to establish a comprehensive governance system covering teacher development, quality supervision, risk warning and dynamic adjustment. As a result, scattered pilot policies struggle to achieve regularized and sustainable operation.

Construction of a Three-Dimensional Gradient Implementation Model for the Free Pre-school Education Policy

Basic Principles for Model Construction

Taking into account the actual development of early childhood education in Jiangxi Province and the operational patterns of public policy, the construction of this model strictly adheres to five principles: firstly, prioritizing the vulnerable and providing a safety net, with a focus on addressing shortcomings in rural education and giving special attention to left-behind children and young children from disadvantaged families; secondly, proceeding within our means and advancing steadily, implementing reforms in an orderly manner in accordance with the fiscal conditions of counties within the province; thirdly, adopting tiered measures and precise governance, establishing a hierarchical implementation system adapted to the differences between the north and south of Jiangxi and between urban and rural areas, fourthly, balancing quality and efficiency whilst upholding minimum standards, thereby preventing a one-sided pursuit of coverage at the expense of the quality of care and education; and fifthly, ensuring controllable risks and dynamic optimization, by establishing mechanisms for full-process supervision and dynamic adjustment.

Three-Dimensional Gradual Implementation Model

This paper constructs an implementation model featuring three-dimensional linkage and coordinated advancement across educational stages, regions and population groups, which is fully adapted to the characteristics of Jiangxi Province, forming a reform system with a clear sequence and progressive tiers.

From the educational stage perspective, the approach follows the principle of "priority for senior kindergarten classes, gradual extension to lower grades, and full coverage within three years". Priority is given to implementing the free education policy for senior kindergarten

classes to consolidate the foundation for the transition from preschool to primary school, aligning with Jiangxi's strategy for the high-quality and balanced development of compulsory education. Once the system is fully operational, the policy will be extended to middle kindergarten classes, ultimately achieving full coverage for junior kindergarten classes, thereby gradually establishing a three-year free preschool education system and spreading the fiscal burden in a step-by-step manner.

From a regional perspective, implementation will follow the sequence of "priority to rural areas, followed by suburban areas, and full coverage in urban areas". With the aim of addressing shortcomings in rural areas, the free education policy will first be implemented in rural township kindergartens in southern and western Jiangxi, subsequently, it will be extended to urban-rural fringe areas and suburban industrial parks to resolve the imbalance between supply and demand for pre-school education arising from the urbanization process, finally, comprehensive coverage will be achieved in public kindergartens and inclusive private kindergartens within the urban districts of prefecture-level cities, thereby establishing a balanced framework across the entire region.

From a demographic perspective, the approach is to "provide a safety net for vulnerable groups, expand coverage for key groups, and ensure universal access for all citizens". Priority will be given to implementing the full fee-waiver policy for families receiving minimum living allowances, families recently lifted out of poverty, children with disabilities, and left-behind children in rural areas, closely aligning with Jiangxi's key priorities for social welfare; coverage will then be gradually extended to low-income families and families with multiple children; and once fiscal resources and educational facilities are in place, universal free access will be achieved for all school-age children within the jurisdiction.

These three dimensions are integrated and dynamically adapted to one another, upholding both the policy's commitment to fairness and its social welfare nature, whilst fully addressing the practical constraints posed by regional development disparities in Jiangxi Province, thereby achieving a dynamic balance between the pace of reform, coverage and the quality of education.

Phased Implementation Strategy and Support System

Phased Implementation Strategy

First, the Pilot and Foundation-Laying Phase. This phase will focus on rural areas of Jiangxi Province, senior kindergarten classes, and left-behind and disadvantaged groups as the core pilot subjects. It will standardise fee exemption criteria across the province, regulate provincial fiscal subsidy procedures, comprehensively identify shortcomings in county-level kindergarten operations, complete institutional frameworks and foundational preparations, and establish a number of provincial-level demonstration pilot projects.

Second, the Expansion and Quality Improvement Phase. We will systematically expand the scope of the free education policy to cover additional age groups and regions, refine the long-term mechanism for fiscal subsidies to inclusive private kindergartens in Jiangxi, establish an assessment system linking educational quality to eligibility for free education, reinforce the primary responsibility of kindergartens, and ensure that the expansion of inclusive education proceeds in tandem with the enhancement of educational quality.

Third, the Comprehensive Maturity Phase. Achieve full coverage of the pre-school education sector across the province in terms of educational stages, geographical areas and the target age group; establish a standardized and routine operational system; and form a modern public pre-school service framework characterized by comprehensive accessibility, high quality and robust safeguards.

Systematic Supporting Guarantee System

Firstly, optimize the multi-tiered fiscal cost-sharing mechanism. Strengthen the provincial government's role in the coordinated allocation of financial resources, set differentiated cost-sharing ratios between the province, cities and counties based on economic levels in northern and southern counties, and increase transfer payments to underdeveloped areas in southern and western Jiangxi as well as to under-resourced rural kindergartens, ensuring that subsidy funds are disbursed in a timely and full manner.

Second, improve the support system for teacher development. Addressing the shortage of early years teachers in rural Jiangxi, we will refine mechanisms for recruiting, providing tiered training and offering job incentives for rural early years teachers, thereby continuously enhancing the professional capabilities of the grassroots teaching and care workforce, and supporting the high-quality development of inclusive education through high-quality teaching staff.

Thirdly, establish a comprehensive quality supervision system. Building upon Jiangxi's existing early childhood education supervision mechanisms, we will establish systems for dynamic monitoring of care and education quality, audits of special funds, and the disclosure of fee information, thereby achieving closed-loop supervision throughout the entire policy implementation process.

Fourthly, establish a risk early-warning and dynamic adjustment mechanism. Set up a tiered early-warning system covering finance, quality, and supply-demand for different counties within the province. Dynamically adjust the pace of reform in line with local financial capacity and school conditions to ensure the long-term and stable operation of the system.

Discussion

This study systematically explored the current situation, practical dilemmas and reform paths of the free pre-school education policy in Jiangxi Province, and constructed a three-dimensional gradient implementation model based on educational stages, geographical regions and beneficiary groups. Different from the unified and one-size-fits-all promotion model adopted in some regions, the tiered, classified and phased reform design proposed in this research fully adapts to the unbalanced development characteristics of pre-school education in Jiangxi, including regional economic gaps, urban-rural resource disparities and diversified demands of different groups.

Consistent with the viewpoints of Hong et al. (2015) and Rao et al. (2023), this study also confirms that urban-rural imbalance and insufficient resource allocation are universal bottlenecks restricting the inclusive development of early childhood education in central China. While previous studies mostly focused on macro policy interpretation and overall problem analysis Hong & Chen (2017), this research further refines the provincial-level

operable implementation model and supporting mechanism, making up for the lack of localized reform paths in existing literature. In addition, the research conclusions echo the findings of Qian et al. (2022) that radical province-wide promotion of free pre-school education will bring huge fiscal pressure and quality risks, which verifies the necessity of incremental reform in underdeveloped central provinces.

The three-dimensional implementation model established in this paper is a concrete application of educational equity theory, incremental decision-making theory and public service equalization theory in the field of pre-school education. From the theoretical level, it enriches the analytical framework of educational incremental reform in central China's early childhood education. From the practical perspective, the phased implementation strategy and multi-dimensional guarantee system provide targeted solutions for Jiangxi to resolve fiscal pressure, rural teacher shortage and quality supervision deficiencies. Moreover, the research experience of Jiangxi can serve as a reference for other central provinces with similar economic and educational foundations to carry out free pre-school education reform.

Nevertheless, this research still has certain limitations. First, this study mainly adopts literature analysis and policy text analysis, lacking quantitative data and empirical investigation of frontline kindergartens and families. Second, the three-dimensional model is constructed based on Jiangxi's regional characteristics, and its adaptability in other provinces needs to be further verified through follow-up research. Third, this paper only puts forward a framework for risk early warning and dynamic adjustment, without designing specific quantitative risk assessment indicators.

For future research, scholars can conduct field investigations and questionnaire surveys to collect empirical data, so as to further optimize the implementation details of the model. In addition, comparative research can be carried out among multiple central provinces to explore the universal rules and differentiated paths of free pre-school education reform in central China. Long-term tracking research can also be launched to observe the actual operation effect of the phased policy and continuously improve the supporting system.

Conclusion

The reform of the free pre-school education system is an inevitable choice for Jiangxi Province in advancing the equalisation of basic public education services and achieving high-quality, inclusive development in pre-school education. As a central province, Jiangxi faces objective disparities in development across regions, between urban and rural areas, and among different groups. Adopting a reform model that is synchronized across the entire province and applies a 'one-size-fits-all' approach is highly likely to trigger a sharp increase in fiscal pressure, a decline in educational quality, and the accumulation of governance risks.

Drawing upon three theoretical frameworks—incremental decision-making, educational equity, and the equalisation of public services—and integrating the current state of early childhood education in Jiangxi with grassroots pilot experiences, this paper constructs a three-dimensional, tiered implementation model encompassing educational stages, regions and population groups. It clarifies the sequence and hierarchical framework for implementing the free early childhood education reform within the province, whilst designing corresponding phased implementation plans and comprehensive safeguard mechanisms.

Research indicates that the reform of free pre-school education in Jiangxi Province must adhere to the core principles of seeking progress whilst maintaining stability, targeted governance, and ensuring a safety net whilst improving quality. Through a gradual model characterized by stratification, categorization and phased expansion, it must strike a balance between the universal benefits of the policy, local fiscal capacity and the requirements for educational quality development.

Moving forward, localities across Jiangxi must build upon the developmental strengths of their respective counties to continuously optimize the implementation of free education policies. They must also continually refine long-term mechanisms covering fiscal cost-sharing, teacher development, quality supervision and risk prevention, thereby steadily advancing the province's early childhood education towards high-quality, universal, balanced and comprehensive provision, and providing a solid foundation for the construction of a modern public service system for early childhood education.

References

Ahlers, A. L., & Schubert, G. (2013). Strategic modelling:"building a new socialist countryside" in three Chinese counties. *The China Quarterly*, *216*, 831–849.

Alduais, A., & Deng, M. (2023). The quadripartite system of inclusive education provision in China: A qualitative synthesis of policy documents. *International Journal of Chinese Education*, *12*(2), 2212585X231168677. https://doi.org/10.1177/2212585X231168677

He, S., Yang, Y., & Pu, M. (2026). A systematic review of challenges and strategies for the integration of early childhood education and care. *Early Childhood Education Journal*. https://doi.org/10.1007/s10643-025-02100-9

Hong, X., & Chen, J. J. (2017). A critical analysis of the changing landscape of early childhood education in mainland China: History, policies, progress, and future development. In H. Li, E. Park, & J. J. Chen (Eds.), *Early Childhood Education Policies in Asia Pacific* (Vol. 35, pp. 31–50). Springer Singapore. https://doi.org/10.1007/978-981-10-1528-1_2
DOI: 10.1007/978-981-10-1528-1_2

Hong, X., Liu, P., Ma, Q., & Luo, X. (2015). The way to early childhood education equity—Policies to tackle the urban-rural disparities in China. *International Journal of Child Care and Education Policy*, *9*(1), 5. https://doi.org/10.1186/s40723-015-0008-9

Qi, X., & Melhuish, E. C. (2017). Early childhood education and care in China: History, current trends and challenges. *Early Years*, *37*(3), 268–284. https://doi.org/10.1080/09575146.2016.1236780

Qian, Y., Gu, X., & Li, H. (2022). Is free early childhood education a sustainable solution? Evidence from the case study of nanjing. *Sustainability*, *14*(11), 6586.

Rao, N., Yang, Y., Su, Y., & Cohrssen, C. (2023). Promoting equity in access to quality early childhood education in China. *Children*, *10*(10), 1674.

Zhang, J. (2025). Shaping the future: Analysing early childhood education policy reforms and development in China. *European Journal of Education*, *60*(1), e70055. https://doi.org/10.1111/ejed.70055