

Original Article

Measuring the Social Impact of Non-Formal Education Programs for Marginalized Students: An SROI Evaluation of the Education Centre Program in Jakarta

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Abstract:

This study evaluates the social impact of the Education Centre, a free non-formal tutoring initiative for lower-income urban children organized by the International Humanity Foundation (IHF) in Jakarta. Using a qualitative evaluative approach and the Social Return on Investment (SROI) framework, the study compares the social value generated by offline (face-to-face) and online learning methods implemented during the COVID-19 pandemic. Data were collected through semi-structured interviews, non-participant observation, and document analysis, involving 13 participants comprising students, parents, and volunteer teachers. The findings reveal significant differences in social impact: offline learning achieved an SROI ratio of 10.8:1, while online learning reached only 5.26:1. This discrepancy is attributed to stronger social interactions and the absence of digital barriers in offline learning, whereas online learning faced challenges related to limited device availability and internet connectivity. These findings underscore the crucial role of non-formal education in bridging educational gaps and highlight the need for hybrid strategies supported by digital inclusion policies. Academically, the study contributes by demonstrating the application of SROI in evaluating non-formal education programs within the urban Indonesian context.

Keywords: *Program Outcomes*, NGO, Non-Formal Education, SROI, SWOT.

Introduction

Education plays a decisive role in shaping poverty outcomes. A UNESCO (2017) report shows that the majority of individuals living in poverty today have missed basic education. Moreover, education is the main gateway to achieving equality in various domains, including employment, resources, economic opportunities, and skills that can improve life prospects. As Durkheim emphasized, education serves as a means for individuals to fulfill societal needs, particularly in the era of industrialization. Education can also be an effective instrument to address social inequality. Previous studies indicate that improving the quality and affordability of education has a significant impact on economic growth and the reduction of extreme poverty ([UNESCO, 2017](#); [Stanford University & Ludwig Maximilian University, 2021](#)).

South Korea serves as a notable example of how education plays a central role in determining individuals' social and economic status. Almost all students participate in

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non-formal education through private tutoring institutions or hagwon to increase their chances of entering elite universities (Kim, 2010). During the 1980s and 1990s, the government attempted to restrict the practice of hagwon because it was considered accessible only to families with greater economic means (Park, 2021). However, as academic competition intensified, hagwon was re-legalized and expanded rapidly, becoming a normalized component of South Korea's educational landscape (Anderson & Kohler, 2013). This phenomenon illustrates how non-formal education has become an important instrument for families seeking upward social mobility and economic advancement.

While in South Korea private tutoring has become almost "mandatory" for students, in Indonesia the phenomenon is still gradually developing. Alongside the increasing demand for education, Indonesia's educational pathways are no longer limited to formal schooling but have also expanded into non-formal education. National data indicate that 0.90% of students participate in tutoring courses and 1.57% in language courses, bringing the total to 2.47%. In Jakarta, the rate is nearly double—1.82% for tutoring and 3.12% for language courses, or 4.94% overall.

This phenomenon underscores that non-formal education is increasingly pursued by students, especially in urban areas to complement formal schooling. Several studies also highlight that tutoring is effective in improving students' academic outcomes (Nasution, 2021; Prasetya et al., 2013; Subakti & Handayani, 2021). Nevertheless, access to non-formal education remains unequal. One of the main barriers is its relatively high cost. Data from well-known tutoring institutions in the Greater Jakarta area indicate that one semester of tutoring can cost up to IDR 65,000,000, making it a "luxury" that is unaffordable for students from lower-income households.

Responding to this condition, the International Humanity Foundation (IHF) seeks to mitigate educational inequality by establishing a supplementary education program called the Education Centre. This program is designed for students from lower-income backgrounds who cannot afford commercial tutoring services. The Education Centre was conceptualized as a meeting space between children and volunteers, designed not only for knowledge transfer but also for fostering values of respect, empathy, and social competence. However, the outbreak of the Covid-19 pandemic shifted the program's delivery from face-to-face to online learning. This transition affected not only the technical aspects of learning but also introduced new challenges, including limited access to devices and internet connectivity among beneficiary students. In addition to infrastructure constraints, digital literacy skills became an essential prerequisite for effective participation. Consequently, the implementation of online learning generated diverse impacts across different educational levels.

Despite these efforts, evaluations of philanthropic non-formal education programs are often limited to measuring outputs and have yet to capture broader social impacts. Most educational evaluations employ the CIPP framework, which emphasizes processes, while outcomes and impacts—particularly those of social and economic significance—tend to be overlooked. Therefore, this study employs the Social Return on Investment (SROI) approach to assess the extent to which community-based education programs such as the Education Centre generate significant social value for their beneficiaries.

This article aims to evaluate the social impact of the Education Centre program implemented by IHF by comparing the offline and online learning methods adopted during 2022–2023. The evaluation applies the SROI framework to map outcomes, conduct economic valuation of impacts, and calculate the social value ratio generated by

each method. By employing a qualitative evaluative approach, this study highlights how different modes of implementation can significantly influence the social achievements of a community-based non-formal education program. Unlike previous evaluations of non-formal education programs in Indonesia which mainly employed the CIPP framework to assess outputs, this study applies the Social Return on Investment (SROI) method to capture broader social impacts. By doing so, the study offers a methodological innovation in the evaluation of community-based education initiatives in the Indonesian urban context.

Approach or Theoretical Framework

This study employs three main conceptual approaches to analyze the impact of the Education Centre non-formal education program, namely the concept of non-formal education, learning methods, and impact as an evaluation of social outcomes. These three concepts were selected because they explain the interrelation between alternative educational interventions, implementation methods, and the resulting social achievements, particularly in the context of students from lower-income urban backgrounds.

Non-Formal Education

Non-formal education is defined as organized and systematic education that takes place outside the formal education system ([Coombs & Ahmed, 1973](#)). Its forms include courses, study groups, or community learning centers, with the primary goal of developing skills, life competencies, and supporting lifelong learning. In the Indonesian context, this pathway is formally recognized under Law No. 20 of 2003 on the National Education System as an alternative track that complements formal education.

Various studies demonstrate that non-formal education in the form of tutoring plays a significant role in supporting students' academic achievement in formal schools. Research by [Nasution \(2021\)](#), [Prasetya et al. \(2013\)](#), and [Subakti & Handayani \(2021\)](#) found that tutoring can improve learning outcomes, foster better study habits, and strengthen students' understanding of school subjects. Thus, tutoring is often regarded as an important instrument for enhancing student achievement.

However, access to non-formal tutoring is not equally distributed. Most commercial tutoring institutions charge high fees, ranging from hundreds of thousands to tens of millions of rupiah per semester, making them accessible only to middle- and upper-class families. This condition widens the educational gap between students from affluent families and those from disadvantaged backgrounds. To address this inequality, several non-governmental organizations (NGOs) have taken the initiative to provide free tutoring for children from lower-income urban households. One such initiative is the Education Centre managed by the International Humanity Foundation (IHF) in East Jakarta, which offers supplementary courses free of charge for children from underprivileged families.

The COVID-19 pandemic further complicated this situation. Social restriction policies forced free tutoring programs to shift to online learning. This transition created new barriers for disadvantaged children, who faced limited access to digital devices, unstable internet connectivity, and minimal learning support at home. This condition aligns with [González and Bonal's \(2021\)](#) concept of cumulative disadvantage, which argues that children from lower socio-economic groups experience layered setbacks during school disruptions, such as prolonged holidays or school closures during the pandemic. They lose access not only to formal education but also to non-formal education pathways that could otherwise serve to compensate for inequality.

This framework highlights the importance of examining non-formal tutoring

within two contexts: first, as a support mechanism for formal educational attainment; and second, as a service that is particularly vulnerable when confronted with digital access inequalities during the pandemic. In this study, these contexts form the basis for evaluating the effectiveness of IHF's Education Centre program by comparing the impact of offline and online learning for students from lower-income urban backgrounds.

Learning Methods: Online and Offline

Learning methods in the context of non-formal tutoring can be classified based on the medium used. This classification distinguishes between offline learning, online learning, and a combination of both (hybrid) ([Isman, 2010](#); [Zhong, 2015](#)). The focus on these three methods is relevant because tutoring programs such as the Education Centre are usually designed to be flexible and adaptive to students' needs and external circumstances. In this study, particular attention is given to comparing offline and online methods, as both were alternately implemented during the COVID-19 pandemic, while the hybrid model has not yet been consistently applied in this program.

Offline learning represents the traditional format in which students and instructors meet face-to-face in a classroom setting. Direct interaction enables more dynamic question-and-answer exchanges, immediate feedback from instructors, and a more conducive learning environment ([Maqableh et al., 2021](#); [Zhong, 2015](#)). Previous studies have found that offline learning facilitates classroom management, enhances student engagement, and supports the development of social skills ([Isman, 2010](#)). Tutoring programs delivered offline are also effective for students from lower-income households because they do not require digital devices or internet connectivity, thereby reducing access barriers ([Alsaaty et al., 2016](#)).

In contrast, online learning is conducted via the internet using digital platforms such as Zoom or Google Classroom. Its main advantages are flexibility in terms of time and place, as well as the potential to reach a wider audience ([Isman et al., 2010](#); [Khurana, 2016](#); [Hasan et al., 2020](#)). However, its implementation heavily depends on the availability of digital devices, internet stability, and digital literacy skills among students and their parents. During the COVID-19 pandemic, many non-formal education programs were compelled to shift online to continue the learning process ([Dong et al., 2020](#)). This sudden transition created major challenges, particularly for students from low-income families who faced limited access to devices and learning support at home. This aligns with [González and Bonal's \(2021\)](#) findings that learning inequalities widened during school closures, with the heaviest impact experienced by children from low-income households lacking adequate access to digital technologies.

The fundamental differences between offline and online learning directly affect the effectiveness of non-formal education. Offline methods provide intensive social interaction and a controlled learning environment, whereas online methods risk creating new inequalities due to disparities in technological access ([Haznedar et al., 2012](#); [González & Bonal, 2021](#)). Within the Education Centre program, these differences are particularly significant since the target beneficiaries are children from lower-income urban families who already face economic and social barriers prior to the pandemic. Evaluating these two methods is therefore crucial to understanding the extent to which different forms of learning influence the social impact and academic outcomes of students.

Social Impact

The measurement of social impact has become a central concern in policy and social program studies, as it is considered essential for assessing organizational performance and ensuring contributions to beneficiaries ([Alvord et al., 2004](#); [Ebrahim &](#)

[Rangan, 2014; Molecke & Pinkse, 2017 in Islam, 2020](#)). Impact is defined as the overall consequences arising from a program or project, whether direct or indirect, intentional or unintentional ([Dale, 2004; Harpur, 2021](#)). In this context, impact is distinguished from output, which merely measures immediate results such as the number of classes or participants; impact emphasizes deeper changes such as improved understanding, increased learning motivation, or behavioral shifts among participants.

Non-formal education, including tutoring, has distinctive potential impacts at both the individual and community levels. [Becker \(1993\)](#) emphasized that non-formal education enhances individual productivity and competitiveness in the future. The evolving demand for skills in the digital era requires individuals to possess adaptability and horizontal skills, such as the ability to manage heavy workloads and engage in entrepreneurship ([Kicherova et al., 2021](#)). The advantages of non-formal education were also evident during the COVID-19 pandemic, when non-formal programs demonstrated greater flexibility compared to formal education ([Zenkov, 2020 in Kicherova et al., 2021](#)).

Social impacts can be observed across multiple dimensions: positive and negative, short-term and long-term, and at the micro, meso, or macro levels ([Sairinen et al., 2020; Siemienaike et al., 2021](#)). For the purposes of this study, the focus is on impacts at the micro level (students) and across both short-term categories (subject comprehension) and long-term categories (changes in motivation and learning behavior).

This study adopts a social value-based evaluation approach to assess the impact of the Education Centre program managed by the International Humanity Foundation (IHF). The Social Return on Investment (SROI) framework is employed as the analytical tool because it enables both quantitative and qualitative assessment of social impacts and allows for highlighting differences in impact between offline and online learning methods.

Methods

This study employs an evaluative qualitative approach to assess the social impact of the Education Centre non-formal tutoring program managed by the International Humanity Foundation (IHF) in East Jakarta. The primary focus of this research is to compare the impacts of offline and online learning on students from lower-income urban families. The analysis is conducted using the Social Return on Investment (SROI) framework, which converts qualitative social benefits into economic value, thereby enabling the calculation of a ratio between the social value generated by the program and the investment costs incurred ([Nicholls et al., 2012](#)).

This evaluative design was selected because it is capable of capturing the social changes experienced by beneficiaries, both in the short and long term ([Dale, 2004; Harpur, 2021](#)). Specifically, an evaluative SROI is employed to assess the impacts produced by the program. The ratio produced through this SROI-based evaluation represents the Net Present Value of Benefits divided by the Net Present Value of Investments, or in other words, the comparison between the value of demonstrated outcomes/impacts and the value of resources expended to implement the program.

The SROI evaluation in this study was carried out through six main stages. First, the researcher determined the scope of the evaluation and identified the program's key stakeholders, namely students, parents, volunteer teachers, and program managers. Second, outcome mapping was conducted by identifying inputs, outputs, and short- and long-term outcomes, both material and non-material. Third, the mapped outcomes were verified and assigned economic value through the determination of relevant financial proxies, using approaches such as cash transactions, resource allocation, and stated

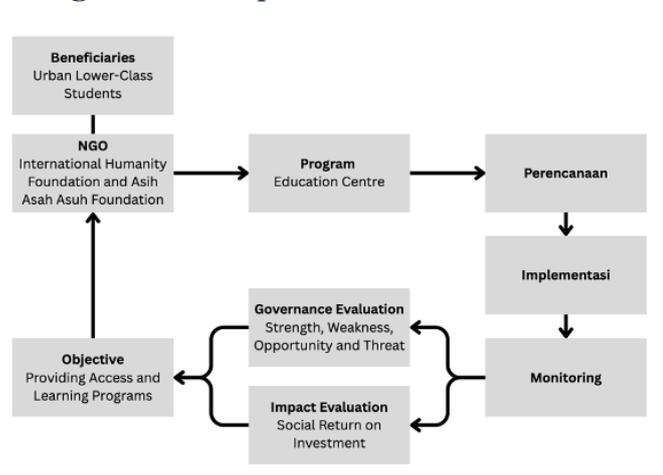
preferences (Purwohedi, 2016). Fourth, the impacts were adjusted by calculating factors such as deadweight, attribution, displacement, and drop-off to ensure that only changes genuinely attributable to the program were considered. Fifth, the SROI ratio was calculated by comparing the total social value generated with the program's investment costs. Finally, the results were reported and communicated to stakeholders, while also embedding the findings as a basis for program improvement.

The data for this study were derived from a combination of primary and secondary sources. Primary data were collected through in-depth interviews and direct observations of program implementation in both offline and online learning contexts. Informants included thirteen participants comprising students as the main beneficiaries, parents as indirect beneficiaries, and volunteer teachers involved in the program. Secondary data included internal IHF documents such as the Volunteer Manual, program evaluation reports, financial records, and data on the number of students and classes conducted. The Education Centre is located in Cipinang, East Jakarta, a densely populated area with high levels of social inequality, targeting children from underprivileged families who cannot afford commercial tutoring (Nasution, 2021; Prasetya et al., 2013).

Data collection was conducted through semi-structured interviews designed to explore perceptions of program impacts, such as learning motivation, subject comprehension, and social interactions among participants. Interviews were conducted both face-to-face and online, depending on pandemic conditions. Non-participant observation was undertaken to capture the dynamics of learning, student engagement levels, and differences in interaction between offline and online methods. In addition, document analysis was carried out to verify data related to program costs, participant numbers, and other information required for SROI calculations (Nicholls et al., 2012). This combination of techniques was chosen to obtain a comprehensive understanding of the program's impact (Creswell, 2014).

Data analysis was carried out using the stages of SROI evaluation, which included defining the scope and mapping stakeholders, identifying short- and long-term outcomes, determining financial proxies to monetize outcomes, and adjusting impacts through calculations of deadweight and attribution. Subsequently, the SROI ratio was calculated to compare the total social value with the total program costs. The results of this calculation were then analyzed comparatively to assess the differences in social impacts between offline and online learning methods (Becker, 1993; Harpur, 2021).

Figure 1. Conceptual Framework of Evaluation



Results

Education Centre Program Overview

The Education Centre program is a free tutoring initiative organized by the International Humanity Foundation (IHF) in Cipinang, East Jakarta. The program is designed to address the gap in access to non-formal education among lower-income urban children who cannot afford commercial tutoring services. The educational activities focus on core formal school subjects, such as mathematics and English, as well as the reinforcement of social values through interactions between volunteers and students.

The program framework can be understood through three main components. First, the inputs, which include volunteer teachers, modest classroom facilities provided by IHF, and teaching materials tailored to students' needs. Second, the activities, which consist of tutoring sessions conducted offline before the pandemic and later shifted to an online format during the COVID-19 pandemic. This change of method was implemented to ensure the continuity of the program despite restrictions on face-to-face interactions and social mobility. Third, the outputs and outcomes, which encompass improved student comprehension of school subjects, the development of study habits, and the strengthening of motivation and social relationships. These outcomes form the primary focus of the SROI evaluation to assess the extent to which social value is generated from both learning methods.

This framework is important for establishing the basis of comparison in the evaluation. By identifying inputs, processes, and outcomes, this study is able to assess the effectiveness of the program not only in terms of academic achievement but also in its contribution to the social well-being of students and their families.

The results of the Social Return on Investment (SROI) analysis indicate significant differences between offline and online learning methods in the Education Centre program. The SROI calculation was conducted by comparing the total social value (benefits) generated by the program with the total investment costs incurred during the evaluation period. Social value was measured based on the mapping of outcomes, which included improved subject comprehension, enhanced learning motivation, and other intangible social benefits experienced by students and parents.

Social Return On Investment

The SROI calculation was carried out by measuring the respective impacts generated through the offline and online learning methods of the Education Centre program. This approach was intended to compare the social outcomes produced by each method implemented within the program. This methodological approach distinguishes the present study from earlier evaluations that emphasized outputs or processes. By using SROI, the research captures intangible social values such as learning motivation and social interaction, providing a more comprehensive understanding of the impacts of non-formal education programs.

Based on the SROI analysis and calculation, the program delivered through the offline method generated a total present value (TPV) of IDR 2,222,049,375. This indicates that the net present value (NPV) produced by the program amounted to IDR 2,016,471,375, derived from a total investment of IDR 205,578,000.

Table 1. SROI Ratio of Offline Learning Method

	Value
<i>Total Investment</i>	205.578.000,00

<i>Total Present Value (TPV)</i>	2.222.049.375,00
<i>Net Present Value (Value Minus Investment)</i>	2.016.471.375,00
<i>Social Return (Value per Investment)</i>	10,8
<i>SROI Ratio</i>	Rp. 10,8 : 1

Source: Author's Analysis of Data Findings

The value of 10.8 represents the outcome generated by the program under the offline learning method, indicating that the benefits produced by the implementation of the Education Centre program were 1,080% greater than the investment expended. The comparison between the Present Value and the Investment resulted in an SROI ratio of IDR 10.8 : 1, meaning that for every IDR 1 invested, the program generated IDR 10.8 in social value.

Meanwhile, under the online learning method, the total present value (TPV) generated was IDR 698,172,732. This indicates that the net present value (NPV) produced by the program amounted to IDR 565,400,732, derived from a total investment of IDR 132,772,000.

Table 2. SROI Ratio of Online Learning Method

	Value
<i>Total Investment</i>	132.772.000,00
<i>Total Present Value (TPV)</i>	698.172.732,00
<i>Net Present Value (Value Minus Investment)</i>	565.400.732,00
<i>Social Return (Value per Investment)</i>	5,26
<i>SROI Ratio</i>	Rp. 5,26 : 1

Source: Author's Analysis of Data Findings

The outcome generated by the Education Centre program through the implementation of online learning was 5.26, indicating that the benefits produced by this method were 526% greater than the investment allocated to the program. The comparison between Present Value and Investment resulted in an SROI ratio of IDR 5.26 : 1, meaning that every IDR 1 invested yielded IDR 5.26 in social value.

A comparison of SROI ratios shows that the offline learning method produced nearly twice the social value of the online method, namely 10.8:1 compared to 5.26:1. This difference demonstrates that each rupiah invested in face-to-face learning generated social benefits equivalent to IDR 10.8, while online learning generated only IDR 5.26. This gap requires in-depth analysis to understand the underlying factors and their relation to the theoretical framework of non-formal education.

One key factor is the quality of social interaction. Offline learning enables direct interaction between students and volunteer teachers, allowing more intensive question-and-answer exchanges, feedback, and motivation reinforcement. Previous studies have shown that face-to-face interaction contributes to greater student engagement and supports the development of social skills ([Magableh et al., 2021](#); [Isman, 2010](#)). Conversely, online learning tends to be one-directional and less conducive to dynamic discussion, making it more difficult for marginalized students, who already face academic disadvantages, to receive equal support.

A second factor is the digital divide. In the online method, the success of the learning process heavily depends on the availability of digital devices and stable internet connections. For students from low-income families, limited access to devices and the high cost of internet data represent significant barriers. This finding

aligns with [González and Bonal's \(2021\)](#) concept of cumulative disadvantage, which highlights how learning disruptions during the pandemic exacerbated social inequality and subjected children from low-income families to layered disadvantages.

In addition, the learning environment plays a crucial role. Offline learning provides a dedicated classroom space relatively free from distractions and facilitates class management by volunteers. In contrast, online learning conducted at home is often full of distractions and makes it difficult to ensure consistent student engagement ([Haznedar et al., 2012](#)). This impact is evident in non-cognitive outcomes, such as learning motivation and social relationships, which were more strongly achieved through offline compared to online methods.

These findings support [Coombs and Ahmed's \(1973\)](#) theory of non-formal education, which emphasizes the importance of both flexibility and interaction in the learning process. Non-formal education is effective not only because of the content delivered but also because of the social closeness built between instructors and learners. The results also confirm the literature on the digital divide during the pandemic, which exacerbated educational inequality, particularly for vulnerable groups in urban settings ([Van Dijk, 2020; González & Bonal, 2021](#)).

Overall, the differences in SROI values between offline and online methods reflect not only variations in academic achievement but also in the attainment of broader social value. Face-to-face learning proved more effective in generating long-term social benefits for students from lower-income families, both in terms of subject comprehension and the development of stronger motivation and social relationships.

Education Inclusivity: Removing Barriers to Access

The findings of this study carry important implications for the development of non-formal education programs and policies on educational inclusivity in Indonesia. The higher SROI ratio observed in offline learning reaffirms that face-to-face approaches remain the most effective model for marginalized groups, particularly lower-income urban children facing digital constraints. This aligns with the notion of educational inclusivity, which emphasizes equal access as the key to program success, rather than the mere provision of instructional materials ([Kicherova et al., 2021](#)).

In the context of the Education Centre program, these results demonstrate that free, community-based tutoring represents a tangible alternative to closing educational gaps caused by the high cost of commercial courses. The program provides a safe learning environment, fosters social relationships, and enables children to build learning motivation without the barriers of financial costs or formal prerequisites. While the COVID-19 pandemic tested the program's adaptability through its transition to online delivery, it also revealed that without adequate digital infrastructure, equal access is difficult to achieve. Therefore, in the post-pandemic period, face-to-face learning should remain the primary priority while hybrid strategies should be developed, supported by subsidies for devices and internet access for disadvantaged students.

The policy implications of these findings highlight the need for the state and civil society organizations to strengthen the ecosystem of non-formal education. The state can provide regulatory support and incentives for NGOs such as IHF, which contribute to educational equity, including through funding schemes or strategic partnerships with formal schools. Furthermore, digital inclusivity policies—such as

affordable data packages, device loan programs, or community learning spaces with internet access—are crucial to ensuring that online learning no longer creates new forms of inequality in the future ([González & Bonal, 2021](#)).

By integrating the SROI findings with the framework of educational inclusivity, programs such as the Education Centre hold potential not only as temporary solutions but also as sustainable models for bridging gaps between formal and non-formal education, while simultaneously strengthening efforts toward achieving the Sustainable Development Goals in education.

Conclusion

The analysis of differences in SROI values provides a basis for drawing conclusions about program effectiveness and formulating recommendations for strengthening inclusivity in non-formal education in Indonesia. This study evaluated the social impact of the Education Centre non-formal education program managed by the International Humanity Foundation (IHF) using the Social Return on Investment (SROI) approach. The results of the evaluation show that offline learning produced an SROI ratio of 10.8:1, whereas online learning achieved only 5.26:1. These findings confirm that every rupiah invested in face-to-face learning generated nearly twice the social value compared to online learning.

This difference is primarily influenced by the higher intensity of social interaction in offline learning, the absence of digital barriers, and the more conducive learning environment for children from lower-income families. Conversely, online learning faced significant challenges related to limited access to devices and internet connectivity, which exacerbated educational inequality during the COVID-19 pandemic.

The implications of these findings highlight the importance of maintaining face-to-face learning as a priority in non-formal tutoring programs while simultaneously developing hybrid strategies equipped with digital infrastructure support to enhance inclusivity. The results also reinforce the argument that free, community-based non-formal education can serve as a strategic instrument to bridge gaps in formal education and accelerate progress toward achieving the Sustainable Development Goals in education. Beyond practical implications, this study also makes an academic contribution by demonstrating how SROI can be applied in evaluating non-formal education programs in Indonesia and by offering a methodological reference for social impact research in similar contexts.

Suggestion

The differences in SROI values identified in this study provide a robust foundation for drawing conclusions regarding program effectiveness and for formulating strategic recommendations to strengthen the inclusivity of non-formal education in Indonesia. The significantly higher SROI ratio observed in offline learning (10.8:1) compared to online learning (5.26:1) indicates that face-to-face delivery generates nearly double the social value per unit of investment. This finding extends beyond a simple cost-effectiveness comparison; it reveals how interactional intensity, infrastructural accessibility, and structural inequality shape the magnitude of social return within marginalized urban contexts. The superior performance of offline learning is closely associated with stronger social interaction, the absence of digital barriers, and the provision of a dedicated learning environment conducive to cognitive and non-cognitive development. In contrast, the

online modality was constrained by limited access to devices and unstable internet connectivity, reinforcing patterns of digital exclusion that disproportionately affect low-income households. These findings empirically substantiate cumulative disadvantage theory by demonstrating how digital inequality translates into measurable differences in social value creation.

From a policy perspective, the results underscore the importance of maintaining face-to-face learning as a core component of community-based non-formal education programs targeting marginalized populations. However, rather than rejecting digital integration, the study suggests the need to design hybrid learning models through a digital justice framework. Hybridization must be accompanied by structural digital inclusion measures—such as device-sharing schemes, subsidized internet access, and community-based connectivity hubs—to prevent the reproduction of socio-economic disparities. Without these safeguards, technological adoption risks undermining the equity objectives of non-formal education initiatives. The findings further highlight the strategic role of the state and civil society in strengthening the ecosystem of non-formal education through regulatory support, funding mechanisms, and institutional partnerships that embed impact evaluation within governance structures.

Academically, this study contributes to three interrelated strands of literature. First, it advances the application of Social Return on Investment (SROI) by repositioning it as an analytical instrument for assessing educational equity rather than merely a philanthropic accountability tool. By quantifying differential social returns across learning modalities within marginalized populations, the study demonstrates how SROI can operationalize abstract debates on inclusion and inequality into measurable distributive outcomes. Second, it refines non-formal education theory by arguing that program effectiveness is not determined solely by institutional flexibility, as suggested by classical frameworks, but by the combination of interactional density and structural accessibility. Third, the research integrates digital divide scholarship into impact valuation analysis, showing that disparities in technological access materially influence the social return of educational interventions.

Methodologically, the study illustrates how qualitative evaluative research can be systematically integrated with economic valuation techniques without reducing complex social transformations to purely financial metrics. Through stakeholder mapping, outcome monetization, and adjustment mechanisms such as deadweight and attribution, the research offers a replicable evaluative framework for community-based education programs in urban settings of the Global South. Beyond its empirical findings, the study positions SROI as a strategic tool for impact-integrated education policy analysis and provides a methodological reference for future social impact research in comparable socio-economic contexts.

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