Learning Ecosystems Trilogy – Report 2
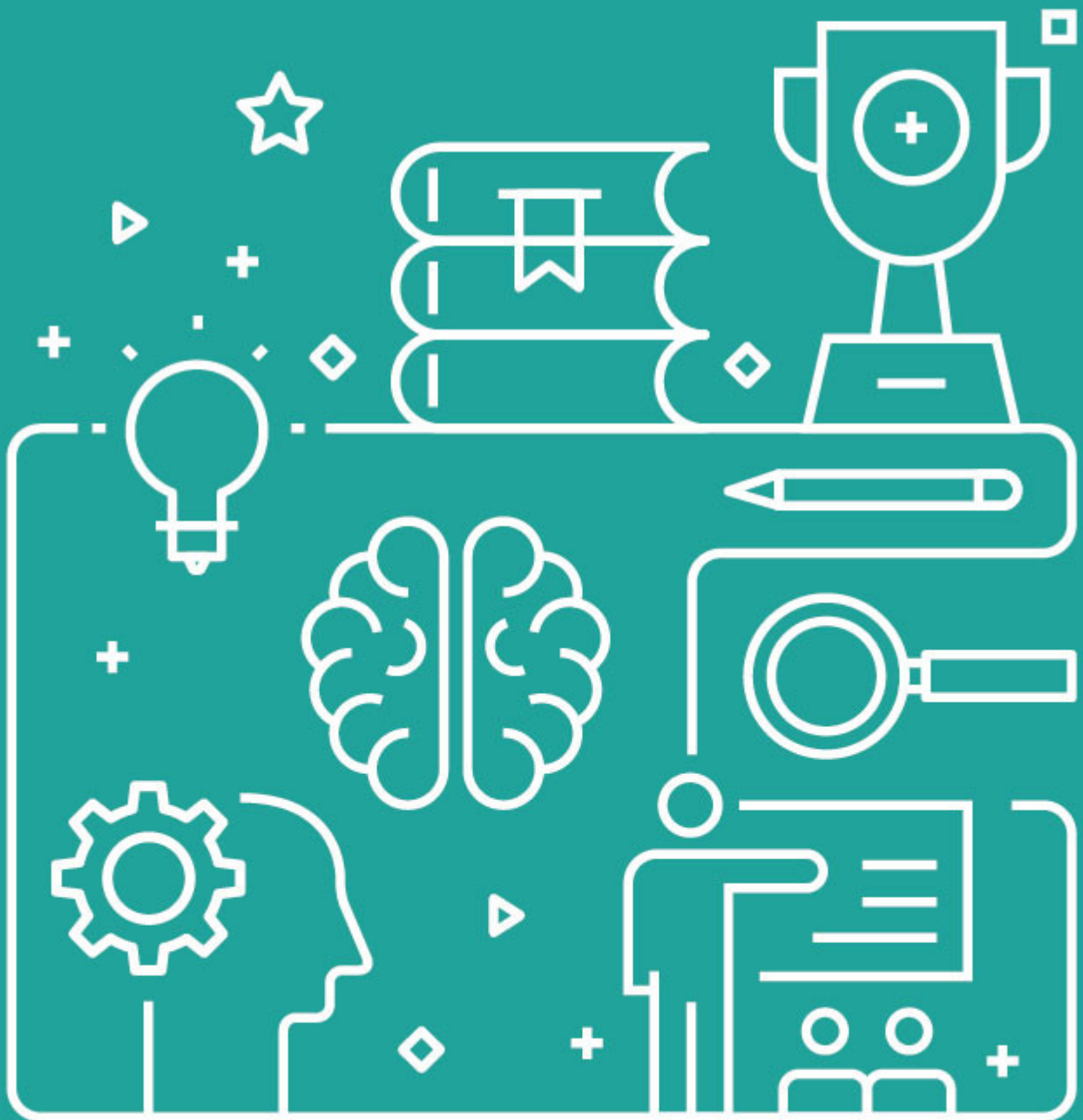
SchoolWeavers Tool

Weaving school ecosystems for belonging and human–centred learning

Report developed by the NetEduProject, PSITIC-Blanquerna, Ramon Llull University

international team.

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Executive Summary

This report delves into the notion of learning ecosystems and the avenues through which school leaders can nurture flourishing ecosystems that place the wellbeing and learning of all students and community at the forefront. Central to this exploration is the SchoolWeavers Tool, an online survey mechanism that aids school leaders in evaluating the strong and weak points of their school culture, pinpointing areas requiring enhancement. Highlighted within are the hurdles school leaders encounter in the quest for flourishing learning ecosystems, notably the scarcity of data, tools, and metrics essential for deciphering the intricate social relations forming the bedrock of school culture. Cited research unveils that school and district heads globally are bereft of the requisite references, tools, and backing to hasten the transition towards a holistic, learner-centric approach. This vacuum in support can veer focus towards individualism, standardisation, and competition, as opposed to fostering collaborative relationships, wellbeing and learning of every learner.

It's accentuated that the SchoolWeavers Tool isn't a universal remedy but an adaptable instrument that can be tailored to various educational landscapes. The tool has undergone translation into 13 languages and contextualization for 15 local settings, with trials conducted in nearly 100 schools, alongside 18 universities and research entities spanning 5 continents. Guidance on tailoring the tool to diverse educational settings is provided, encompassing stakeholder engagement, survey result interpretation, and action plan formulation. The research-practice study analyses case studies from schools in Spain, South Africa, Taiwan and Switzerland, shedding light on the efficacy of the SchoolWeavers approach across varying educational environments. The methodological process involved the participation of 2131 members in the school community, including students, teachers, leaders, staff, parents and community collaborators. These case studies underscore the significance of weaving a shared vision across the school community, engaging stakeholders in the overall process, and utilising survey outcomes for cross dialogue and to devise action plans addressing the school's strengths and weaknesses. Sustainability's role in the SchoolWeavers approach implementation is underscored, offering guidance on its maintenance over time through progress monitoring, outcome evaluation, and necessary adaptations.

In a nutshell, this report serves as a thorough guide for school leaders aspiring to cultivate flourishing ecosystems for learning and wellbeing within their institutions and across their larger communities. The emphasis in this report is on the leadership role in the complex process of evolving school cultures from a mechanistic, disengaged, academic and instructional focus to an organic, ecosystemic, engaged and human centred one, offering practical advice on executing the SchoolWeavers approach in a myriad of educational settings. The SchoolWeavers Tool emerges as a practical and effective medium for school leaders to assess their school culture and pinpoint areas for enhancement, with guidance on how to maintain the relational and systemic approach over time.

Key Findings

1. **Fostering a Holistic Learning Environment:** Our findings underscore the critical importance of addressing not just the structural, but also the emotional and social aspects of the school culture. This multi-dimensional approach contributes to creating a more flourishing and supportive learning environment for all community members.

2. **Need for Targeted Interventions:** The SchoolWeavers data shed some light into the areas where resources and interventions are required. Addressing these shortfalls promptly and effectively, as indicated by the survey results, is pivotal for enhancing the overall school environment.

3. **Harnessing Feedback for Growth:** Utilising the insights gained from the survey results and consequent dialogue is instrumental in learning and evolving as a school ecosystem. Moreover, it plays a significant role in upholding and perhaps elevating the standards of learning, wellbeing and interaction within the school.

4. **Emergence of a Shared Vision:** The process facilitated by the SchoolWeavers Tool has helped in forging a shared vision among the school community stakeholders based on a comprehensive feedback and empathic communication. This alignment around common purposes and goals is a stepping stone towards harmonious and productive educational endeavours.

5. **Cultivating Trust and Collaboration:** The journey towards creating a culture rich in trust and collaborative spirit is significantly smoothed by the SchoolWeavers Tool process. Leaders have a tool that may be used in favour of the whole community, with transparency and vulnerability. The small and initial step of collective feedback through the survey sets up the foundations for engagement, effective communication and collective progress.

6. **Addressing Power Dynamics and Inequities:** The survey results shed light on existing power dynamics and inequities within the school community. Addressing these issues is paramount for fostering a fair and inclusive environment where every voice is valued, protected and empowered.

7. **Adapting to Local Educational Contexts:** The versatility of the SchoolWeavers Tool is notable, as it can be adapted to suit different educational contexts. This includes the customization of survey questions and response options to resonate with the local ethos and circumstances, ensuring a relevant and engaging discourse.

8. **Conflicting Demands:** Particularly in education systems which are rigid and demand high compliance, it may be difficult for school leaders to create space, time and energy to engage with the implementation of the tool, as well as to act on the data emerging from it. In such systems, a high level of motivation and support will be required from school teams and districts in order to implement the tool.

1. Introduction

1.1 Cultivating caring relationships and social connection for human–centred schools

The UNESCO report "Reimagining our futures together: A new social contract for education" (2021) claims that the COVID-19 pandemic has shown the fragility of our schools and education systems, highlighting the need to better weave and connect the different parts and people in the system. Guaranteeing a quality, inclusive and equitable education, and promoting lifelong learning opportunities for all are essential elements in the construction of sustainable, inclusive and resilient societies. Thus, the post-pandemic era becomes a particularly uncertain and critical moment, which poses a key question about how we can empower schools and entire communities to better face the challenges of our changing societies (OCDE, 2020; UNESCO, 2022).

Most efforts to change and improve schools and our education systems give priority to technically-oriented approaches to change. Among these, there are new laws, teacher training protocols, new admission criteria, implementation of new methods, new programs, modification of ratios, new curriculums, etc. Most of these initiatives, though well documented, disregard an approach based on the social connection among the actors in the educational environment or ecosystem, through whom all these changes flow and evolve (Daly, Moolenaar, Bolívar, & Burke, 2010; Economist Impact, 2022; Kallio & Halverson, 2020; López, Civís & Molina, 2018). Nevertheless, in the last few years, and particularly in the post-pandemic context, schools in a wide diversity of contexts are taking social relationships more into account, understanding the relevance and influence of the community as the natural ecosystem where students, educators, and families develop, learn and grow (Metha, 2020; UNESCO, 2022). The pandemic promoted an approach that humanises our schools by emphasising social capital and human relationships as being necessary for individual and community flourishment (WHO, 2021; UNESCO, 2022; Duff et al., 2016; Velasco, 2021), but also brought into the table existing research that explores social capital as force for resource exchange and co-creation to collectively respond to complex problems (Díaz-Gibson & Daly, 2020; Economist Impact, 2022; Metha, 2020; UNESCO, 2020).

Thus, the relational and human aspect of educational change emerges complementarily, focusing on the social infrastructure or social capital of people and organisations within a learning ecosystem. Social capital is broadly defined as the summation of real and potential resources, available through and deriving from the network of relationships that an individual – as a teacher or a student- or a social unit – as a school or an entire community- have (Borgatti & Foster, 2003; Wellman & Berkowitz, 1988). Therefore, the social relationships among teachers, students, between teachers and students, teachers and families, among others, become mediators for transformation, that is, they promote or inhibit evolution and change. The development of social capital in schools and communities in general becomes a key issue that needs further insight and study to show its impact on learning and wellbeing outcomes both in children and young people, and educational professionals such as teachers and education leaders.

Social capital in education is created through the quantity and quality of the social connections developed between the school and the community actors, such as teachers, students, families, social educators, social services, healthcare professionals, etc. In this sense, recognising social capital brings about an ecosystemic perspective of school organisation and educational leadership (Clayton, 2016; Shaked, Schechter, & Daly, 2018). In the last decade, studies from all around the world have contributed new evidence of social capital as a driving force for educational improvement and school performance (Clayton, 2016; Daly & Liou, 2018; Díaz-Gibson et al., 2018; Pino-Yankovic & Ahumada, 2019; Renée & McAlister, 2011; Rincón-Gallardo, 2020; UNESCO, 2020). Some of these research projects connect this approach to concepts such as shared, relational or distributed leadership (Azorín, Harris, & Jones, 2019; Daly et al., 2020; Díaz-Gibson et al., 2013; Spillane, 2006). Other studies show evidence of how school leaders can potentially achieve better educational outcomes by increasing the quantity and quality of the relationships among the actors involved in learning, and through intentionally designing collaborative and innovative climates. This allows new actors and resources to be introduced into the network, and nurtures a valuable exchange or transfer of content amongst the actors, mediated through their social bonds - , such as knowledge, trust, information or experience, among others. Results from our latest research (Civís et al., 2019; Díaz-Gibson et al., 2017; Liou et al., 2019) show a positive relationship between social capital and academic performance, which is also confirmed by previous literature (Gasevic et al., 2013; Smethem, 2007), as well as the importance of networks where teachers are able to interact, collaborate and co-produce educational innovations (Daly & Finnigan, 2010; Liou, Canrinus. & Daly, 2019).

Research suggests that the growth of social capital correlates with the development of thriving ecosystems where students and teachers learn effectively, thus becoming collaborative and innovative climates that may have a role in supporting the teachers' relationships and performance.They provide them with safe, reliable and flourishing environments within which the actors in the school community are willing to take risks to improve education (Civís et al., 2019; Díaz-Gibson et al., 2019). Thus, social capital is becoming an interesting predictor of innovative climates in schools and communities, as well as an enabler for new educational innovations identified as "learning ecosystem" approaches. "Learning Ecosystem" support may be understood as a series of interventions, decisions and processes undertaken with a certain degree of intentionality and systematisation, with the aim of modifying attitudes, ideas, cultures, content, models, and pedagogical practices (Foray & Raffo, 2012; Fullan, 2010; Leadbeater, 2012). Therefore, the promotion of collaborative and innovative climates is considered a social process where social interaction brings about many opportunities for personal and social development.

A socio-educational approach to developing learning ecosystems considers the relationships within the school and between the school and the community environment as generators of opportunities. It springs from the systemic nature of educational and social change, and is based on the construction of social capital (Civís & Díaz-Gibson, 2021; Díaz-Gibson et al., 2020 & 2023). The concept of learning ecosystems comes from evolutionary biology, where ecosystems are defined as "a biological community of organisms that interact among themselves, and with their physical environment." From this, the concept of the human ecological system was defined by Urie Bronfenbrenner (1979), who proposed that human development, and particularly children's development, is influenced by factors that work at different levels within a wider ecological structure, where every level and component have reciprocal influence on the others.

Table 1: Learner-centred ecosystems paradigm (Education Reimagined, 2020).

MODEL COMPONENT	CURRENT PARADIGM	LEARNER-CENTRED PARADIGM
Organization of learners	Organised in age cohorts	Learners learn individually and in diverse and shifting groups consistent with their develop- mental, social, and competency needs
Curricula	Standardised linear curricula divided into subjects	Relevant, contextualised curricula organised by competency
Learner goals / Progress indicators	Required credit hours and seat time	Development of competency in agreed do- mains of knowledge, skills, and dispositions in timeframes appropriate to each learner
Role of learners	Passive vessel to be filled	Active co-creators of their learning and development
Role of adults	Individual teachers expected to serve as content deliverers, curriculum developers, data assessors	Network of qualified adults facilitating learn- ing and development
Technology	One-to-many communication tools (e.g. books, white boards, projectors)	One-to-one, one-to-many, many-to-many communication, networking, diagnostic, and content delivery tools

Assessment	Primarily "of" learning	Intentional assessment "for, as, and of" learning
Resource Allocation	Place- and formula-based funding uncorrelated with individual children's needs	Financial resources applied and integrated to support the whole child
Location	Localised in a school building	Learning occurs at many times, in many places, and through many formats; a physical space is established for learners and adults to gather, socialise, and learn
Meeting learner's needs	Differentiation of the standard model to meet learners' needs	Personalization for each and every learner

Education Reimagined (2020) pictured the paradigm shift that evolves from an existing traditional and school based paradigm into a learner-centred paradigm grounded in community-based ecosystems of learning (Table 1). In this new paradigm, learners are meaningfully connected to a wider network of adults and peers of all ages, instead of being restricted to their same-age cohort, embarking on a learning journey that is unique to their interests, and educators support and honour each learner's individual aspirations. Additionally, educators are called to collaborate, through locating students at the centre of their collective action, and involving and supporting families and their learning needs. In this sense, a traditional, hierarchical and centralised approach to school leadership and school organisation is directly challenged by the lens of learning ecosystems, setting them at the centre of the debate of educational change and transformation.

Lucksha et al. (2020) and Díaz-Gibson et al. (2020), describe learning ecosystems as intentional networks of relational learning that are dynamic, which can evolve and which promote lifelong learning opportunities. Likewise, the report 'The Learning Ecosystems Framework' (2022) defines learning ecosystems as a "diverse, collaborative and dynamic network of stakeholders that enables greater access to a range of learning opportunities and helps young people achieve positive learning and wellbeing outcomes" (p. 7). Literature converges when defining the purpose of learning ecosystems, that is, to offer atmospheres and paths where all students can flourish and actively co-create thriving futures for people, places and our planet.

Within this shift in educational approach, the role of schools is in transition. While they may no longer be positioned at the centre of the system, our belief is that they have been, and will continue to be, strong pillars within our learning ecosystems. We will need their full involvement, and systemic support, in the transition within which schools and district leaders are called to lead and facilitate the development of thriving learning ecosystems in their communities. They will fulfil a key role in weaving deep learning networks within and between their organisations, districts, and communities, and implementing a student-centred approach.

Research informs us that there is a lack and shortage of data, tools, and metrics that allow leaders to visualise, track, understand, and think about how ecosystems and social relationships can be recognised and sustained through their schools and districts (Economist Impact, 2023). Thus, school and district leaders around the world lack the references, tools and support to accelerate the ecosystemic transition towards a holistic student-centred approach.

Within this promising exploration of a transition towards a learning ecosystem approach for education systems, the SchoolWeavers tool emerges as a collaborative open resource that supports school leaders to weave their learning ecosystems and build social capital around schools, and within their communities, supporting a new narrative for human flourishing beyond individualism, standardisation and competition.

The SchoolWeavers Tool is a digital tool for school leaders, supporting them to inform a collective diagnosis of their learning culture, and to engage in dialogue across the school community to explore holistic learning and wellbeing. The tool offers a meaningful, collaboratively developed, and well-researched resource, supported by a robust international research community, for school leaders to transform their own roles, and to ignite and inform the design of school environments and local learning ecosystems for belonging, learning and flourishing.

The present report presents 4 comprehensive case studies with a total of 6 schools from Taiwan, South Africa, Switzerland and Spain that explore and describe the use of the SchoolWeavers as a tool for development and growth of environments that support students, teachers, parents and all community members to connect, growl, learn and thrive together.

1.2 SchoolWeavers Tool: Supporting school leaders to weave thriving learning and wellbeing ecosystems

The global interest in an ecosystemic and relational approach to educational change is impeded by a lack of guides, tools and resources for school leaders and teachers, and education professionals in general to develop and enhance the quality of the school ecosystems and learning environments within which we all live and learn. Cognisant of this gap, the SchoolWeavers has been developed as a collaborative and international research-action project to support school leaders around the globe to analyse, rethink and weave their school-community ecosystem, and in particular, to enhance the capacity and for developing caring relationships, a sense of belonging, personalised learning, and wellbeing opportunities. The Schoolweavers is an online digital tool that helps school leaders to extend their focus beyond academic results and achievement, and intentionally engage with seeding the conditions and opportunities for deep and wide learning within and across school borders. This open tool is free to use and offers school leaders the opportunity to build the school ecosystem in a rigorous and supported way. Internally (i.e. within the school) it promotes the engagement of all education and school community actors in a collective diagnostic process to support the development of trusting and meaningful relationships with school members –students, teachers, families, staff and leaders. At an external level, the tool facilitates engagement between the school and its wider context (neighbourhoods, districts and city) through linkages created with actors such as community professionals, external educators, museum staff, sports facilities, universities, etc.

The SchoolWeavers Tool change model of CULTIVATE – FACILITATE – THRIVE (Figure 1) has been co-created by the NetEduProject,[1] an international initiative catalysed by the research group PSITIC research group at Blanquerna (Ramon Llull University) and formed by a community of researchers, education activists, school leaders and educators from around the globe. The model seeks to refocus the education debate by shifting the learning focus away from individualised standardised results and towards the fundamental processes that seed caring and collaborative human relationships in the school community, to enhance collective learning, belonging and wellbeing. The model incorporates emerging international perspectives on the assessment and support of healthy school climates, and a process for enhancing the development of effective school culture and school-based learning ecosystems' in a reliable, regenerative, and comprehensive manner.

Figure 1: SchoolWeavers systemic model to build the internal and external learning ecosystem.
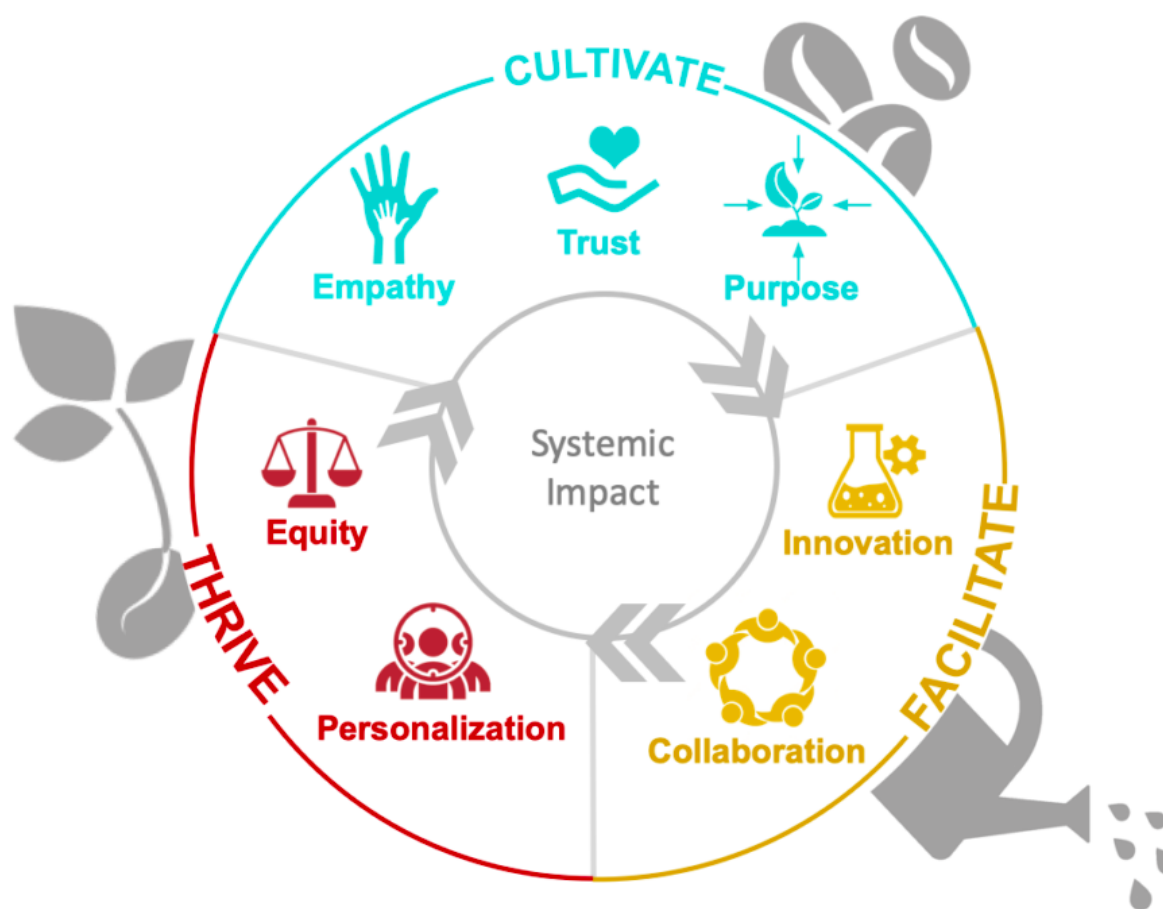
The tool supports school leaders and communities to engage with a collective process of rethinking and regenerating relationships to expand learning and wellbeing. Within this process, the tool provides schools with an initial assessment framework that helps them strengthen their relational strategies around the 7 key ecosystemic domains of the model: EMPATHY, TRUST, PURPOSE, COLLABORATION, INNOVATION, PERSONALIZED LEARNING, and EQUITY. These domains parallel the Transformative Competencies outlined by the OECD (2019), as well as the critical competencies / 21st Century Learning skills advocated for by many education experts. The transformational process facilitated by the tool includes collecting data about these domains and scales, providing 6 personalised surveys for the 6 types of participants: TEACHERS, LEADERS, STUDENTS, STAFF, COMMUNITY PROFESSIONALS and FAMILIES. All responses are recorded on a 6-point Likert scale that captures the level of agreement with each of the items. Both the SchoolWeavers tool and the process that it promotes allow for a shared understanding of the critical elements of the school culture to be developed, in order to generate stimulating learning environments within which all participants experience safety and belonging.

So far, the SchoolWeavers tool has been translated to 13 languages, and contextualised for 13 local contexts- English (UK), English (US), English, (South African) Ghanaian (Ghana); ; Catalan, (Spain); Spanish, (Spain); Spanish, (Latin America); French, (France); Greek, (Greece); Turkish, (Turkey); Danish, (Denmark); Swedish, (Sweden); Traditional Chinese, (Taiwan); German, (Switzerland and Germany); and Hindi, (India). It has been tested in approx. 100 schools in collaboration with 18 universities and research organisations from 15 countries in the 5 continents. Approximately 4,000 students, 2,500 family members, 1,800 teachers, and 600 community collaborators have interacted with the tool, thus contributing to the process of rethinking and regenerating schools as spaces that weave learning and wellbeing for the entire school ecosystem.

Once the baseline development of the SchoolWeavers Tool had been done, it was launched as a pilot and tested in the abovementioned schools. Participating schools became active participants in testing the tool with the NetEdu team, as part of an action-research process. The preparatory phase for in-school use was not separated from the development phase of the tool, but rather the two were run concurrently. In line with the ethos and intent of the tool, this provided powerful real time learning, and ensured that schools experienced the use of the tool as a co-creative activity in which they had a high sense of agency.

The SchoolWeavers focuses on the intangible aspects within learning environments that have to do with the more relational and wellbeing-related dimension of education, which in the end shape its social capital, as well as creating the conditions for effective, empowered learning to take place. The SchoolWeavers is designed as a tool that gives support to the dynamic and evolutionary process of improvement, rather than simply showing a static result. The tool offers, then, a way of assessing the aspects of a school's culture and experience that used to be considered invisible, and therefore impossible to tackle. "The invisible, then, is not beyond, it is here, in myself, in us, both visible and opaque, available and impossible at the same time. It is only a crease of what is visible, the entrails of a world with volume, which we will never be able to grasp at just one glance. An entire lesson of what philosophy finds so hard to tell, in just one stroke"[2] (Garcés, 2016, p. 32). It is these central elements in the culture of learning and school and community ecosystems which the SchoolWeavers Tool makes visible.

The SchoolWeavers Tool appears at a moment in our collective history when schools are grappling with how they need to transform for an uncertain and rapidly changing future. SchoolWeavers supports this critical process by allowing school communities to visualise and work on the conditions and relational climate necessary for allowing learners to thrive. In particular, beyond providing participating schools with data concerning a series of dimensions of the school climate, the purpose of this tool is to promote evidence-based dialogue, active and purposeful engagement, and the movement to action of the entire school community towards the positive evolution of a school learning and wellbeing culture and ecosystem.

2. Method

2.1 Research Design

This study was developed using the case study scientific method, which is widely used in social sciences to analyse phenomena in depth and within a specific context (Merriam & Tisdell, 2016; Yin, 2011). In considering the introduction of the SchoolWeavers into the different schools and contexts, this method allowed us to have a more careful approach to examining the process of every school. Each of them is unique and singular, so this approach allowed us to identify with clearer detail the diversity of processes followed depending on each school's characteristics and context, which is more appropriate for understanding a complex process such as the one promoted by the SchoolWeavers. Likewise, these case studies also use the action-research method, which considers that knowledge comes from practice and that practice can be improved through research. This is a cyclical approach that can be used to tackle complex problems in organisations or communities, and actively engages the participants in the research process. It is based on the idea that knowledge and problem solving are interdependent. Thus, researchers work in collaboration with the people intimately involved in the issue being researched to tackle the problem (Simons et al., 2015; Stringer, 2014).

2.2 Data Collection

Four countries are part of the SchoolWeavers Case Studies: Spain, Taiwan, South Africa, and Switzerland. Each of the 4 case studies represent an action-research partnership between local schools and universities. In this sense, a total of 6 schools and 4 universities participated in the project. Particularly, 3 schools with different characteristics took part in the Spanish case: the Jesuïtes Sant Gervasi School in Barcelona, La Immaculada School in Vilassar de Dalt, and Daniel Mangrané School-High School in Jesús (Tortosa); accompanied by Blanquerna - Ramon Llull University. In South Africa, the action-research partnership was between School X, a Quintile 5 Government primary school in Johannesburg, and NetEdu Country Partners Kaleidoscope Lights.

The project and the methodological process involved the participation of all the members in the school community. Globally, participation data shows that 2131 were people involved in the analysis: 43 school leaders; 187 students (9-12 years old); 610 families; 98 teachers; 72 admin staff; and 16 community staff.

2.3 Analytical Framework

Procedurally, the selection of participating schools was made in each research location through the identification of schools with coherent leadership teams, which had an interest in and placed emphasis on educational transformation, but which were not necessarily familiar or engaged with a learning ecosystems' approach. Once selected, each school was briefed on the project and invited to participate, with emphasis given to the benefit for both the school and the research team. In other words, the schools were invited to become active partners and contributors to the research process, and in the process benefit their own school. The school would be accompanied by an experienced research team in a process of transformation via an academically rigorous and grounded tool; while the research group would have the opportunity to test the tool in its beta phase, and to prepare it to scale it up for larger reach and impact. Once the collaboration agreement was signed, the researchers developed a program for the continuous accompaniment of the schools in every phase of the project. This included: 1. Mobilising community engagement: Organisation of a team to lead the project and design and implementation of strategies for mobilisation and data collection; 2. Collecting community feedback: Conducting the surveys, data collection and revision of the processes of the SchoolWeavers tool; 3. Thinking about and analysing results: Interpretation of results obtained with the SchoolWeavers tool; and 4. Bringing data to action: Prioritisation and design of strategies for the translation of data into actions to strengthen the school learning ecosystem.

The interaction between the school leaders and the research group throughout the research-action process involved a parallel accompaniment of two sets of different but related activities. These are two simultaneous lines of work that were accompanied by the research group, with support from the tool's programming team: 1. The first of these process lines was the support given to the tool's technical process and usability: this is the process to implement the technical and diagnostic element of the SchoolWeavers tool. This entailed managing the school's sign-in process, sending the questionnaires, and managing the data collection, as well as the analysis process. 2. The second process line corresponds to the tool's final purpose and intention, and entailed the engagement of the school's stakeholders in issues related to understanding and strengthening school culture. It included supporting the collective capacity of the school community to participate in the dialogue, address the quality of relationships in the school, develop a shared vision and understanding of their purpose and values, , build trust, personalise learning; and deepen the capacity for collaborative work and shared innovation in service of collective learning and wellbeing.

Certainly, although both work streams are vital, it is in the latter process where the SchoolWeavers tool's main objective lies and, therefore, this was the primary focus of our efforts.The technical component was supported through an agile and iterative parallel process, and as an enabling aspect of work.. The testing of these two overlapping and continuous processes enabled us to monitor the tool's development and use continuously for a year. Once this study's findings are introduced, the goal is to continue to facilitate the evolution of each school's culture and learning ecosystem, following an adaptive-cycle format, that is, with repetition of the discovery process as mediated by the tool, but in deeper and deeper cycles that can adapt and change with the evolution of the school culture, the changing participants, and the passage of time.
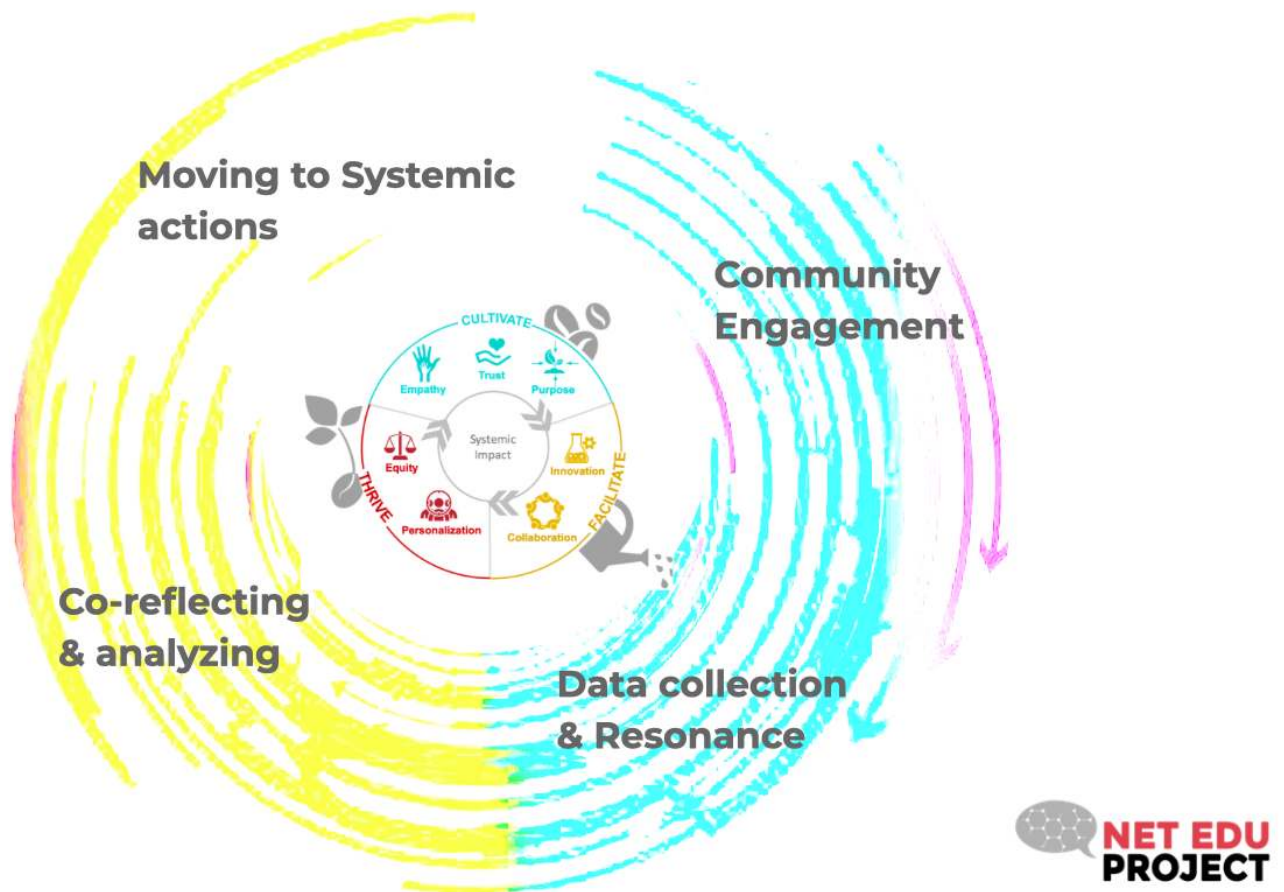

Figure 2: SchoolWeavers cyclical process to develop the learning and wellbeing ecosystem.

Table 2: Example of support and translation activities in both processes.

Technical process	Purpose of the process
Preparatory Phase	
Introducing the SchoolWeavers tool to the school leadership team. Obtain buy-in for participation.	Presentation of the process to the wider school community and invitation to participate (managed by the school leading team/tool team). Obtain buy-in for participation.
Demonstration and getting familiar with the technical tool.	Explanation of the value and meaning of school culture and the 6 different domains that affect culture. Justification of the use of this process and the survey.
Generating the links for the SchoolWeavers questionnaires. Uploading school contact data onto the tool site.	Participation in learning dialogues and conversations in the 6 domains, as contextualised for the school. Further sharing and exploration of the different domains through a variety of different modalities (written communications, school meetings, teachers' meetings, meetings with families, etc.).
Decision-making concerning dissemination of the survey (email / WhatsApp / link, etc.).	Explanation of the tool and the survey process, and preparation of the school community to participate in the survey.

←   SENDING QUESTIONNAIRES   →

Analytical, Learning and Action Phase

Revising participation statistics.	Obtaining feedback from school stakeholders about how easy it was to participate and their experiences.
Revising the descriptive part of data.	Review of findings at the level of school leadership.
Revising findings and transforming them into a format that can be easily transmitted to stakeholders.	Sharing and discussing/reviewing conclusions with broader stakeholder communities. This requires the design of a participatory process with different groups of stakeholders that is appropriate to the current school context and culture. (e.g. - Written communication / visual representation / debate in meetings / dialogue / debate in lessons, etc.).
Revising the writing and contextual adequacy of the survey questions. If necessary, review.	Dialogue and discussions with stakeholders about the results, with sensitivity to contextual importance. Making decisions about what is important to the community and how they would like to address these elements of school culture. Decision on which fields to focus on.

Updating of stakeholders/expansion of groups where awareness of relevance to the school has developed (e.g., community stakeholders).	Establishment of work groups, approaches, activities, etc.
Collaboration with the global technology team to address any problem or modification tool for the context.	Implementation of strategies to support the evolution of the school culture.
Collaboration with the school community for feedback on how the survey process could be better facilitated.	Experimentation with human-centred design processes. Continuous review of the implementation of the chosen strategies.
Collaboration with the global technology team and other implementation partners to share information and knowledge on technical implementation aspects.	Facilitation of transversal reviews of the different strategies and approaches that can be used within the school.
Reviewing, cleaning and adding new data.	Engagement with the SchoolWeaver's broader global community and other local/global resources to improve the school's ability to address aspects to be improved.
Getting familiar with updates/changes of the tool's technical aspects.	Decision on when and how to repeat the survey process, what are the objectives for the next cycle, and design of the implementation strategy for the next cycle.

The beta-phase testing process lasted for one and a half academic school years, and had to adapt to the circumstances brought about due to the COVID-19 pandemic, altering the initial planned testing schedule. Particular care was taken, when engaging with the schools, to be mindful of their circumstances and academic demands, and to avoid interference in their day-to-day activities.

Regarding ethical guarantees, data processing has been anonymized with respect to the participants, despite identifying the centres and schools where the research was conducted. Informed consent was obtained in all instances, and we complied with the ethical requirements for scientific research established by the Belmont Report, the Declaration of Helsinki and their successive reviews.

In short, we believe that this research is of scientific and social interest. Within the principles of transparency, we confirm that it does not cause any harm or risk to citizens; it does not exclude anyone on the basis of gender, age, origin or beliefs; it seeks to benefit the participants, and all participants are treated respectfully. Consequently, it aligns with the principles of beneficence, non-maleficence, autonomy and justice.

3. Conclusion: Reflections

Since the principal expressed a desire to avoid hasty action and quick fixes, the school has not yet transitioned to the action phase. The focus is currently on understanding the situation thoroughly before proceeding with any interventions.

Additionally, it is worth noting that Switzerland commenced the SchoolWeaver project with a substantial delay.

Our conclusions from the process are as follows:

1. The principal, being knowledgeable about data-based school improvement, was easily convinced of the tool's value.

2. Schools are consistently occupied with multiple issues, which means that implementing such a tool takes time. From the initial contact to administration, it took approximately a year.

3. Teams that feel appreciated for their work are highly motivated to consider further improvements.

4. The school team discovered various approaches to involve students and parents in the interpretation of results, and plans to implement them in the near future.

5. The tool proved to be user-friendly, with no technical difficulties impeding the process.

6. The school team can utilise the tool independently of other institutions.

7. Results shared by the tool are extremely useful to understand and resonate with the perception of the whole community, and make global decisions accordingly.

To deal with the increasing levels of social complexity faced in the modern world, and to contend with the increasing levels of fragmentation and crisis being experienced, it is essential to facilitate a return to the bonds that strengthen us and our society, that foster empathy, kindness, compassion, respect and integrity, and grow our capacity to cross boundaries. With this action research paper, we claim that developing learning ecosystems of care and belonging within schools as early sites promoting social cohesion and wellbeing, should not be regarded as an additional requirement to that of educating and learning, but as an essential prerequisite and foundation for learning and flourishing.

The overarching objective of the SchoolWeavers Tool is to, at a school community level, support the cultivation of caring relationships and social connection for human-centred learning, through the application of a tool which allows the full complement of school stakeholders to engage with, articulate, visualise, reflect and act on the elements of school culture which matter most to them. In this way, the SchoolWeavers Tool supports and advocates for the development of flourishing learning ecosystems as the site of learning, with schools playing a key convening and facilitation role. It seeks to do this in a way that is reliable, replicable, grounded in robust academic theory and learning, and at the same time is highly practical, localisable, and user-friendly, engendering a sense of agency and shared ownership within school communities.

In this report, we make the case for the need to address the relative lack of data, and specifically action-research orientated, robust and comparable data, tools, metrics and methodologies available to education actors for promoting a flourishing learning ecosystem approach. We present the SchoolWeaver Tool as a new and unique, digital, open-source, collaborative and globally trialled approach for school communities to practically engage with the Learning Ecosystem approach. The SchoolWeaver Tool offers an opportunity for schools to engage, analyse, converse and reimagine their school-community learning ecosystem with their own school community and local network, as well as with co-located school clusters, national school networks, and global partners. In itself, this dramatically expands the horizons of learning and our understanding of how learning happens. Through focussing on the development and strengthening of caring relationships, belonging and wellbeing through cultivating Trust, Empathy and Purpose, facilitating Collaboration and Innovation, and supporting thriving learners with Equity and Personalisation of their learning experiences, the SchoolWeaver Tool offers an opportunity for schools and communities to reimagine, transform, and continuously co-evolve their learning landscape.

The tool has been trialled in a spirit of invitation, generosity, opting-in, co-creativity and shared learning, and with commitment to real-time learning and innovation. The beta-phase testing process has been research-focussed and evidence-based, and simultaneously dialogic, co-created, purposeful and reflective, as we have sought to enable purposeful engagement and positive evolution towards school cultures which are humanising, and which deeply enable learning, wellbeing, and belonging.

Through sharing the 6 case studies -representing 4 education contexts- contained in this report, we examine the usefulness of the SchoolWeaver Tool at individual school levels, and explore the challenges and opportunities for further refining the tool across a variety of geo-social contexts, and within education landscapes demonstrating diverse learning approaches.

Context	Change orientation
Spain (Catalonia)	An innovation-focussed education paradigm with a high appetite for experimentation. Some level of innovation fatigue.
South Africa	An education paradigm demonstrating high levels of diversity and inequity, with a strong intention and motivation for transformation, robust enabling policy frameworks, but challenges with coherence, implementation and collaboration.
Taiwan	An education paradigm focused on academic rigour and excellence. Pro-transformative educational development, with a strong commitment to teacher professional development, innovation, collaboration, reflection and re-innovation.
Switzerland	An education paradigm attuned to the rights of the individual and independent thought, averse to generalisation and judgements of individuals and specific contexts. Anti-regulatory and control, pro-autonomy approach. Data managed with high respect for anonymity and decision making.

How the SchoolWeavers supports school leaders to weave ecosystems for human–centred learning, belonging and flourishing

From the case studies presented, it is apparent that the SchoolWeavers Tool has offered support to schools and school leaders to redefine the purpose of their school culture, widening the goals into holistic outcomes that extend beyond academic achievement, but at the same time remain interdependent with this. The tool allows leaders and school communities to make visible some of the more intangible elements of school life and learning environments, redirecting attention to the essential conditions for learning at both an individual and a collective level. Thus, the tool meets a tremendous need expressed by school, district and education leaders to pay attention to school culture in addition to, and in relationship with instruction. The evidence presented shows that the tool supports leaders in 7 key holistic outcomes:

- **Increasing sense of belonging**. This is one of the more robust pieces of evidence found in the trial. The emergence of a deeper sense of belonging in students, families, and teachers resulting from the use of the tool process has been documented, and these stakeholders have expressed that they are being listened to and taken into account, resulting in their feeling part of the school community. This is further evidenced by teachers, students, and families who have expressed their engagement and commitment with the project and related activities.

- **Weaving caring relationships.** The tool assists in growing schools as communities of care, visualising the need for strengthening relationships across the school community, between and across stakeholders. Attention has been given to the elevation of levels of connection and trust, supporting reciprocity, and spending time in mutual recognition, support and exchange.

- **Facilitating systemic thinking.** The tool supports leaders, but also teachers, parents and students, in understanding how the different activities and areas of school life are interrelated and interdependent, and contribute to positive school culture. Thus, the tool supports collective and systemic thinking that assists the school community to engage with, and understand what a learning ecosystem is.

- **Identifying priorities among urgencies.** Managing time is challenging for school leaders, in every context. The tool enables and supports them to use their time efficiently, but also to slow down and prioritise between multiple 'important' focus areas. Thus, the tool assists school leaders to see where and with whom they might need to pay more attention, spend more resources, enable new dialogues, and develop a higher degree of alignment and shared understanding. The tool assists school teams to align and to prioritise focus areas together.

- **Elevating the quality of the dialogue and the thinking.** The tool enables school stakeholders to engage with the emerging data, facilitate evidence based dialogues, and incorporate it in their thinking. It allows a deeper insight amongst school communities into how school and teaching-learning works, supporting a shift towards reflective practice.

- **Seeding teacher agency.** The tool facilitates the inclusion of the voices of teachers in planning and leadership, through dialogue and thinking partnership, resulting in elevated levels of enthusiasm, commitment and ownership. It also supports a focus on relationships and collaboration, providing opportunities for intentionally establishing reflection spaces, peer support, sharing ideas and initiating new practices.

- **Empathic dialogue.** The tool supports school leaders to listen to all voices in the school community, helping them to understand the perceptionsof the whole school community in order to see where to put more effort. It supports school leaders in becoming more explicit and emphatic in communicating with the community on what the core purpose of their activities are, and what contributing role the community can play in supporting this.

3.1 Learnings and Suggestions for Further Development

The following are areas that have emerged for ongoing work in improving both the technical tool development and the process aspects of the SchoolWeavers Tool:

Tool Development	Ongoing contextualisation, localisation of language, and ensuring that the questions are worded in a way that is both accessible and relevant to users in each different country of use will be key to optimising the usefulness of the tool.
	A videographic introduction and training/ familiarisation process to the tool would be helpful for onboarding new users.
	Optimisation of data visualisation.
Process Development	Ensuring ease of survey transmission and completion will likewise improve completion rates and representation within school communities. This may include: WhatsApp-able links, QR codes and other technologically facilitated links for inviting participation in the survey. In less technologically accessible contexts, a paper version of the survey may need to be developed.
	School leaders and teachers have indicated that it would be beneficial to receive support in developing action-plans in response to the data emerging, and in moving from diagnosis to implementation.
	Supporting local and international inter-school connections in the form of think-tanks, communities of support etc. would greatly assist in motivating school teams, and cross-pollinating ideas for better supporting school culture.
	Ongoing action research into the impact of improved school cultures and the development of strong and effective learning ecosystems on learning and academic outcomes is required. The SchoolWeavers Tool offers a unique and innovative approach to link and track these two aspects of school life, and to reliably, replicable, and repeatedly track the evolution of school culture, and the health of its learning ecosystem, over time.
	Exchanging inspirational leadership practices across borders that can support learning and inspire new context responsive actions to better weaving learning and flourishing ecosystems in our schools.

3.2 Limitations and Barriers to use

1. **Time:** While the SchoolWeaver Tool has been designed for ease of use, its initial setup does require time. Particularly in the first iterations, an investment of time is also necessary in familiarising the school community with the approach, use and interpretation of the tool and its results. The tool is designed to encourage engagement and reflection amongst the school community. This too demands time - but is likely to result in a fundamental reconfiguration of the school culture towards connection, relationship, collaboration, shared purpose and trust if consistently attended to.

2. **Conflicting demands:** Particularly in education systems which are rigid and demand high compliance, it may be difficult for school leaders to create space, time and energy to engage with the implementation of the tool, as well as to act on the data emerging from it. In such systems, a high level of motivation and support will be required from school teams in order to implement the tool.

3. **Sense of agency:** In order to both implement and act on the outcomes of the SchoolWeaver Tool, school leadership teams (and ideally, although not necessarily essential initially) their school communities must be motivated and energised to attend to developing their school culture, and should be willing to engage with new and innovative approaches and see the value of fostering a learning ecosystem framing for education in their context (ie, buy in to and perceive the value of a strong internal and community network for supporting effective learning. For this reason, the tool should always be offered to and not forced upon school leadership teams, as the intent with which it is used is critical in mediating its success. This requires a design-thinking strategy to be used with regards to its adoption and uptake - ie, pioneering use by motivated, high agency school teams, demonstration of value and invitation/ inspiration for uptake by early adopters, ongoing research to demonstrate value, followed by widespread and/or systemic adoption.

Where to from here

The NetEdu team and its partners recognise that, due to the evolutionary nature of the learning ecosystem model, it is essential to embrace an ongoing iterative and developmental approach to the tools, methodologies and processes used to support education leaders in appreciating, accessing and strengthening their learning ecosystems and school cultures.

For this reason, our commitment is to continue to identify and work together with partners in multiple different contexts around the world in an action-research approach to strengthening and localising the tool. We see 5 primary focus areas for continued work over the next 3 years:

1. Continuing work on the technical platform to support ease of use, accurate data translation and representation, ongoing refinement in the translation and localisation function to enable multi-context application, and smooth cross-referencing of domains with further support to develop inspirational practices at school level capable of strengthening school culture and learning ecosystems.

2. Working with local partners to build strong communities of practice and support between schools - both at a country level, and increasingly at a global level.

3. A commitment to ongoing research and data reflection to allow for robust linking of the effects that healthy school environments and learning ecosystems have on learning achievements - both in terms of academic outcomes and critical competencies development, and on learning and educator wellbeing. Such rigorous academic linkage is essential in advocating for attention to be paid to school culture and to the need for embracing a learning ecosystem model, and is effectively facilitated by the SchoolWeavers' tool insofar as this offers globally comparable, academically sound data for continued research in this field

4. Continued identification and communication to SchoolWeaver Tool users of inspiring, transformational practices and micro-strategies for strengthening school culture across the various domains.

5. More efforts are needed to support relationships between school stakeholders and community collaborators. In this stage, school leaders have been more focused on weaving school stakeholders and less in weaving connections with the wider community and neighbourhood.

6. We also recognise the need for ongoing and deep reflection with regards to how to manage the differences among contexts and ensuring that the tool is sufficiently malleable and agile to enable deep localisation - not only in terms of language but also in terms of access. We are eager to consider how the tool might be translated into a hard copy format and even into a visual or pictorial format for contexts where there is a high level of illiteracy within communities.

7. We aim to explore how artificial intelligence and machine learning can support tool users with managing and curating data, facilitating the transition to action and impact. The goal of this exploration is to provide school leaders, district leaders and researchers that use the tool with personalised reports to implement context responsive changes.

The SchoolWeaver Tool has proved to offer the first instance of a globally applicable, comparable yet localisable practical research and implementation tool for assessing and addressing school culture in diverse contexts. The SchoolWeaver Tool provides an initial example of what we hope will become increasingly common tools, methods and approaches for supporting a flourishing learning ecosystem mindset. Such approaches require a rooting within systemic principles, enabling them to penetrate past the prevailing structures and frameworks that maintain our current understanding of education, and address the mindset, intention and purpose within which learning happens. They will need to invite a shift from experience, outcomes and productivity focussed thinking, to relationality, trust and co-creativity, in order to enable generative approaches for reimagining the structures and frameworks guiding learning.

We are grateful for the many partners that have made this work possible - and look forward to a long and inspiring relationship with each of them, as well as to developing new partners and champions of the Learning Ecosystem approach over time.

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[1] You can consult the project's website at www.neteduproject.org

[2] Translated by the authors.

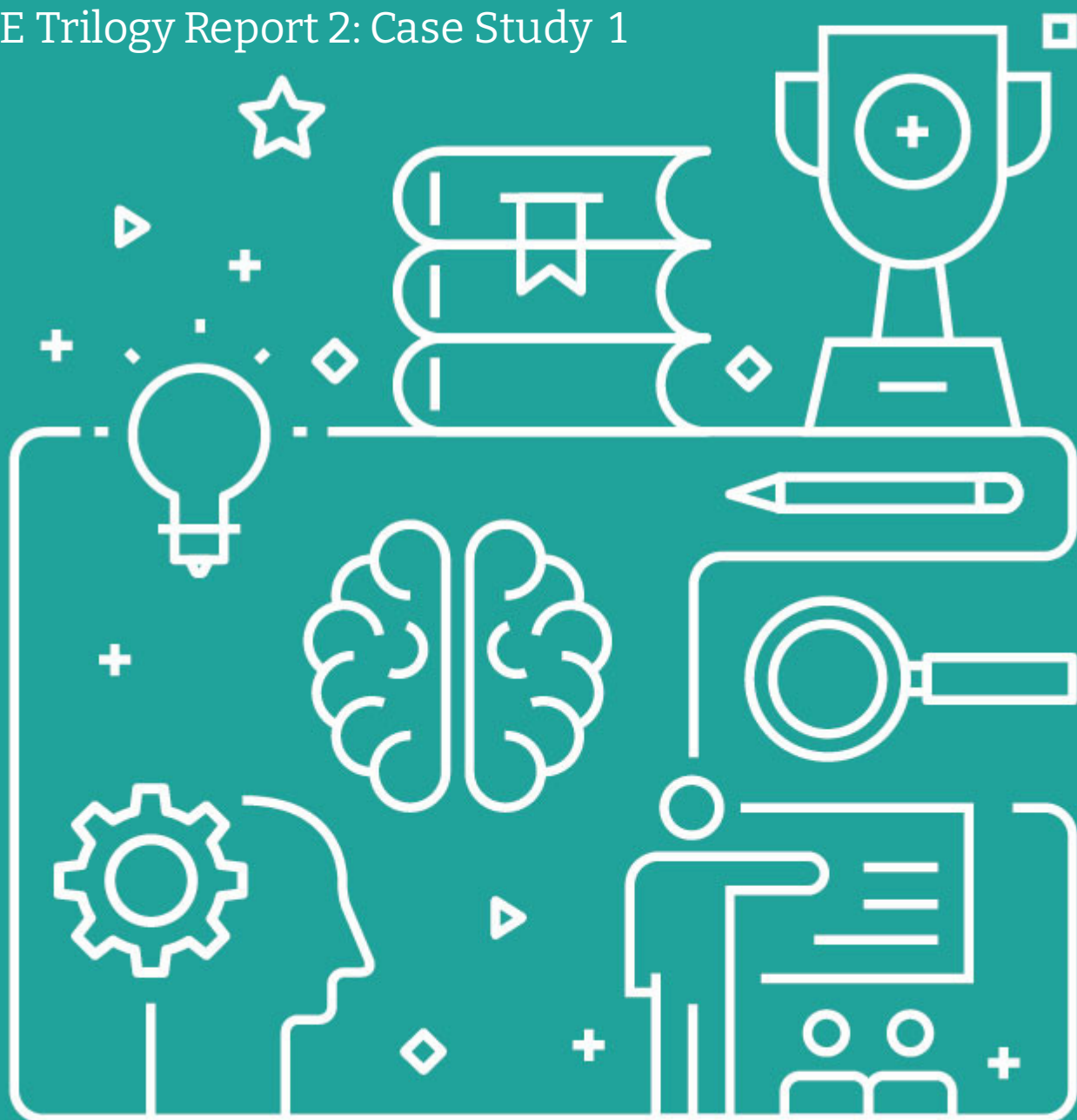# The Learning Ecosystem Trilogy
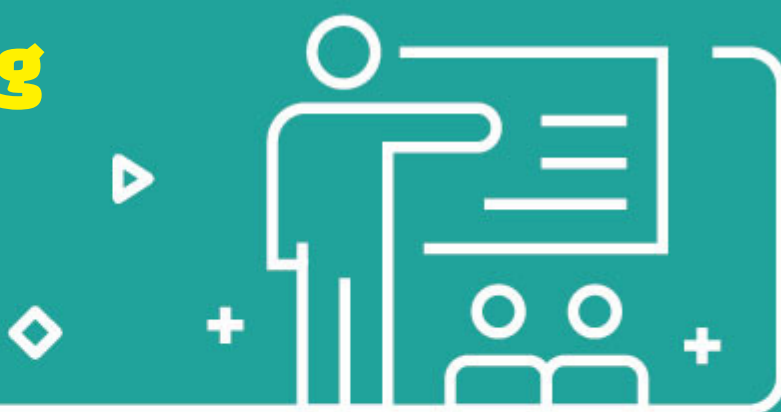
Report 2

The SchoolWeavers
Case Study in Catalonia, Spain

LE Trilogy Report 2: Case Study 1

The Spanish SchoolWeavers' tool Case was conducted and written up by Dr Jordi Díaz-Gibson, Dr. Mireia Civís, Dr Anna de Montserrat, Dr Annabel Fontanet, Miriam Cos and Estel Torruella (Blanquerna-Ramon Llull University).

1. Context

The Catalan context is rich in educational initiatives and has a renowned learning tradition oriented towards educational innovation and transformation (Carbonell, 2015). In this respect, such initiatives as EscolaNova 21 Alliance, Changemaker Schools, Basic Competences Network, Schools for Change, Educational Transformation Lab, Futures of Education, or more individual initiatives in particular schools, have spread throughout the region and passed on some transformational bustle among a large number of schools, both state and semi-state and private (Díaz-Gibson, Civís, & Comas, 2022; Martínez-Celorrio, 2016). Thus, schools have started processes of change quite generally in this region, sometimes with complete awareness of the process to be followed and others with less overt awareness. However, we are currently at a turning point, where after many changes have been brought about at a methodological, organisational and conceptual level, there has been a halt in transformation processes, partly due to the effects of the pandemic and post-pandemic era, but also to other causes linked to a change in legislation or on occasion professional exhaustion (Aunión, 2022).

This section describes the case study of SchoolWeavers in Catalonia, Spain. Its main objective is to analyse the school leaders' experience with SchoolWeavers as a tool to develop the learning and wellbeing ecosystem in 3 schools, focusing on the following micro-processes: 1. Engagement of the community with the SchoolWeavers' objectives; 2. Data collection by the entire community through this tool; 3. Analysis and interpretation of data displayed on the tool's 'Dashboard'; 4. Implementation of specific actions for improvement; and 5. The global technical experience of teams with the platform. To this end, 3 different educational centres and their communities participated in the use and testing of the tool and the implementation of processes to improve their learning and wellbeing ecosystems, and in support of the development of collaborative and innovative climates where students are the centre of their own learning. These schools were: Jesuïtes Sant Gervasi School in Barcelona, Daniel Mangrané School-High School in Jesús (Tortosa), and La Immaculada School in Vilassar de Dalt.

Jesuïtes Sant Gervasi is a semi-state school in a wealthy district of Barcelona. It has a total of 800 students, arranged in two streams, and provides early childhood, primary, secondary and pre-university education. Daniel Mangrané is a state centre, located in the Decentralised Municipal Entity of Jesús, 2 km from the city of Tortosa. It has a total of 580 students, arranged in two streams, and provides early childhood, primary and secondary education. The third, La Immaculada in Vilassar de Dalt, is a semi-state school located in a town in the county of Maresme, 25 km from Barcelona. It has a total of 260 students, arranged in one stream, and provides early childhood and primary education.

2. Implementation of SchoolWeavers Tool

Overview of the Phases of Engagement with the SchoolWeavers Tool:

Phase 1: Obtaining community engagement

A critical element for the project teams is the step prior to implementation of the tool, which entails publicising the project and involving the entire school community. There is a clear emphasis on the need to constitute a strong driving team and carry out different awareness mobilisation strategies.

In the case of **La Immaculada**, the initial implementation process was easy given that it is a small and very dynamic school, already immersed in transformational processes. They considered that the project fit them very well, and could help them advance in their objectives. At the same time, they saw the fact that all stakeholders within the educational community could answer the questionnaire as a great opportunity, because sometimes there are stakeholders who are left aside. When faced with the possibility that the answers of the different stakeholders might not entirely coincide, they considered this as an opportunity to ask themselves why, to reflect and to move forward together.

The process of implementing the tool at **Jesuïtes Sant Gervasi** had a complicated start since it is a very large organisation (they are part of a group of 7 schools); the organisation is quite hierarchical and cautious, and their legal services wanted to be sure that the data collected would be well protected before they would authorise the use of the tool. Simultaneously, the school was strongly affected by the COVID-19 pandemic as a result of long periods of uninterrupted confinement of class groups, so despite being sure of the benefits of the tool, their priorities were elsewhere as they tried to navigate educating in these conditions.

Each of the 3 different schools, with their different starting points and sensitivities, mentioned certain difficulties in launching the project in a complex post-pandemic context. However, once they had collected the data and experienced the tool in use, they found that the process was very valuable to the school. Likewise, in all three cases the results were not always as expected: "Some results have been surprising, there are weaknesses that we did not think there were," educators from one of the centres noted - a fact that generated a follow-up response in thinking - that "perhaps there are things that we think we are already doing well and we must rethink them, and others that we must explain better to certain groups, which show a certain lack of knowledge". As another of the participants observed: "If we do not know ourselves, we cannot move forward."

The school leaders and educators at **Daniel Mangrané**, despite being very aligned with the postulates defended by the project, initially expressed that the school was involved in many projects and that at the beginning, the implementation of the SchoolWeavers Tool was experienced as one more project. "It was a little difficult for us to see the meaning (in the tool), and in the beginning the platform was not as agile as it is today". However, once they had the results, they expressed that they clearly understood the intention of the tool, and potential it offers to the school, with an observation of not being able to cover everything that the tool reflects regarding school culture.

In the case of **Jesuïtes Sant Gervasi**, while they did at first set up a team for the project, the pedagogical director was the one who took the lead. This created an overload for him and at the same time slowed down the application of the project. Although he kept the school leaders informed at all times, he took on the responsibility of developing the tasks needed for implementation of the tool by himself. At the end of the year, and once the potential of the tool had been seen, the situation changed and a driving team was formed by the directors of the different stages within the school, including the pedagogical director and the head of communication. The management team continues to meet on Tuesdays, and they have agreed to always maintain a standing agenda item to discuss project issues around the SchoolWeaver Tool, if applicable.

With regards to school community mobilisation strategies in advance of using the tool, the project was presented to teachers in a teaching staff meeting, to students in a tutoring session, to community professionals in a meeting with school managers. The rest of the school community was introduced to the tool via an email that also included an explanatory video developed by the Blanquerna team. In addition, they talked to the parent representatives in each grade to explain the project in person and asked them to encourage the rest of the families to respond. The questionnaire was sent out in parallel to these processes. Students were given time to answer the questionnaire in the tutoring session. In order to get a greater number of responses, a reminder to participate was sent out to teachers, administrative staff and families.

La Immaculada set up a leading team of 4 people to conduct the testing at the outset of the project. To present the SchoolWeavers, a meeting was held with students, teachers and administrative staff, explaining its objectives and purpose. In the case of families, they were informed via written communication, together with a video made by the school community which encouraged participation. In addition, at course meetings, tutors stressed the importance of the participation of families. As a second step, the meanings of the various issues and dimensions addressed by the project were shared, in a series of engagements with students, teachers, school leaders, and administrative staff and community professionals. With regards to families, a meeting could not be called due to the pandemic, so a meeting was held with the family board of representatives. Time and space was set aside to facilitate the completion of the questionnaire for all groups except for community professionals and families, who were required to complete it in their own time. Student completion was facilitated by the tutor. Finally, to encourage a good response rate, two reminders were sent throughout the data collection process.

Overall, the leading team at **La Immaculada** expressed satisfaction with the level of involvement of their school community, given that the process was carried out in the middle of the pandemic, where confinements were being enforced and there were frequent changes to guidelines from the health authorities, requiring the school to make constant readjustments. They expressed surprise concerning the results, since they had not had special expectations in relation to the outcomes and commented that "they have pleasantly surprised us, we see that at school we work well".

At **Daniel Mangrané**, a leading team of 3 people was established: the head teacher, a secondary school teacher, and a primary school teacher. When the head teacher was replaced during the course of the year, the new head took over leading the project. The team met every week for an hour and planned a detailed implementation process. This included a phase of information and previous ideas, an information and awareness phase, a preparation phase, and an implementation phase, coinciding with 4 school terms: the last term in the 20-21 academic year and the three terms of the 21-22 year. Throughout these phases, different awareness strategies were developed. In the phase of information and previous ideas, the teachers were informed about the project. At the same time video recordings covering the 7 ecosystemic domains of the model were prepared by the children of the school. In the information and awareness phase, a session was held with all the teachers to work on better understanding the 7 ecosystemic domains. The school celebrated 2022 as The Year of Glass, and related the SchoolWeavers testing to the school's project on The Little Prince, through building a stained glass window representing each of the domains. Following this, the tutors worked with their class groups on all the questions contained in the SchoolWeavers questionnaire, exploring what the students' previous ideas or knowledge about the domains were. Finally, the dramatic and performing arts students developed a photocall (Image 1) so that students, teachers and administrative staff could express their opinion on the 7 domains of the project. Also in this phase, a video was made with involvement of students in the entire school to motivate participation in the project, and the families representing each grade were asked to collaborate in informing the rest of the families in their grade about the project. They even undertook to voluntarily make short videos expressing their opinion regarding the 7 domains. These inputs were added to the main video created, together with the opinions of students, teachers and administrative staff.

Image 1: Photocall to present the project to the community, Daniel Mangrané

In the next phase, all the school data was uploaded to the survey platform and the motivational video was shown to students in their classrooms, with a subsequent debate and discussion. Finally, the questionnaire was sent to the entire educational community and the answers started to be collected and analysed. The leading team ensured that there were intentionally allocated spaces and time to answer the questionnaire: In the case of students, they had the tutoring space to answer it, while in the case of the teaching staff, a space was reserved within their regular weekly meetings, with the support of the project's leading team. The other agents received the questionnaire by email. A reminder was sent to all stakeholders (except students who had already responded) to ensure a higher rate of responses.

In short, we can see that the sample of 3 different schools also resulted in 3 different processes, with different degrees of engagement with the project. Even though in all three instances, there was some initial scepticism about the value of the process, the ease of implementation differed significantly as there were schools that from the outset took control of the project and set up a leading team, while in other cases the process had to be much more actively pushed by the research team. However, in each instance, once the data became visible, the schools found the process valuable.

The use of videos to encourage participation was selected by most schools, while some also addressed the awareness creation process through means of conceptual discussions. In each of the 3 cases the schools saw the value that the project brought to the school once they had completed participation - and from this point on a real sense of enthusiasm and agency developed for using the tool to promote the school's pedagogical efforts. One of the school leaders commented "At the beginning of the project, one of the words that surprised me the most was that of 'ecosystem', that is, connections between different elements within the school", but subsequently we became aware that "We have to know what kind of a school we are, what we have and then how we interact with our environment".

Given that this process was launched in the midst of the pandemic we must value, above all, the commitment of all schools to carry it out despite the evident difficulties of the time. Likewise, we believe that the accompanying role played by the research team was key, respecting the rhythms of each centre and at the same time motivating continued progress through visits and personalised presentations for each centre, and carrying out workshops to create a meaningful community and weave deeper levels of understanding.

Image 3. Final photo of the first in-person workshop in the Catalan context.

Phase 2: Collecting community feedback

Feedback on the use of the tool, the survey process and the questionnaires was gathered, and a detailed record of all the incidents or difficulties identified, which we present below:

- Signing up: There were some user validation problems.
- Introducing the centre's information: There were some doubts in the interpretation of the number of students with completed studies, who had left the centre or who had finished with failed subjects. Doubts had to do with students who had finished without certification or those who had finished in accordance with their Individualised Plan.
- Sending questionnaires and reminders: In some cases, they were sent to the spam folder.
- Technical problems when using the tool: The fact of not having direct contact with the technical team meant that the process of implementing the questionnaires was altered.
- Tool management: Participants mentioned that it would be much easier to start from an open link for everyone.
- Uploading participants details onto the system: There was general agreement that this added significantly to workload.
- Writing the questions: It was suggested that the text of the questions should be modified in order to better adapt them to the context.
- Results: They suggested that the tool could offer different strategies for addressing issues identified, depending on the results obtained.

After identifying these issues, the necessary changes were introduced to the tool to eliminate the errors detected. In particular, the option to send the form through a link was enabled, instead of having to enter all participant emails into the tool prior to implementation. Finally, the option of introducing some changes to the wording to better contextualise the questionnaires for context is pending. With regards to the option of presenting strategies to engage with based on the results, this was an issue that had already been planned and is part of the next stage of tool development. .

The schools emphasised that, although the process of preparing the tool was somewhat cumbersome and it was difficult to get familiar with it, the research team offered an efficient support "the follow-up from the Blanquerna team was key to feeling supported and advancing in the development of the tool (…) we positively highlight Blanquerna's rapid response to any difficulty we were having". It was clear from the schools, therefore, that "it is important to have a support and reference person with whom to contact easily to raise possible doubts and situations".

The issue of participation, and especially of families, was one of the more complex aspects to manage. Daniel Mangrané expressed: "The low participation of families is surprising, although it could be because although we had the tool ready for testing in February, the pandemic then occurred, and some emails went to spam…" La Immaculada also commented that "The participation of families is 43%. We have the feeling that they may not have fully participated because they think that somehow the school is doing well, people trust the school,and there is not much involvement". In this sense, they considered that families should be trained in more participatory aspects of school community life and be given a more active role. Regarding Jesuïtes Sant Gervasi, where family participation was 25%, they expressed that they had lacked wider strategies to raise awareness regarding the importance of answering the questionnaire.

Table 2: Participation of school communities in the project's questionnaire.

School	Type of participant	Total number of participants
La Immaculada	School leaders 4/4 = 100%	191/336=57%
	Students 49/53 = 92%	
	Families 121/284 = 43%	
	Teachers 13/14 = 93%	
	Admin staff 1/3 = 33%	
Community staff 3/8: 38%		
Daniel Mangrané	School leaders 4/4 = 100%	195/432 = 45%
	Students 127/197 = 64%	
	Families 30/176 = 17%	
	Teachers 33/53 = 62%	
	Admin staff 1/2 = 50%	
Community staff: -		
Jesuïtes Sant Gervasi	School leaders 2/2 = 100%	718/2052 = 35%
	Students 330/633 = 52%	
	Families 333/1336 = 25%	
	Teachers 41/65 = 63%	
	Admin staff 5/6 = 83%	
	Community staff 7/10 = 70%	

There was feedback on questions that were not fully understood or were not seen as significant. In the case of Jesuïtes Sant Gervasi they commented that those concerning personalised learning were not seen as being particularly relevant (especially in terms of choosing spaces, classmates) by the students. They also commented that the questions concerning innovation did not quite align with their way of understanding it, and therefore led to confusion - they particularly mentioned this with regards to the focus on collecting opinions, interests or ideas from members of the school community. They also commented that some questions were difficult to answer in terms of values from 1 to 6.

La Immaculada explained that, being a semi-state centre, they had to clearly specify the management bodies referred to the Pedagogical Management Team rather than to the Foundation's Board of Trustees when the School Leader Questionnaire was being sent.

In general, all the schools made some comments in relation to the questions, and at the same time they were very aware that the primary value delivered by the tool was, beyond the indices shown as feedback through the tool, the opportunity to engage in debate and dialogue with their school community and engage in pedagogical reflection at different levels.

There was unanimous appreciation of the way in which the platform offers a very visual and at the same time functional visualisation of the results. Undoubtedly, the easily interpretable visualisation of the results, showing different levels of detail, is what finally "hooked" the schools into the project.

As with many questionnaire based processes, the participation rate was moderate to low across the school community as a whole. Nevertheless, we consider that the participation rate was globally satisfactory. We regard it to be of critical importance that all stakeholders be provided with proper feedback on the results, to guarantee future participation in the tool surveys. When feedback is not provided, participants may experience feelings of "being used" and not truly taken into account, and at the same time not adequately completing the process of reflection that any community-related inquiry requires.

Phase 3: Thinking about and analysing results

Once the opinions and voices of the community as a whole were collected through the tool's questionnaires, the project's respective lead teams began the process of interpreting and reflecting on the data obtained (Images 4 and 5, Tool Dashboard).
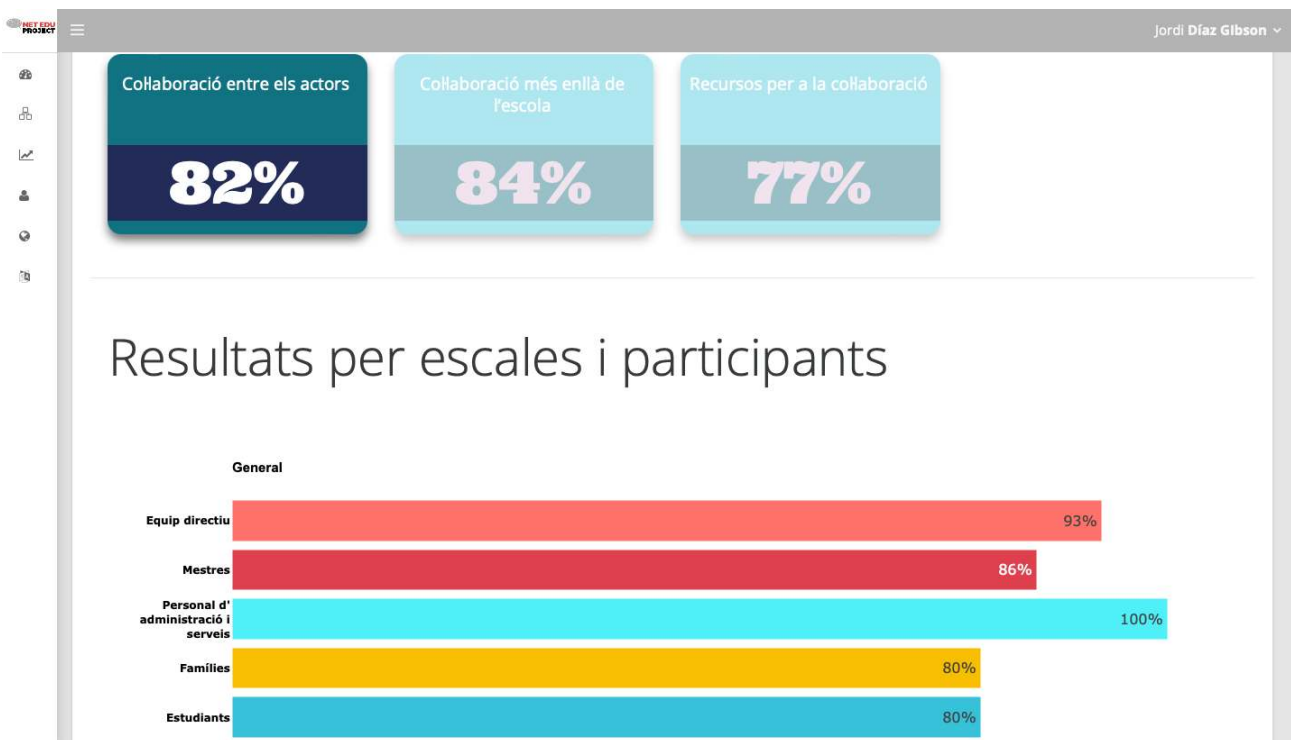
Images 4 and 5: SchoolWeavers result dashboard on Collaboration.

At this point in the process and using the general data feedback, discussions began in each of the three schools. Motivated by better perceiving and appreciating the different voices and perceptions of the entire school community, the lead teams started mobilising constructive dialogues around the priorities of the school community, using the framework of enquiry on "what we are doing well, what we want to start doing, and what we want to stop doing", thus laying the foundations for the change and evolution of their learning ecosystem.

The objectives of this phase were: 1. To jointly analyse the school learning ecosystem with regard to global strengths -for example, good results in trust or shared purpose- and specific ones -such as good results of trust in families, or innovation in teachers-, reflecting with the team on those actions, strategies or projects that can account for the good results obtained; and 2. To jointly analyse the weaknesses of the ecosystem at a global and specific level, limiting this evaluation to those results in the different dimensions and participants that can be potentially improved, reflecting on what can account for these results.

Table 3: Strengths of the ecosystems and explanatory actions.

Schools	Strengths	Explanatory Actions
Daniel Mangrané	Collaboration	- We respect the personal moments of every teacher, in terms of their physical health and wellbeing. For example, if we know that a teacher is having a bad day, give him/her help if needed.
		- We follow the tutorial action plan with families through the "moving forward" project, accompanying children and families throughout the year.
		- We have very useful communication and linking tools such as "Dinantia".
		- Close communication between school professionals and external professionals (EAP, CRP, Inspection...), assigning responsibilities and allocating time to coordination.
	Trust	- Specific days throughout the year when families can enter freely and see what happens in the school.
		- Social media and the website are continually updated to be as transparent as possible with what happens in the school.
		- The spaces between buildings are open and children of different ages have spaces where they can meet and spend time together.
		- Location of the teachers' room in the middle of the early childhood, primary and secondary buildings as a meeting point, and renovation as a quiet space for informal and rested conversation.

La Immaculada	Equity	- A lot of work is done in connection with community foundations that are sensitive to issues of equity. - Development of projects bearing equity-related SDGs in mind. - Collaborative teamwork to develop community awareness in children and teachers. - Generating moments of reflection and moments of taking a stance with emphasis on the respect for difference.
	Trust	- Individualised follow-up, tutorials and meetings where students feel involved in the decision-making that affects them. - Facilitating communication with families: Relaxed entrances to Early Childhood, messaging and representatives, entrances and exits, social networks. - Meetings with families of a pedagogical nature: What we do, how we do it, and why. - Daily communication and good coordination with the canteen-reception team: Joint decisions, transfers of information, coordination. - Easy access of the families to the teachers and the head teacher (email, connection, face-to-face...).
Jesuïtes Sant Gervasi	Shared purpose	- Proposals of activities with students of all levels, with explanation of their meaning and link with the joint mission. - Joint work in mixed families-school commissions. - Training meetings for teachers and families to delve into the purpose and mission. - General teaching staff meetings (beginning of the year, during the year, and end of the year) where the main lines are shared and worked on.
	Trust	- Hours of shared teaching in the classroom. - Joint work areas for teachers distributed throughout the school. - Spaces for tutoring and individual and group accompaniment with students throughout the year.

Through reflecting on the strengths, weaknesses and opportunities of their existing school learning ecosystems, the three teams leading the project in each school were able to recognise gaps that they wished to address. Above all, they noted that the opportunity that the tool gave them to reflect together on the culture within their schools, and on the outcomes of the testing process, was very valuable. The Jesuïtes Sant Gervasi team explained: "The faculty and the school make great efforts to generate trust, communicate openly and transparently, as well as to share the purpose that underpins our model, and the fact that the platform reflects this is very good for us. It reassures and encourages us to see our efforts and the actions that the school carries out are recognised in this regard."

The Daniel Mangrané team reported that collaboration is a clear strength of the school, and that the school leaders have been able to enhance the teachers' skills in this regard in recent years: "We have a lot of people doing small actions and we need a meeting point where you can talk about what is happening and where we are going. For this reason, we created the Driving Pedagogical Improvement Team (EMPI in Spanish), where people from all cycles and from all bodies in charge of monitoring the improvements that we are implementing can meet." At the same time, the team identified some points to improve within their strengths: "In the end, we are aware that we do a lot of things and often it is the same people who hold many different threads and this can be very exhausting (...), we have to take care of these people so that they are motivated and not burnt out." Some other evidence shown by the tool is the disconnection of the administration staff from the pedagogical aspects of school life: "The results tell us that we should listen to the admin staff more, and it is a reality that we could have anticipated - we try but what we do can be improved a lot."

The La Immaculada team felt that the results of the surveys show that, at a general level, the community shares the idea that the school is willing to innovate, takes great risks in its proposals for change, and that its stakeholders are involved in the process. An example that they believe had an impact on the good results delivered by the SchoolWeaver Tool assessment, particularly in terms of aspects around collaboration beyond the school, innovation and personalised learning, is 'Km 0 Learning', which they explained like this:

"How does an engine work?" a child asks at school. The 'Learning Km 0' project proposes that we search for experts close to the community who can help and contribute to the children's learning process. Students contact the auto repair shop, the bakery, the fishmonger's, etc., and look for people to help them in learning about their projects or interests. These collaborators are sought out by the students themselves and provide expertise that the teachers do not have. Throughout the pandemic, learners continued to do this, connecting online with people referred to them, and with experts to answer various questions. At the same time, this project connects classrooms and learning between people and other projects of the learning centre in a transversal way, by encouraging learners to look for expertise within the centre, amongst other students, teachers, families, etc. The project looks for talent in the immediate environment and network of the school, although experts are also often from abroad. Currently, we want to look for talented women scientists in the ecosystem (La Immaculada Team).

Jesuïtes Sant Gervasi explained that for them the 'Shared vision' of their educational project is a priority, and they emphasised that for them the involvement of families offers important added value to the learning processes. Thus, they identified different actions that are aimed at families to deepen collaboration, such as: Looking for moments throughout the year for families to participate in the educational experiences that their children have; offering pedagogical seminars so that families can accompany their children in reading and writing or logical/mathematical skills; developing learning folders, where the voices of children and their families are collected in recording various learning experiences; and involving faculty members in working committees with families.

The Daniel Mangrané team identified one of their practices, the 'Moving Forward Project', as being influential in delivering good results in the domains of collaboration and trust. This entails accompanying the students in their learning approach and "life project", and involves the tutor, the student and the family engaging in three meetings throughout the year. In these meetings, shared objectives are set for the different parties, with commitments made by each of the parties, and follow-up is carried out. The different conversations and feedback are reflected in an evaluation report, which consists of three parts: 1. Self-assessment of children based on questions such as: Where do you think you could improve? Do you think the results will be reflected in the report? 2. Report on the child's progress by area and competences prepared by the tutor; and 3. Questions for the family. Finally, this ends with a comment from the tutor. These individualised reports are developed quarterly, and occur continuously throughout the child's schooling, which is where the idea of a "life project" is derived.

Across the board, each of the three participating centres showed good results in the dimension of individual trust -between the different actors- and collective trust -at a general level. In a shared workshop, the teams of the three centres shared the idea that trust between the different actors is the key to everything they want to do at the school: "Trust creates the necessary conditions for children to learn with the support of all other actors, and regulates many problems of coexistence and misunderstandings." One of the team members observed: "The school works if families trust professionals." At the same time, another of the workshop participants added: "Students need to feel that we trust them and their potential. They need to feel important, and at the same time they need to trust the team of teachers." Finally, they highlighted the importance of the tutors' work in generating trust in children and families: "The tutoring task is not sufficiently paid, it is one of the most important things we do in the schools."

In addressing the weaknesses, the Jesuïtes team commented that they were surprised by the less positive assessment of *Innovation* by the community, adding that in recent years they have given a lot of attention to these processes within the framework of the Horizon 2020 / Horizon + project and have implemented many changes. They said that "it is one thing what is done, and another how it is transmitted". They wondered what students and families understand by innovation, and whether they share an understanding with the faculty. The Jesuïtes team were also concerned about the fact that students were the ones who reported the worst assessments in general, and wondered whether they might be being clear in what they communicated as a centre or if students might not feel completely identified with what the school proposes as added value.

Table 4: Weaknesses of the ecosystems and explanatory actions.

Schools	Weaknesses	Explanatory Actions
Daniel Mangrané	Personalised learning	- Although we work on it and have had this view for some years, it is very complicated since we have overcrowded classrooms and more and more students with SESN, and we still do not have the resources to work on diversity and inclusion. - For example, although we use many spaces in this centre and often let students choose, it is not always possible for many reasons nor can everyone do it at the same time.
	Shared purpose	- Students perceive that we do not take them into account enough when making important decisions for the school, and this is an issue to be reviewed, it seems that we do not do enough and they are probably right.
La Immaculada	Innovation	- There may be an association of the idea of innovation with technologies, and we need to better share this meaning with the entire community together with the idea that we have.
Jesuïtes Sant Gervasi	Innovation	- The idea of innovation, the meaning of the concept, may be different depending on who is asked. Especially because it is detected a lot in students and we can understand different things in terms of Innovation. We also come from a very intense period 7 years ago where a lot of emphasis was placed on the new project as an innovation and it may have lost some drive.
	Personalization	- Lower scores continue to come out compared to students. We detect that they have the perception that they can choose very little when it comes to learning.

Daniel Mangrané explained that they had been looking closely at the results emerging in the domain of *Personalized Learning*, as they believed that this was a strength of the school, but after seeing the answers to the questionnaire from teachers and students they are thoroughly re-analysing their practices: "There are some results such as 'choosing space to work' that lowers the assessment, and we think that these are not significant (...), space is important but we have organisational limitations, so they really can't always choose the spaces in this way." The school team argued that empowering students to have agency in their own process is a clear objective of their educational project, to the point that along the way some challenges were encountered that they need to monitor: "Empowering students has advantages but also has problems for teachers, they think they can question anything."

They reported that, in addition to creating environments that promote learner empowerment, it is important to have some training to constructively manage the voice of students. As shown in the video clip, Alberto Esteban, the school's head teacher, explained that "Students have their spaces to talk about teachers and experiences, and we see that they ask us for things that we are already doing and want more". However, the team argued that "At the level of decisions, when a measure is made it is because it is good for everyone, not just for some and not others (…), when it comes to making schedules, distributing tasks, making decisions. And with the students, we're trying to do it that way too". In this, we can see the complexity of decision-making and the balance between personal and individual interests of students or teachers, and the needs of the group. Thus, the team observed that it is important to care for and respect the collective in such an individualistic society as the current one.

Phase 4: Bringing data to action

The project teams then moved to a holistic and constructive analysis of the data obtained through the beta-phase testing process of the tool. This phase entailed using this analysis to start to develop collective and systemic strategies to support the development of the learning ecosystem, and to enhance the learning and wellbeing climate of the entire school community, with a particular emphasis on students. The SchoolWeavers country team accompanied each of the participating schools in a process of bringing shared meaning to the data, understanding the relationships between the results, discussing what the priorities areas identified were, and initiating the design of actions that respond to these priorities and enhance the development and improvement of the school learning ecosystem.

The shift from data and evidence to practice and educational change is one of the great challenges of education. In this phase, we were able to corroborate that offering visually attractive information and data to school leadership teams facilitates and supports a deeper collaborative and contextualised analysis and understanding of this data. It does not necessarily, however, provide sufficient support on its own to understand how to improve one's own functioning across the domains, thoroughly interrogate one's existing practices and, ultimately, take action (Dynarsky, 2015; Meredith & Hoing, 2017). It was in this phase when we observed that schools needed additional support to translate data into action. Through a series of interviews with the teams, as well as focus group sessions in each school (guided by the research team) and complemented by workshops involving all participating schools in Catalonia as well as one with participating partners around the world, we were able to collectively and systematically reflect on the process and the insights provided by the tool, and envisage practical strategies to respond to the data. To facilitate this deeper analysis while considering how best to act on the data, the teams were questioned about the relationships that they had established between the data obtained in the different dimensions; between the results of the various participant groupings relative to one another; as well as the relationships that they felt existed between the practices already used in their schools aimed at improving these axes, among others.

Image 2. Summary of images - SchoolWeavers 2022 International Workshop.

The teams also assessed which dimensions were likely to be the most influential within their centre's culture, ethos and educational approach. The Daniel Mangrané team identified *Personalized Learning* as an important domain for their school to focus on, making a decision to focus efforts on improving this axis. They believed that this would support improvements across other dimensions as well (for instance, offering greater opportunities for collaboration among teachers, students, teachers and families or teachers and admin staff). For their part, the Jesuïtes team felt that *Shared Purpose* offered a clear axis around which to unite their community around a project, and focussing their efforts and energy to generate a differentiated collective identity.

As shown in Table 5, schools reflected on additional ways to continue involving their communities in efforts to improve and expand their learning ecosystems. They brainstormed and highlighted a variety of ideas to present the preliminary SchoolWeavers results to their stakeholders (through brief communication formats, social networks, or specific meetings), to generate new initiatives within their communities for developing deeper insight and generating shared meaning (such as pedagogical debates among teachers or focus groups between teachers and families), and for looking for more information and feedback from the actors within their systems to continue nurturing the conversation, weaving connections, and moving forward together.

Table 5: List of actions to collect the actors' ideas and commitments.

Actors	Actions
Students	- Classroom debate and reflection to see aspects that can be improved and make new proposals. - Student meetings with school leaders to propose changes and improvements. - Discussion groups with children of different ages. - Mailbox of ideas and commitments. - Mural of commitments.
Teachers	- Pedagogical debate around results obtained to see what is being done and what can be introduced. - Focus group of educators to share meanings about innovation in schools. - Faculty meetings to share the purpose.
School leaders	- Data analysis and networking with other professionals (environment, university...) to have a deeper insight. - Analysis at the level of the management team to be able to share the general strategy.
Admin staff	- Interview admin staff to listen to proposals and suggestions. - Focus group with admin staff to collect ideas and share the purpose of the school.
Families	- Workshop proposal to share some results, analyse what is being done and propose new strategies for action. - Focus group to share ideas and objectives of innovation in the centre.
Community professionals	- Interview with community professionals (EAP, Social Services, other collaborators...) to listen to proposals and suggestions. - Focus group to share ideas and objectives of innovation in the centre.

When discussing which priorities to take action, La Immaculada decided to prioritise two of the domains in their ecosystem: Innovation and Empathic Communication. Innovation was centred as a focus area, in recognition of the reference to the Educational Transformation Laboratory of the Department of Education. They valued the fact that the data from the SchoolWeavers tool allowed them to continue delving deeper into this domain, and recognised that it highlighted the need to communicate this focus better to the rest of their educational community. The school team also expressed a desire to focus on the development of Empathic Communication at the teacher-family level and between teachers: "Currently we see a lack of dynamics in the teaching staff to promote the positive and collaborative relationship among teachers, we are often too professional and we do not do activities outside the educational field." They emphasised that it was necessary to promote new and better linkages among the faculty and between the teams.

Likewise, the Daniel Mangrané team explained that, based on the results and their internal analysis they wanted to prioritise two aspects: Personalised Learning and Shared Purpose. Initially, the data obtained around personalised learning underpinned and nurtured an idea that had already emerged in the team just before the pandemic to focus on this aspect of learning. They felt that the data from the SchoolWeavers Tool corroborated the need to develop deeper insight at the organisational and pedagogical level on how best to accompany children and young people in their own learning rhythms. Although the school had already initiated several initiatives to support personalised learning in the previous two years, the results obtained from the tool encouraged them to give more time to reflect on and evaluate these efforts, and in particular to allocate more time and new physical and virtual resources to share feedback with students regarding their own learning process. The team also highlighted the need to reinforce the level of shared purpose in the centre beyond only the teachers, and they gave priority to designing a series of participatory strategies to include students, admin staff and families in defining and connecting with their shared purpose.

The Jesuïtes Sant Gervasi team chose to focus their attention on two key domains - Innovation and Shared Purpose. As previously mentioned, the school had recently experienced a period of intense change for the entire community. They felt that it was an important time to focus more on core aspects of culture and work climate, and less about specific practices: "It is important that the entire community perceives a climate of educational innovation, that there is a climate of collaborative work and continuous improvement in the school, and that families detect that the school is still in motion and identify those aspects of value of the project." At the same time, the team stressed that, although Shared Purpose is not one of the aspects with lower scores, in analysing the results, they recognised that greater efforts were needed to share the school's vision and purpose more inclusively, and with the intention of involving the entire school community. "We want to strengthen the ties of the community by embracing and being in line with the objective of our project, we think that this is a task that can bring systemic improvements to the centre." The school is in the midst of developing a work plan to develop these two priority axes, which delineates actions and strategies aimed at the different actors, and in some cases the entire community, and with the objectives of: giving greater meaning to the educational project, uniting the teaching staff and the entire community, promoting participation, taking advantage of the talents of the families in the classes, and finally, differentiating the educational project itself.

3. Conclusion: Reflections and Recommendations

Throughout the project, through close collaboration with the leadership teams of the schools involved, the researchers and the school teams have been able to develop deeper insight and understanding about the value of the SchoolWeavers tool, and its potential to enhance and serve school leadership teams in their efforts to facilitate the continuous positive development of their learning and wellbeing ecosystems. The school teams valued the tool as an important diagnostic support to assess the current state of their educational centre - particularly with regards to the learning climate and culture, and the environment in which children, teachers and families learn and live together. They all particularly valued the fact that the tool collects the perceptions of the entire educational community in a holistic way and, therefore, inspires a collective and inclusive analysis. The Jesuïtes Sant Gervasi team observed: "What the tool gives us is (the opportunity) to be able to periodically collect the perceptions of our educational community from a very quick, automatic analysis of the results that allows us to consider them and make decisions in order to better create a climate of trust in the institution, which then helps to enhance all learning processes. That is the key for us." The La Immaculada team added: "It is a very useful analytical tool, since it allows us to collect information on different aspects that are key for us as a project, such as trust or innovation, (…) and based on this information, it has allowed us to detect aspects to improve and strengths of the school, clearly guiding our priorities and our path." Likewise, the Daniel Mangrané team stated: "The tool has allowed us to collect the perception of the community in order to see where to devote more effort (…), as a leading team it is very valuable to base our resources and efforts on the experience of students, families, teachers, etc. We have seen that more attention has to be paid to all the deployment we do around personalization (…) we need perhaps fewer actions but with a higher level of awareness, documentation, monitoring and involvement by all."

Regarding the impact of the tool on children's learning, the teams explained that it was too early to identify changes at this level. The Jesuïtes team reported: "It will help us detect those aspects with which we are not in line as a community, to give them a voice to really see if everything we propose helps them learn more and better and at least listen to their proposals. We find it very interesting that the entire community agrees on why we learn, what we learn and how we learn. Normally in schools the voice of students is not listened to too much, this is in itself a big mistake and a limitation in their learning." La Immaculada pointed out that the tool allowed them to involve students in this analysis process, inviting them to reflect on everything that happens at school. At the same time, it provided them with the students' view of the different aspects of school. This will be taken into account when designing and applying strategies that generate a qualitative change in the functioning of the school ecosystem, which has a direct impact on the process of personal and academic growth and on students' day-to-day experiences at school.

We perceive that the tool has a great growth potential, and is able to intentionally inspire school teams to transition from the data obtained through the tool to the initiating of new school improvement practices. We recognise that this transition can be nourished both by facilitating the deeper and more detailed understanding of the data, indicating possible strengths and weaknesses of the ecosystem, among others, as well as shedding light on the path ahead, and presenting possible practices or ideas to foster systemic change in the centre.

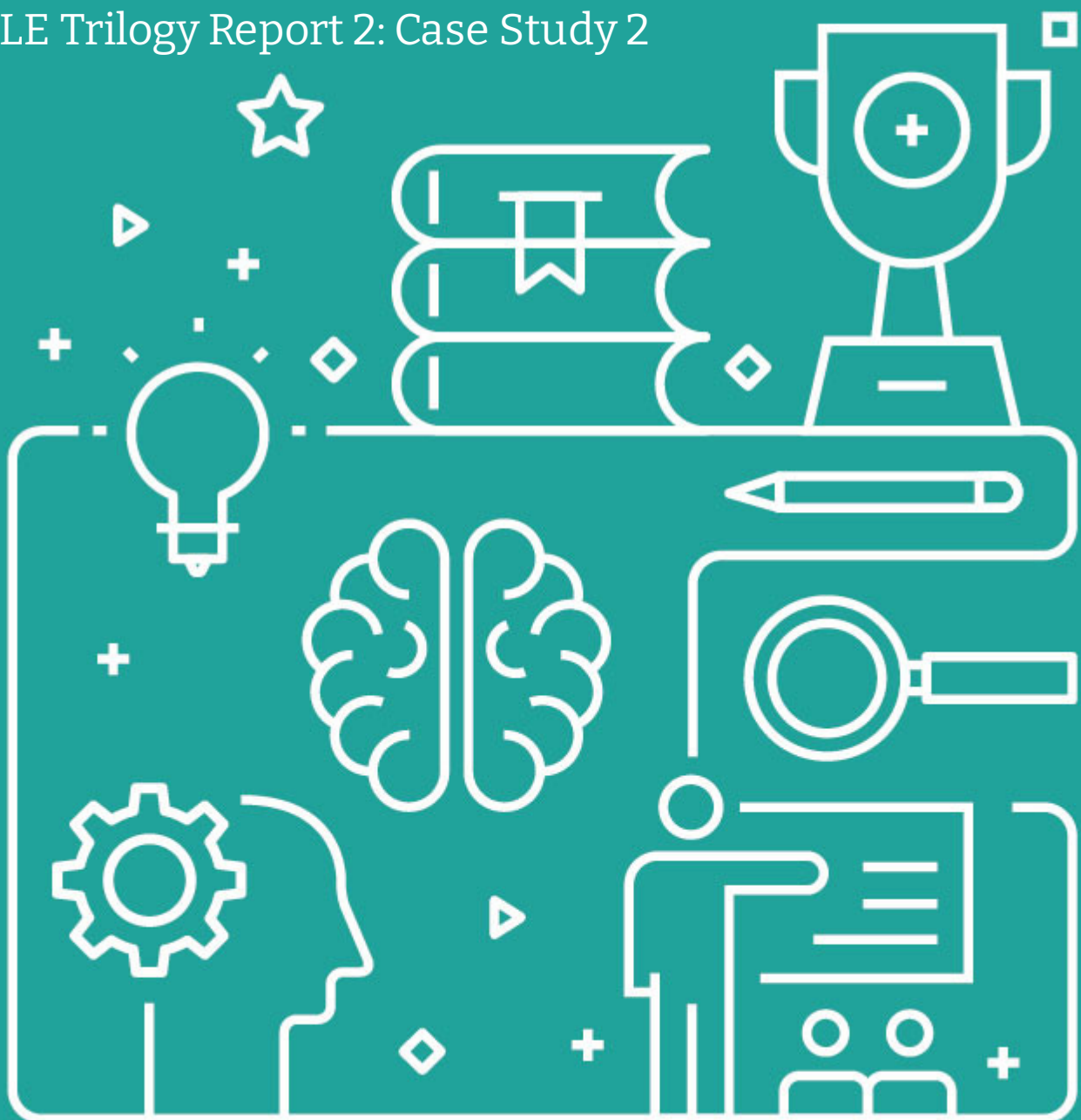# The Learning Ecosystem Trilogy Report 2

The SchoolWeavers

Case Study
in South Africa

LE Trilogy Report 2: Case Study 2

1. Context

Despite three decades of democracy, South Africa's education system remains in a state of crisis. Due to systemic poverty, inequity and other complex social issues plaguing schools, there is substantive inequity in the provision of quality education, with large numbers of children in the country failing to access the education entrenched as their constitutional right. Government schools are identified according to a quintile system, reflecting the socio-economic status of the communities they serve. In effect, 60% of South African schools (Quintiles 1-3) are sited within and serve deeply impoverished communities with high levels of social and political complexity. A further 20% (quintile 4) serve lower middle-income communities, and the remainder (quintile 5), cater to the more affluent segment of the population *(Joubert, Mosoge & Naidu, 2018:195)*. School populations within quintile 5 schools, while demographically more diverse than before, are generally drawn from upper middle-class families. High-income families typically populate the well-resourced private sector schools, and many middle-class families opt for low or medium-cost private schools. The structural reality of the quintile system within Government schools perpetuates historic inequalities, and traps communities in downward spirals of poverty *(Whittaker. R, Kassim.J, 2021 - The Emerald Handbook of Evidence-Informed Practice in Education' Ch17).*

Over the 25 years since democracy in South Africa, the government has been making intentional progress on understanding, legislating around, and attempting to address many of the conditions driving continuing and ongoing inequities in education. Despite these efforts, and the efforts of a strong, but poorly coordinated civil sector, there is a frustrating lack of progress in real change on the ground and on national academic outcomes at basic education levels.

Conscious of the importance of school culture and leadership support as a point of intervention, the South African Department of Basic Education (DBE), has partnered with tertiary training institutes and universities to offer an Advanced Diploma in Education Leadership (ADE)(education.gov.za). However, the course is not mandatory, and there has been relatively low participation due to a lack of awareness amongst school leaders.. Another undertaking is the Annual Whole School Evaluation (WSE) which mandates assessments within every South African public sector (government) school. While this is laudable, the WSE is lengthy, and prioritises technical aspects of school life rather than school culture as perceived and experienced by the school community.

Other exciting new developments at a national level within the South African education sector include the establishment of a number of public-private-civil society innovation projects within the Department of Education. One such of these, the DBE-E3 programme, has made good progress over the past three years in realising its goal to foster Entrepreneurial mindset, Employability skills, and an attitude of lifelong Education throughout the system - though this is not yet fully systematised. Another, the "Care and Support of Teaching and Learning" (CSTL) programme, is working on addressing the mobilisation of surround support from a wide variety of stakeholders adjacent to and relevant to the education system in providing comprehensive support of the conditions required for learning, including health, psychosocial support, nutrition, community engagement and the like. The National Education Collaboration Trust (NECT) seeks to facilitate improved partnerships across business and government to better support education.

To best support and access such innovations, it would be prudent to equip motivated schools with tools to assist them in better visualising and understanding their own transformative progress. One potential solution identified that could facilitate this is the SchoolWeavers Tool, which provides a support mechanism to assist motivated schools in visualising and reflecting transformative processes being undertaken. The tool fulfils both a diagnostic and a referral role for schools, while ensuring that the agency for action remains located within the school itself.

2. Implementation of SchoolWeavers Tool

For the beta-phase testing of the SchoolWeavers tool in the South African context, a well-functioning, high quintile school which could accommodate the tool in its developmental stage was needed. The school chosen was School X, a highly functional, positively regarded Quintile 5 school within an affluent suburb in Johannesburg, and which also exhibited a mixed demographic of learners and teachers, a strong school leadership team and principal, and an established positive culture with high levels of engagement from educators and parents/families.

A selection of the affirmatory phrases seen posted at School X, encouraging self-awareness, drive, compassion, empathy, connection and motivation. Messaging is aligned with the domains covered by the SchoolWeavers Tool. This culture was already strongly established prior to exposure to the SchoolWeavers Tool.

Overview of the Phases of Engagement with the SchoolWeavers Tool:

Phase 1: Obtaining community engagement

School X's principal, Principal A, and her leadership team, welcomed the opportunity for the pilot, and engagement began in November of 2021. Simultaneously, René Woodman (a master's student at the University of Johannesburg), initiated a research project to evaluate and study the usefulness of the tool within the South African context, with a focus on its value to school leaders in creating a conductive culture for effective learning.
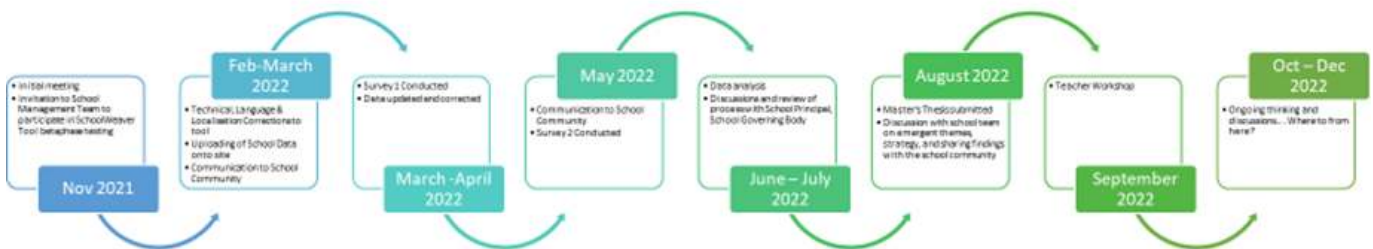
Timeline of Engagement of School X with the SchoolWeavers' Tool

Initial engagement and onboarding started in November 2021. A school support team was onboarded, consisting of 6 team members, including:

Team Member	Function in SchoolWeavers Tool (SWT) Team
School X's School Principal	SchoolWeavers Tool School Liaison
School Administrator / PA to the School Principal	Copied on all correspondence. Responsible for Data Input
Deputy Principal (also acts as School Psychologist and PTA Liaison)	SWT School Liaison, Publicity and Comms
Head of Foundation Phase.	Mobilisation and support
HOD Sport and Health	Mobilisation and Support
HOD Senior Primary Phase (Gr 4-7)	Mobilisation and Support

Engagement with the broader school community began in February 2022 with the school community being informed about the intention and rationale for the Tool's implementation.

Communication took the following forms:

- Discussion of the tool and the tool process in School Management Team, Teacher, and Staff meetings
- Sharing of the tool and the tool process with the parent and family body through newsletter, email, and WhatsApp communication, as well as via a presentation at the Parent Teacher Association meeting.
- Ongoing visual and discursive engagement with the learners around elements of school culture aligned with the Domains of the tool. The school already had a clear approach to the development of school culture, and throughout the school posters of positive attitudes and positive culture are displayed (see pictures). These issues are discussed at morning assemblies, and within the classroom.

While the school community was being prepared to engage with and complete the survey, the South African SchoolWeavers Country Team worked closely with the school administrative team to upload details of the school community onto the SchoolWeavers site.

The country team also worked closely with the tool technical team to identify and correct tool glitches and errors, and to customise the questions and language of the tool for the South African context.

This phase of the process did place significant demand upon the country coordination team to support the school, which should be noted for future phases of the trial. It is recommended that a clear support network for schools be established, and that the tool itself be further developed so that its use is self-explanatory (Woodman, 2022:57). Explainer videos and a brief written process manual would be helpful.

Phase 2: Implementation of the Survey

The first live beta-phase test of the tool took place between 11 March 2022–14 April 2022.

The school community was informed that the tool had gone live via:

- email (both from the tool itself, and via direct email from the school to encourage participation),

- newsletter,

- WhatsApp on the PTA (Parent Teacher Association) group.

- And at a later stage, a direct WhatsApp Broadcast Group was established to allow the school principal to communicate directly with all parents.

The use of multiple communications channels to inform school stakeholders was invaluable, as it precipitated significant engagement within and amongst the school community.

Initial technical glitches became apparent, such as flaws in the school's data, namely absent and incorrect email addresses; poor awareness at school administrative level of family dynamics (particularly in the case of split or blended families); and other pertinent issues affecting general communication with the school community. The recognition of these issues provided valuable learning for the school administrative and leadership team, and has assisted them in cleaning their data and understanding how to communicate with their school community more effectively.

As participation in the first round of the testing process was impacted by these factors, a second iteration of the trial was implemented a month later, 04 May 2022–19 May 2022. This produced an improvement in the total level of engagement and data input. However, because it was not possible to merge the two sets of test results it was necessary to interpret them separately. Thus, the capacity for the merging of data sets is recommended for the tool's future development.

Throughout the testing period, there was a strong focus on ongoing engagement with all component parts of the school's ecosystem, open dialogue being used as an essential approach in assessing diverse perceptions around school culture. These engagements, primarily held as dialogues and discussions, offered opportunities to engage the school community on why it might be valuable and necessary to assess the school culture *(Peterson & Deal, 2011; Woodman, 2022:55)*, what was meant by the school culture, what their perceptions, hopes and aspirations for the school were, and whether they felt that the process of using the tool offered a tangible, effective route into addressing and transforming issues around school culture.

The continuance of Woodman's research interviews, as well as these designated dialogic opportunities with staff and the wider school community, ensured that engagements were focused, rigorous, and well-documented.

School Community Subgroups	Engagement Approaches
School Leaders and School Management Team	Onboarding meeting
	Regular discussions about the tool with the School Team
	Initiation Meeting
	Assessment and Implementation Meeting
	Review Meeting
	Follow up review and reflection workshop as part of the Teacher Workshop
School Governing Body	Onboarding meeting with the Country Team
	Assessment and Implementation Meeting
	Review and Reflection meeting with Rene Woodman for purposes of the Master's thesis
	Review and reflection workshop planned for early 2023.
Teaching Team	Onboarding meetings, discussions, and reminders in staff team meetings with School Team
	Regular discussions about the tool and issues relating to school culture
	Review discussion
	Follow up review and reflection workshop conducted on 28 October 2022 with the Country Team.
	Repeat workshop planned for early 2023.
Parent/Family Community	Onboarding and explanation meeting with the PTA by the Country Team.
	Regular communications via email, newsletter and WhatsApp from the School Team, teachers, and parent class representatives.
	In-process support to the parent body from the Country Team
	Post survey communication on results from the School Team
	Review and reflection workshop planned for early 2023.

Learner Community	Discussion and communication on issues of school culture in school assemblies and in class.
	Survey managed as part of a normal ICT class - not all grades included, somewhat patchy administration.
	Ongoing review and reflection within activities of the school community.
	Reflections on school culture invited through contributions to classwork, yearbook and art.
Staff	Onboarding and explanation at staff meetings conducted by the School Team.
	Process management and support from the School Team.
	Review at staff meetings.
Community Partners	Email explaining process and requesting participation from School Team to community partners.
	No participation in first or second survey by community partners
	Reflection on why this was the case, and how future participation could be encouraged with the Country and School Teams.

Given the difficulties encountered with the first survey (multiple incorrect family email addresses, emails with the student surveys being blocked by the school firewall, and tool technical issues), it was decided to repeat the survey to give additional participants the opportunity to engage with this process. Of note, families in particular asked that the survey be re-run in order that they could participate. The survey was sent out to all stakeholders again, but those individuals who had filled the survey in during the first cycle were asked to abstain from completing the second-round survey.

The tables below indicate the participation and completion rates for the two surveys conducted as School X in the 2023 Beta-Phase testing process:

School Community Subgroup	**Survey 1** (11 March 2022 - 14 April 2022)			**Survey 2** (04 May 2022 - 19 May 2022)			**Cumulative**	
	Number of Surveys sent	Participation	Completion Rate	Number of Surveys sent	Participation	Completion Rate	Participation	Completion Rate
School Leaders	10	10	100%	0	N/A	N/A	10/10	100%
Teachers	19	12	63% (12/19)	7 (excluded those previously completed)	0	0% (0/7)	12/19	63%
Staff	5	2	40% (2/5)	3 (excluded those previously completed)	2	66% (2/3)	4/5	80%

|								
Learners	0 (blocked by firewall)	0	0%	600 (however, only Grades 6 & 7 were supported to complete in class due to inadequate time for the ICT teacher to facilitate survey completion)	70	28,3% (70/600)	70/600	28,3%
Families	397	161	40% (161/397)	287 (excluded all previous participants, removed incorrect emails, added corrected emails)	46	16% (46/287)	207/523	Approx. 40%
Community Partners	4	0	0% (0/4)	4	0	0	0	0%

We feel that these rates of participation are likely to increase with repeated use, and as the school community becomes accustomed to the use of the tool, trust its anonymity, and value the information that results from each survey cycle.

Survey results indicated a positive and relatively consistent response from the school community. The highest scoring domains across all stakeholder groups were Trust, Shared Purpose, and Empathic Communication / Collaboration. We regard this as a very positive bedrock from which the school will be able to further evolve and build the other aspects pertaining to a positive, enabling school culture able to facilitate a high quality of teaching and learning, and to create an environment able to meet the country's commitment to the development of Entrepreneurial Mindset, Employability Skills and an attitude of Lifelong Education (creative competencies/ 21st Century Learning Skills).

The three domains of Trust, Shared Purpose and Empathic Communication are the foundational elements of school culture upon which all other elements are built, and the fact that they were so widely positively perceived within School X bodes well for the further effective development of the school's culture.

Below see a set of screenshots indicating results from both surveys conducted:

Survey 1 was completed predominantly by the School Leadership Team (SMT and SGB), the teachers, and a fair number of families:
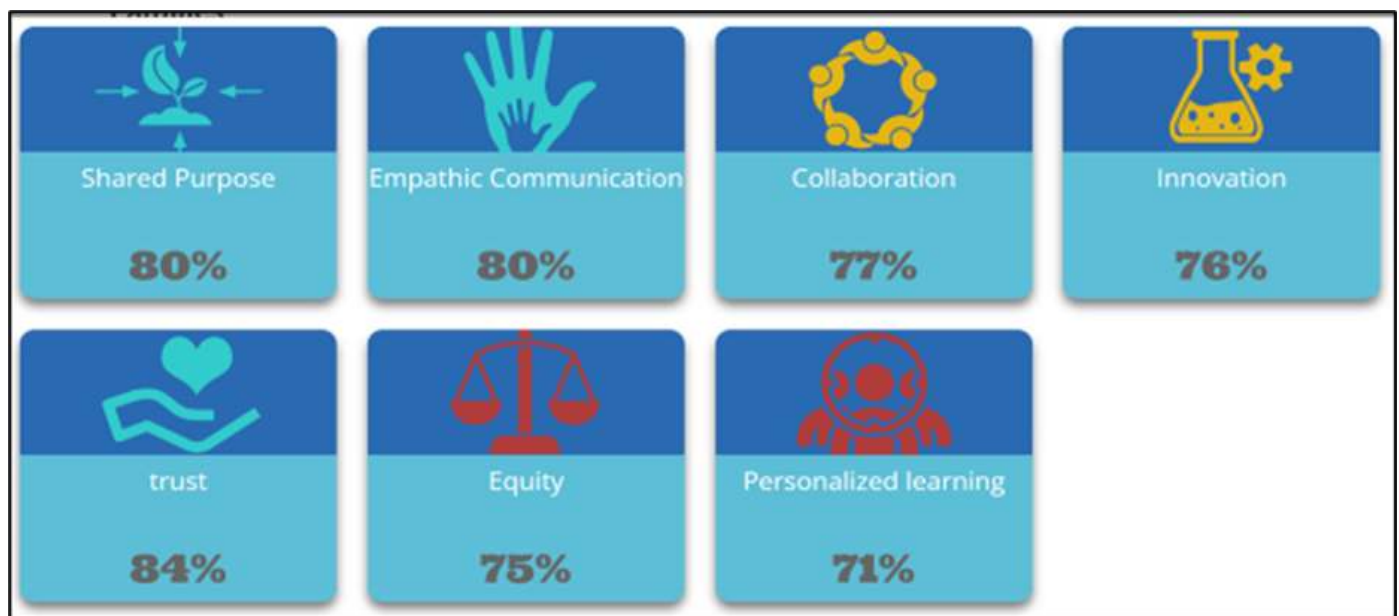
Survey 1: All Domains Results
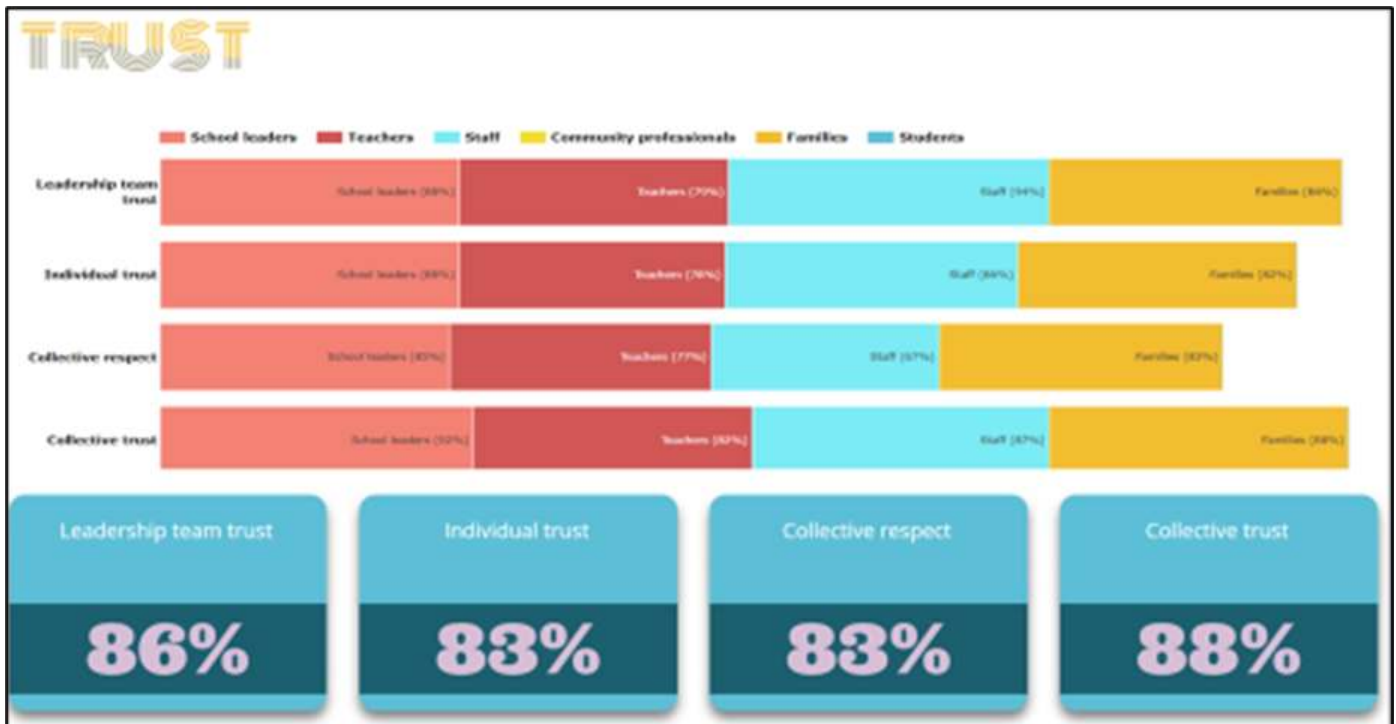
Survey 1: Breakdowns of the stakeholder category scores for top three domains (Trust, Shared Purpose and Empathic Communication)
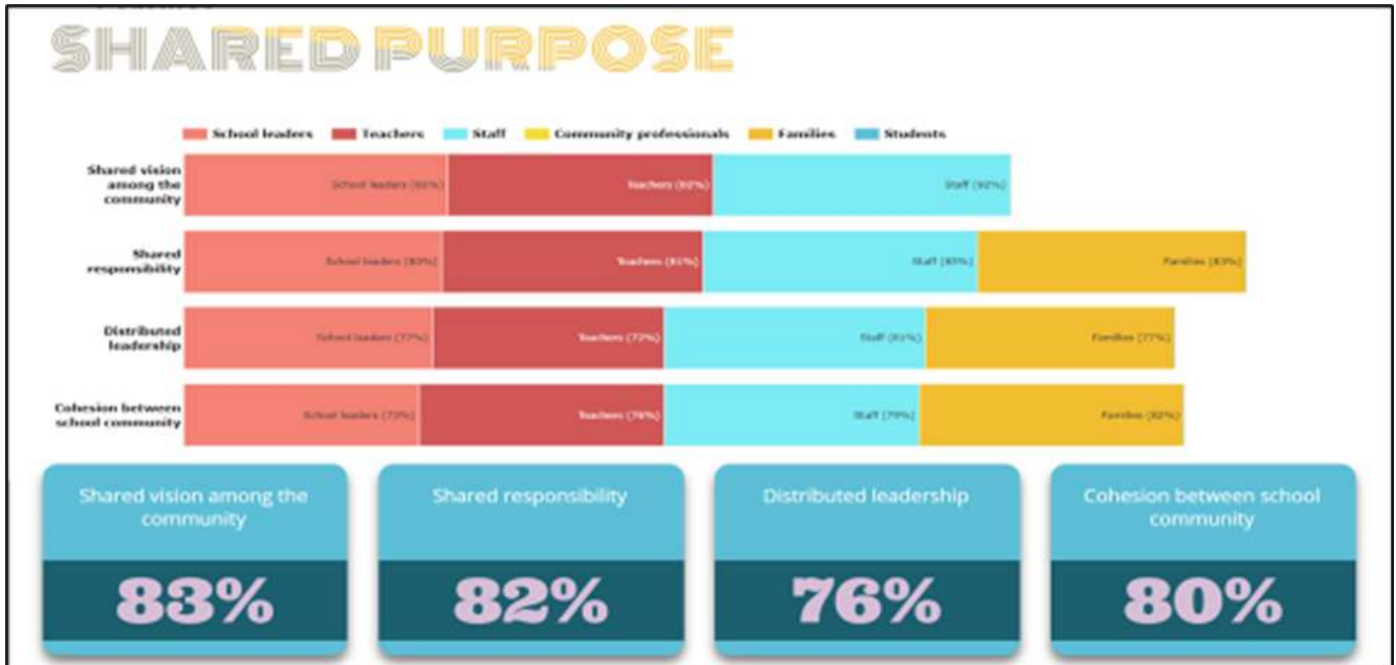
Survey 1: Breakdowns of the stakeholder category scores for top three domains (Shared Purpose)

Survey 1: Breakdowns of the stakeholder category scores for top three domains (Empathic Communication)

Survey 2 was completed predominantly by families and students:
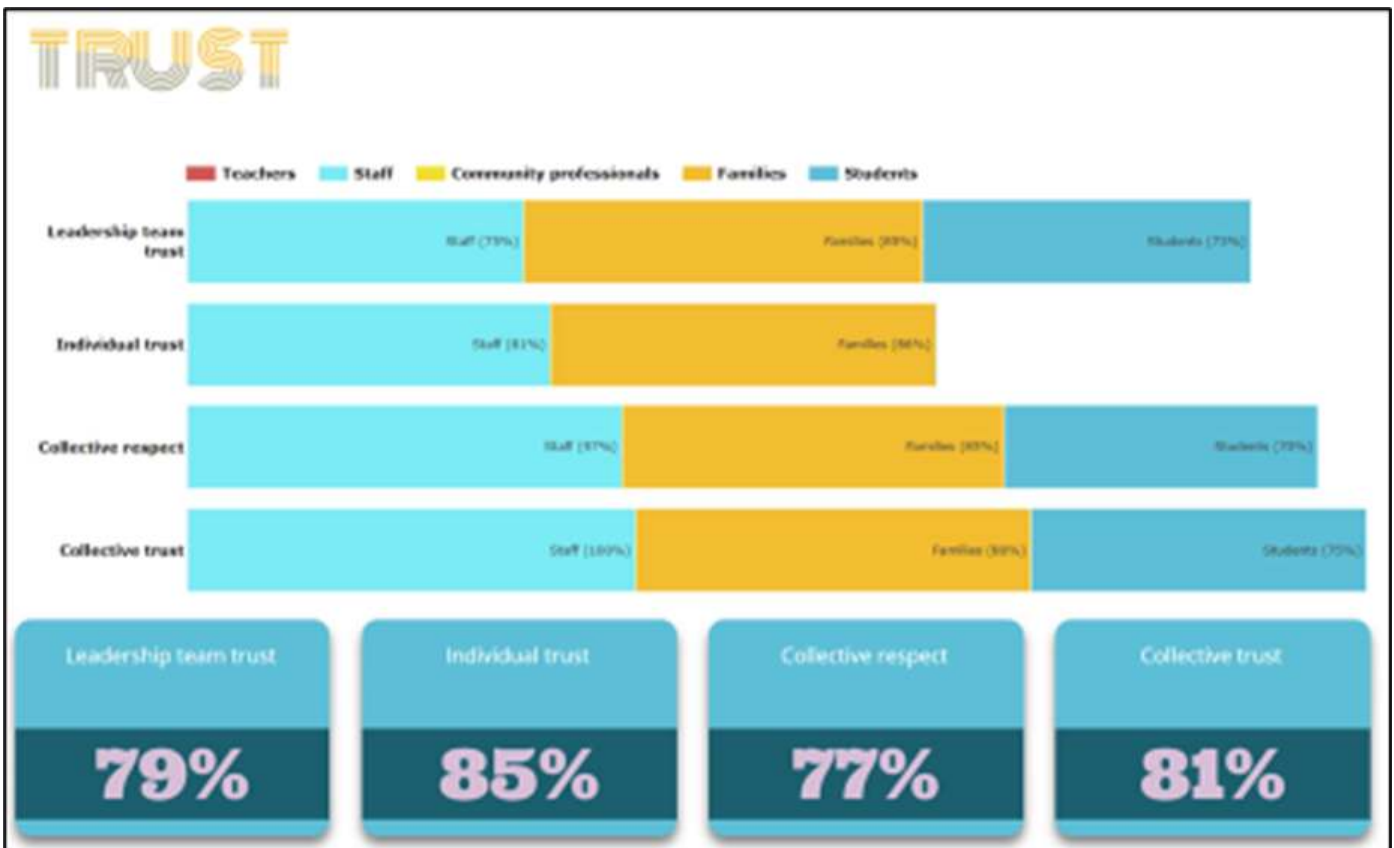
Survey 2: All Domain Results

Survey 2: Breakdowns of the stakeholder category scores for top three domains (Shared Purpose)

Survey 2: Breakdowns of the stakeholder category scores for top three domains (Empathic Communication)

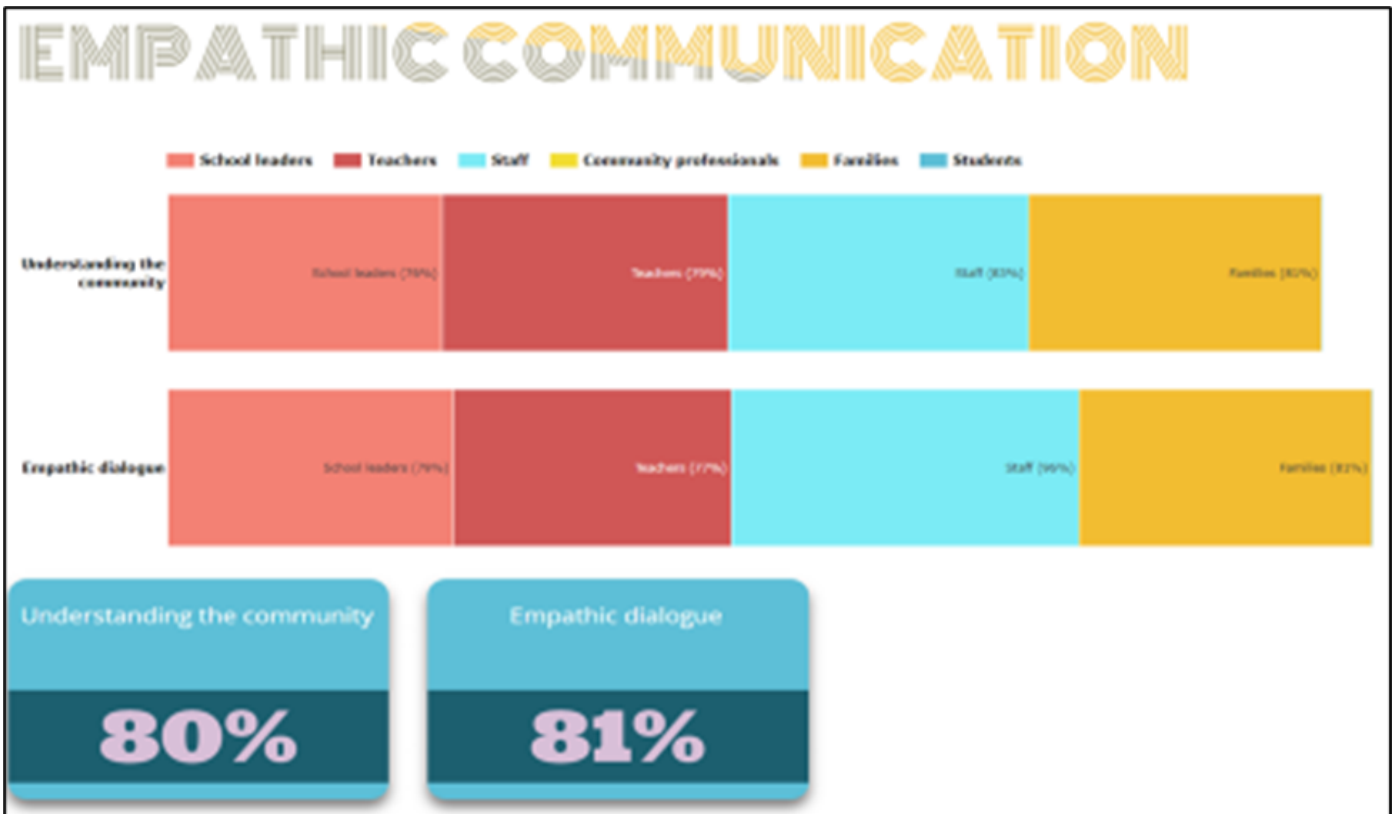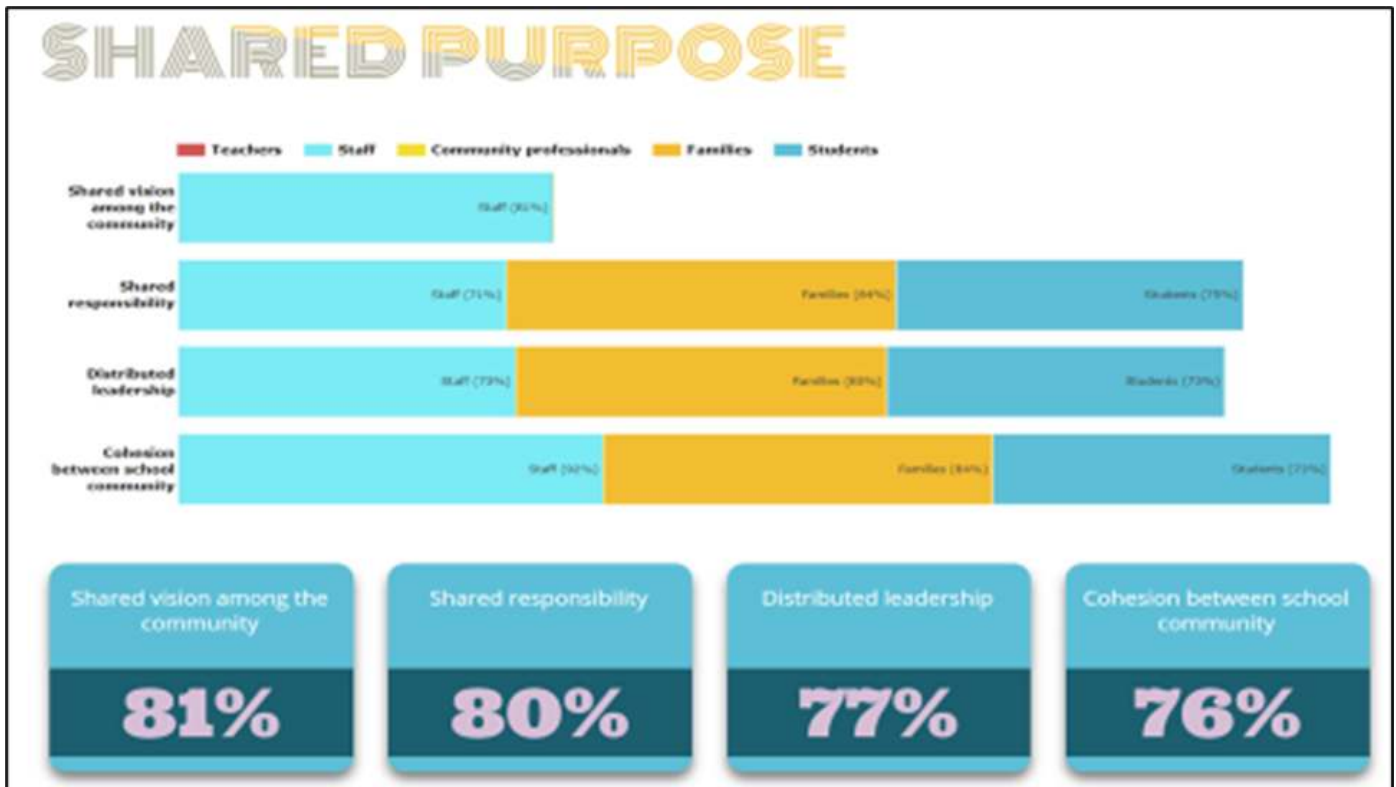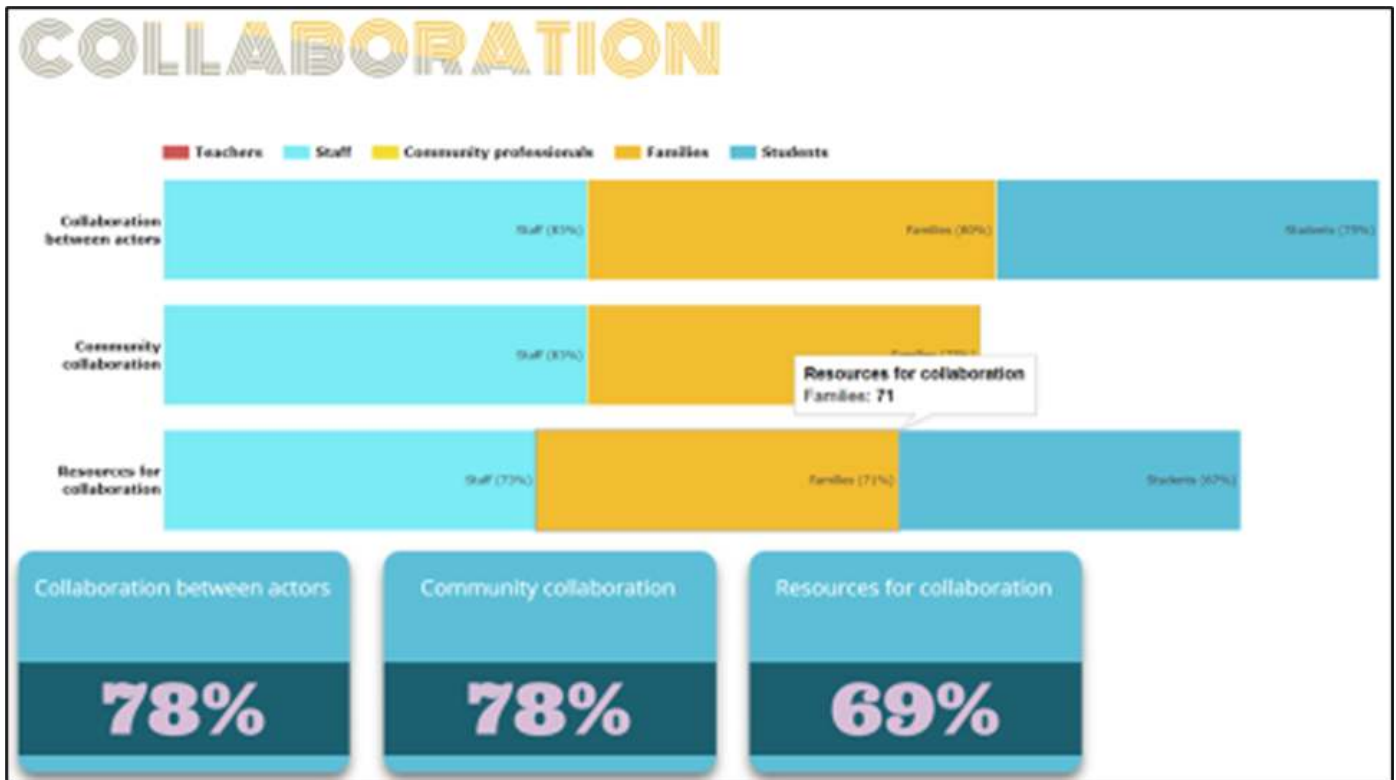*(Although only 2 staff members completed Survey 2, it is interesting to note that they are disproportionately represented on the feedback images - which might be a technical issue to consider in the future)*

Survey 2's overall scores were slightly lower than Survey 1, but this was regarded positively as the scores are projected to stimulate aspirations for the school to continue to develop and reflect, along with higher levels of critical thinking, especially paired with continued assurance of anonymity for participants. The differential also revealed variances in perception: In Survey 2, Collaboration replaced Empathic Communication in the top three domains. This sparked an interesting conversation about collaboration, the school team viewing collaboration as formal, external interactions, and the wider community interpreting it as positive, informal involvement and opportunities to "work together" on school activities.

Given this was a first case use of the SchoolWeavers' Tool, there is an assumption that scores might be slightly positively skewed. We anticipate that as further engagement and dialogue on the different domains is held, survey feedback will become more rigorous, and a higher level of critical thinking about the questions posed will become apparent. For this reason, the Country Team's discussions with School X emphasised the value of the repeated use of the tool. Even if scores drop slightly on the second implementation of the tool, this could be positively regarded as an indication that participants are starting to actively look for, consider and aspire to excellence across all of the domains - and in addition, that there confidence in the anonymity of the tool and the safety to share one's opinion is growing.

Phase 3: Thinking about and analysing results

The regular discussions held with School X during the implementation process gave rise to deep reflections about what they as a school community valued, which aspects of school culture they perceived as working well, and what they considered worthy of attention. The School Management Team and teaching staff value the culture and the experience of working at the school, are proud of what they are creating, and are highly invested in their work, demonstrating a willingness to take ownership for their role in the school's growth. They acknowledged that the principal alone could not be expected to drive a healthy school culture. However, the fact that these sentiments were not overtly shared by one of the key leadership bodies of the school, namely the School Governing Body, was flagged as a concern, and the intention to address this was set. Additionally, while it was recognised that the foundational elements of a strong school culture were in place, issues of equity and personalised learning were identified as development points for the school.

Discussions with each subgroup was held to assess and co-reflect on their experiences in using the tool:

– The school principal and Senior Management Team (SMT) articulated that they found the SchoolWeavers' Tool to be extremely valuable as a group- and self-reflective tool. They expressed appreciation for the unfiltered insights into the expectations and perceptions of various stakeholders in the school community, noting that engagement should continue to occur out of choice rather than compliance (choice is a vital element, because it has implications for how the process is rolled out at scale). The SMT found the survey questions relatively easy to negotiate but suggested that questions be adapted and reshaped to address issues of cultural and economic diversity in the South African context.

– The School Governing Body (SGB), which is a democratically elected group of community members primarily drawn from the school community and tasked with maintaining governance oversight, is an essential part of the school ecosystem. An important finding of the survey was that the SGB had relatively low insight into the school's daily running issues and essential leadership tasks, and that they tended to delegate leadership functions to the school principal and SMT. While this deficit is not uncommon in the South African context, School X resolved to address the shortfall by planning reflective/training sessions for 2023 so that the SGB might better fulfil their governance role.

– The teaching staff's participation in the survey was patchy, some completing the first iteration and others missing the survey altogether. Important learnings here centred around process (e.g. time management) and the assurance of anonymity. A notably positive outcome of teacher engagement was the vibrant interaction at a teacher and staff workshop which was held to discuss the results of the survey.

– Learner participation in the survey was moderately low partly due to technical and capacity constraints. However, the impact on learners during the beta-phase testing process at the school was marked. The conversations taking place in staff meetings and teacher planning sessions fed into an increased focus within the school on key aspects of culture, which in turn directly impacted on learner experiences. The school principal, school management team, and teaching body were able to position the theme of "Self-Actualisation" very clearly within their communications and learning approaches with students. This was evident in learner's submissions for the school magazine, a direct result of an increased consciousness being placed on school culture, especially around collaboration and self-actualisation. Given that learners are at the centre of all endeavours to improve school culture and outcomes, this was seen as a significant outcome.

It is noted that all groups showed a willingness to learn and grow, to uphold high standards, and address areas of concern. It was understood that the exercise was not merely an information-gathering exercise but a measure of school culture and perception.

The images created by the learner community are shared below, and demonstrate an appreciation of the warm and collaborative nature of the school environment:

Learner Focus: Self-actualisation

Learner Reflections: Experiences of Collaboration and Shared Learning

(Images co-created by the learners reflecting their school experiences in 2022)

Feedback on the Experience of Using the SchoolWeavers' Tool

- "This is a great tool to have for engagement with the school community; it has been an eye-opener to see parents indicating that they actively want to participate.
- "It has helped our teachers and SMT to see how much parents want to be a part of and participate in the school community.
- "It is really good to get honest and truly anonymous feedback on how the school is faring, and how it is perceived by the broader community. Although we do the Whole School Evaluation Process annually, this tends to be focussed on more technical aspects of school achievement, and doesn't really help us in understanding how the school is perceived. In addition, even where the community is asked for its perception about the leadership and culture of the school, these results are offered in qualitative form, and because they are not anonymous, people (teachers and parents alike) are careful to express their thoughts, and we know that we are not getting genuine responses."
- "The most powerful value of the Tool is in the opportunity that it opens up for informed dialogue with the SMT, staff and teachers, as well as (but perhaps later) with the parents, families and learners."
- "The biggest thing for me is that this goes out to the WHOLE parent body and school community, and that it is completely anonymous. This will allow for much more honest feedback."
- "This is the first time that we will be able to get family input that is not filtered through one of the representative bodies (ie PTA or SGB)
- "This will help us to see how we might need to communicate and engage differently with parents, if we see that their perceptions are not aligned with our experiences".
- "I am really looking forward to having something to present and share with stakeholders that will allow us to perceive and understand the culture of the school"
- "I want to live up to School X's motto of 'School X Cares' - and to have that genuinely experienced by our community.
- "This tool helps us to understand how we interact as human beings - I hope that we can grow the consciousness that this is important to us amongst parents."
- "The tool has highlighted some of the areas where we may have issues in mismatched expectations - esp around issues of equity."
- "The fact that we have chosen to participate in this trial of the tool as a school has opened everyone's eyes to our desire for continuous improvement."
- "It really helps if everyone - children, teachers, families etc - understand the realities and the expectations of this environment - communication helps everything to flow. Nothing works in isolation - we need the full spectrum of stakeholders, and the interactions between them - this is what makes up a school."
- "The survey made me think of issues around school culture that I hadn't thought of before. I especially appreciated being able to think in the "buckets" of the different domains."
- "The fact that the survey was anonymous really helped me to probe the inner parts of myself. We have tools which assess the mechanical aspects of the life of a school - this was much more emotional and made me reflect on my own beliefs and behaviours."
- "We would like to use the results that emerge to

  - Learn and grow
  - Uphold good standards
  - Intervene and address areas where there are shortfalls

"This has not just been an information gathering exercise - the results we obtain will help us to do things differently. We now have a measure of culture and cultural improvements, and a way of perceiving how we are viewed."

In order to engage School X's teachers and staff more deeply in dialogue around the usage and outcomes of the SchoolWeaver's Tool, a full morning workshop in September 2022 was held following the surveys.

The workshop facilitated two primary goals:

1. to get feedback from these key school stakeholders on their experience of the SchoolWeavers' Tool process and survey, to strengthen and customise the tool itself better (as was the intention and goal of the beta-phase testing process).

2. to support a reflective and developmental process for the teachers themselves, at both an individual and a collective level, allowing them to consider and integrate their own goals and ambitions for their work, and to discuss and consider their collective and collaborative goals for the school as a team.

36 people attended the workshop, including tenured and student teachers, sports coaches, and general support staff. The workshop provided a vibrant, highly engaged space within which teachers shared their thoughts and feelings about the issues of school culture that affected them, and about which they cared.

The opportunities for dialogue, discussion, self- and collective reflection that have opened up as a result of School X's participation in the SchoolWeavers' Tool is seen by the school leadership team and staff as being the single most powerful outcome of the process.

An objective of Part One of the workshop held with staff and teachers was to obtain feedback on the survey and the tool itself. The tool was positively received for the way in which it engaged the entire school community in dialogue about school values and culture; supported collective thinking and decision making; stimulated critical thought about pedagogy, and for its respect for anonymity. However, detailed suggestions were made about the reconstruction of survey questions to better address contextual relevance to South Africa, as well as structural/technical suggestions relating to ease of use for time-pressed educators.

Part Two of the workshop was run as a reflective and community-building session and feedback on this component was very positive. Teachers were invited to reflect on their school year, using their reflections to assist them in identifying their core values, needs, longings and aspirations. They were then invited to draw a symbol representing what their core intention and purpose for their work was and were invited to share these in small groups with each other, and to assess what the implications of these individual and collective intentions were for the culture of the school. These reflections were shared back into the whole group, with very moving and motivating outcomes. As a result, shared sense of purpose, intention and aspiration became clear to the group as a whole.

Teacher and Staff Workshop

Symbols Representing Teachers' and Staff Members' Core Intentions and Purpose

Reflections on the SchoolWeavers' Tool Process Emerging from the Teacher and Staff Workshop

What Worked	What Didn't Work

What Worked

- "The survey brought the whole school community together in conversation"
- "The survey helped us to bridge the divides between phases within the school, and develop a holistic concept of ourselves as a single community"
- "This has provided a space for us to speak about what we care about, and about the culture that we have, and that we want to cultivate in the school."
- "I appreciate that way in which this has supported collective thinking and decision making about our way forward/"
- "I found the concept inspiring and it helped me think about my own individual learning and practice"
- "I liked the way that it helped me to differentiate my focus on different aspects of school life and how important they were".
- "I loved the fact that this was anonymous - but still had a small voice wondering 'Is this truly anonymous?'"

What Didn't Work

- "It was easy to access and answer the questions, but some of them were tricky to understand, or seemed to have multiple parts to the question"
- "Some of the questions felt repetitive"
- "I would have loved to have been able to pause and save the survey and come back to it later, as it was difficult to find the time to complete it all in one go"
- "This felt like quite a daunting process - especially as I wasn't sure how much time it would require".
- "It would be great if there was an indicator of progress to help us gauge how long it would take"
- "Because teachers have so little laptop time, I would have liked it if I had been able to fill this in on my cell phone."
- "I don't spend much time looking at emails, and if the email goes into Spam I won't see it. A WhatsApp link would work much better for us as teachers."
- "It's quite difficult to interpret and debrief the findings of the survey - some help and guidance on how to do this would be appreciated."
- "There is a level of interpretive world and synthesis needed when looking at survey outcomes to allow one to focus on what matters most to us in our context."

Phase 4: Bringing data to action

The SchoolWeavers Tool and Survey enables schools to generate shared insight into how school culture and its various domains are perceived by the entire school community and to use the information for development. With the conviction that a focus on "What is Strong '' rather than "What is Wrong '' boosts school morale, The SchoolWeavers' South Africa Country Team recommended that school leadership place their emphasis not so much on improvements but on positive experiences and assets. This approach is aligned with an Asset Based and Positive Deviance Development approach and has been shown to be powerful in activating potential within communities. The school chose to focus on strengthening internal culture first before attending to the wider school community and committed to engage in further strategy sessions with school teams, dialogue sessions with the SGB and PTA as well as the development of a system to continually share survey results and resultant activities. They requested that the survey be repeated in 2023.

3. Conclusion: Reflections and Recommendations

School X valued the way the shared process of implementation of the SchoolWeavers' Tool was conducted: as a series of non-confrontational, positively framed, and developmentally intended dialogues. The formulation of a visual representation of the perceptions and experiences of the school culture was also appreciated. It was acknowledged that many of the most important aspects of school life and culture are intangible, and therefore difficult to identify, articulate and pay attention to. The SchoolWeavers' Tool offers a way to make the intangible visible, and through enabling the measurement of key aspects of school culture, allow the school team to become intentional in its development.

The tool was seen as less useful for its diagnostic and assessment capabilities than for its invitation into a process of transformation through co-owned conversations about school culture. Although it is widely understood in education circles that leadership and school culture play a critical role in helping learners thrive and in overall school effectiveness, this is extraordinarily hard to assess, measure and convey. The SchoolWeavers Tool offers an academically rigorous, synthesised understanding of the elements which create the conditions for quality teaching and learning, and particularly the kind of learning which our current educational landscape requires. Paired with the respectful, human, and sensitive way that the tool has been designed to collect data and foster conversation, it offers us something that seems to be unique in our education landscape. We know that "what we care about, we measure, and what we measure, we attend to". The SchoolWeavers' Tool offers us a way to measure the things which so many of us care about - and in this way, is assisting us in being able to attend to them both consciously and intentionally, and most importantly, to do so *together*. Its humanising approach to data collection and conversation is deeply valued in the South African context as a supportive tool for the development of a healthy learning ecosystem.

The challenges in implementing the SchoolWeavers tool were felt to be mostly developmental. Feedback from the beta-phase in fact resolved many of them and the technological framework for the tool is projected to evolve with increased usage. It is likely that as the various teams acclimatise to the tool, they will become more discerning in terms of the data details they require. The one absolute limitation perceived for the tool is that it cannot be used as a mandatory, potentially punitive tool within an antiquated framework of a hierarchical authoritarian management approach. Using the tool in this way will fundamentally damage the life-force of its intention, which is to empower and inform school communities so that they are able to discuss, envisage and co-create a school culture to best serve their needs. The culture and spirit with which the tool is offered must closely mirror the intention for its use.

The feedback from the School X's team is that

"the tool is a deeply useful support and complementary mechanism for schools and education institutions which are already committed to and engaged in a process of culture transformation - but its use cannot be forced, only invited and offered".

-

Recommendations from School Leaders	Recommendations from Teachers and Staff
• It is important to do another revision of the tool to ensure it reads well into the South African context.	• Involve teachers more directly in the planning phase for the implementation of the SchoolWeavers' Tool • Engage teaching staff more directly with the request to participate in the survey. • Managing their expectations around the time commitment needed. • Consider setting aside specific time within the school schedule for them to complete the survey. • Ensure that the survey is technically easy to access (ie via cellphone / WhatsApp rather than only on a laptop or computer). • Allow for asynchronous completion of the survey – ie a "save and complete later" function as teachers don't often have a long enough block of time during the day to complete the survey in one sitting. • Ensure that the anonymity of the process is trusted. • Simplify questions - make them more succinct and less wordy. • Improve the South African translation. • Remove repetitive questions. • Sub-divide questions which had two or more component parts, as these caused confusion about how to answer (ie the participant might strongly agree with the first part of the question, but be unsure or disagree with the second). • Some of the domains require an explanation/ definition, as participants might not have a clear understanding of what is meant by some of the terms. • Make the survey visually shorter - not being able to assess how far along one is makes it feel daunting to complete (this is especially true if it is going to be offered as a hard copy). • Use a progress bar so that participants can see where they are in the completion process.

- Cultural and economic diversity is of extreme importance in the South African environment - the tool needs to be modified to cover this better if it is to offer a true measure of the multicultural nature of the school. We need to understand how to integrate these many differing perceptions and experiences of our school, and develop the empathy to cater for all these different stakeholders.
- Leaders wanting to implement this tool need to be open and honest in their use of the tool.
- It is important that we grow our own level of comfort in using the tool prior to initiating its use within our community.
- Change is scary - as is inviting feedback. One needs to support the school community, especially leadership and teachers, to become comfortable with getting uncertain information - both what you might want to hear, and what you might not. For this reason, one needs to tread with care in the implementation phase and make sure that the school community is adequately prepared for tool use.
- Open and honest communication with the entire school community is key.
- We must be very conscious not to skew outcomes by overstressing our own hopes and expectations of the feedback from the tool.
- For this tool to work, it is essential that a school community be invited to engage with it by choice, and not as a matter of compliance. This has implications for how its use is rolled out at scale.

Benefits and Value:
- A way to visualise School culture and bring it to the fore
- Quantifying the qualitative ("*What we care about we measure. What we measure we attend to*")
- Complements the Whole School Evaluation approach
- Dialogue, Reflection, Strategising - both individually and collectively!
- Anonymity
- Shared understanding, shared load, shared responsibility, shared excitement

Challenges:
- Time. Time. Time.
- Capacity
- Data accuracy (contact details esp emails)
- Scheduling
- Context issues
- Finding effective ways to communicate and engage in reflection and dialogue

Key Benefits and Challenges of the SchoolWeavers' Tool as implemented at School X

We are excited with the beta-phase experience of using the SchoolWeavers Tool in the South African context. Our system has been looking for just such a tool, and it is our hope that the Tool will support us in our continued striving for transformation and humanisation of the South African education landscape. The kind of data which the SchoolWeavers Tool offers us access to has to date been unavailable, and sorely missed, in our education context. It complements and enriches, as well as informs and shifts our approach, to much of the technical data which we have gathered as a system.

As South African partners for the SchoolWeavers Tool, we intend to continue with Phase 2 Testing in 2023, entailing a two-fold strategy.

The first component will involve the continued support and development of the process initiated at School X, monitoring and tracking its evolution, and repeating the use of the Tool at annual intervals, while supporting the school in finding resources to act on decisions made based on the data.

The second component will be to expand the case use of the tool to an additional 10-20 schools, across Quintiles 3-5, in diverse environments, with the goal of tracking, studying, and understanding its use and value in new contexts. We are excited to start the second phase of testing of the SchoolWeavers' Tool working alongside well-situated organisational partners, and a select group of civil society organisations working on whole school development. We also welcome partnership with other like minded organisations at a global level – potentially as part of the NetEdu team's ongoing activities.

The focus of the SchoolWeaver Tool is less on its diagnostic and assessment capabilities than it is on the invitation into a process of transformation that it offers. Through creating a visible and quantifiable set of insights into the entire school community's perceptions, experiences, beliefs, and hopes for the education space that they occupy, it offers a unique and, until this time, unrealised opportunity to generate non-linear and co-owned conversations about how a school community would like to develop and evolve, and what kind of culture they might be able to create together.

A core value of School Weaver's Tool lies in its potential to inform and generate a shared understanding of the lived culture within a school for the school community, such that they may engage with each other, shift and modify the ways in which they interrelate, based upon common and visible information. Without doubt, a tool such as the SchoolWeavers Tool is an invaluable asset in this time when so many education systems, and individual schools, are seeking to reimagine the purpose and practice of education in a way that activates our deep human potential. The call is for us to go beyond the industrial era approach to teaching and learning, and to reimagine these in a way that will equip all learners - both the children and the adults – to participate in thriving learning ecosystems.

Our thanks go to the NetEdu team for the privilege and honour of participating in this process. We hope that the SchoolWeavers Tool becomes an inspiration and an invitation to many more schools and educational institutions to actively attend to the culture they create. In the words of Principal A,

'*The magic of this process lies in the conversations that happen during and after it – culture can be caught'.*

Additional Resources:

Video of Principal A discussing the implementation and value of the SchoolWeavers' Tool in School X (link to drive)

Full Video Session South African Case Study: 28 November 2022 (link to drive)

The Learning Ecosystem Trilogy Report 2
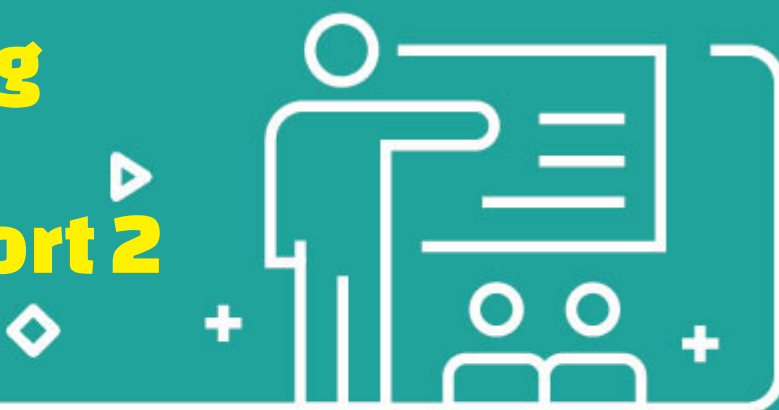
SchoolWeavers
Case Study in Switzerland

LE Trilogy Report 2: Case Study 3
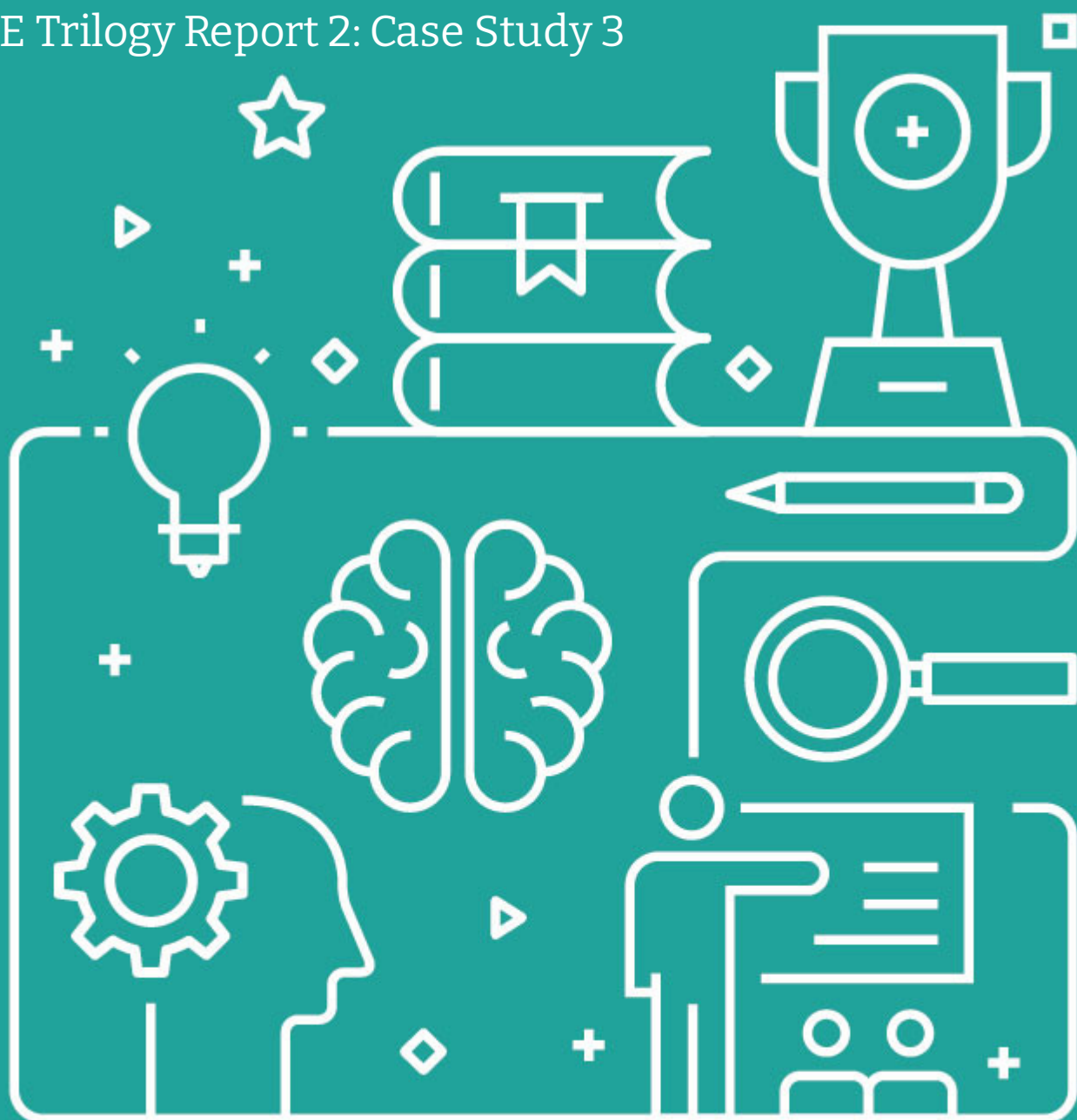
The SchoolWeavers Case Study in Switzerland

The Swiss SchoolWeavers' tool Case was conducted and written up by Country Admin partners Dr Enikö Zala-Mezö and Dr Daniella Müller (University of Zurich, Centre for School Improvement)

1. Context

In Switzerland, strong actors such as teacher unions argue against performance measurement at the school and classroom levels because they fear that school ratings would have negative consequences (Meier, 2017), a phenomenon known in many other countries as "teaching to the tests." Nevertheless, the use of data in evidence-based education is a prevalent topic that is gaining more and more traction in schools (Beywl, 2013; Beywl & Joss, 2017; Brägger, 2017; Landwehr, 2013, 2015; Schmid & Koch, 2017; Schweinberger et al., 2017; Schweinberger & Quesel, 2018; Zala-Mezö, Datnow, et al., 2020; Zala-Mezö, Häbig, et al., 2020).

External evaluation, which includes data from students, is widely established in almost all Cantons. However, the data is collected and analysed by an external organisation, and it serves a normative-evaluative function. Additionally, there are private, market-oriented instruments available for self-evaluation (Brägger, 2017), as well as individual projects that support data use in schools (Beywl & Joss, 2017; Helmke et al., 2012; Zala-Mezö, Häbig, et al., 2020).

While external evaluation is mandatory, it is slightly negatively perceived due to its control function. The tools offered by private organisations are not provided free of charge, and individual projects have limited durations.

Generally speaking, schools in Switzerland are still not familiar with instruments that provide information, such as data and the results of data analysis, about teaching and learning within their schools. Furthermore, there is limited knowledge about how schools utilise and integrate data into their own school improvement processes.

Another notable difference compared to schools in other countries, such as the USA, is that school communities in Switzerland are often understood as the community of students, teachers, and, in some cases, caregivers. It is not common to consider schools as part of a larger community. As a result, schools may overlook valuable resources that could be provided by other institutions or private individuals simply because they do not think to seek their support in achieving school aims. Recognizing schools as integral parts of larger communities is a social innovation that needs to be more widely embraced.

The SchoolWeavers tool provides support in three central domains for school improvement. Firstly, the tool enables schools to autonomously utilise data in their school improvement projects, whether they seek assistance from an external partner or not. Secondly, the tool can be employed as frequently as necessary, offering feedback and support throughout the school improvement process to assess if desired outcomes are being achieved through specific interventions. Lastly, the tool promotes awareness among schools about the importance of connecting with various organisations in their surroundings and fostering valuable relationships that contribute to students' learning.

The pilot school is located in a city near Zurich, called 'Schule Sonnenberg' Thalwil. It is a medium-sized public primary school with nearly 400 students. The school has two specific objectives: to strengthen education for sustainable development and to support student voice.

The country administrator and the school principal have maintained a professional relationship for many years. The country administrator is professor at the Zurich University of Teacher Education Zurich. The principal, along with her previous school, participated in a research project that utilised a data-based school improvement approach, which was initiated by the country administrator. This prior experience helped in explaining the aims of the SchoolWeavers project. Despite the school being heavily affected by the COVID-19 pandemic, like many others, a pilot project was initiated. The principal has been working at this school since 2019.

In Swiss schools, leadership teams are rare, and there is no middle-management level. Additionally, this particular school had a co-leadership structure at that time, along with a small "steering team" that discussed important school matters. However, it's important to note that the members of this "steering team" do not hold official leadership positions.

The school has a high "social index," meaning that students come from families with a relatively high socio-economic status. However, there are also many students who have German as their second language.

2. Implementation of SchoolWeavers Tool
Overview of the Phases of Engagement with the SchoolWeavers Tool:
Phase 1: Obtaining community engagement

Initial and ongoing process of engaging with all school-community stakeholders for diverse purposes. In the beginning of the SchoolWeavers journey, refers to all previous intentional activities and strategies before sending/receiving tool surveys for community mobilisation and engagement.

Another school within the same school community encountered difficulties while implementing a self-initiated reform process. Many teachers resigned, leading to negative publicity and a loss of trust for the school. In response, the principal of the pilot school employed the ScoolWeaver tool as a preventive intervention to foster positive relationships with parents and the school community.

The principal discussed the tool with the country administrator during a meeting. After deciding to utilise it, she presented the idea to the steering team. The steering team expressed support for the idea, prompting the principal to introduce it to the entire team during a meeting.

Due to the principal's health issues and hospitalisation, she delegated a teacher who had attended an international meeting of the SchoolWeaver project and was enthusiastic about the idea. This teacher's involvement proved to be a valuable support for implementing the tool.

At the team meeting the team had an opportunity to ask questions and engage in a discussion on the matter. In the subsequent meeting, the team held a final vote on using the tool, and a significant portion of the teachers supported the idea.

The principal also informed the parent board, explaining the objectives and the intended use of the tool. The parents were supportive of the initiative.

After making the final decision to use the tool, last modifications were made to the questionnaire. These modifications aimed to ensure that all the content and wording were easily understandable for the students, teachers, and parents.

Before administering the questionnaire, the principal informed all parents via email and requested their participation in the survey. This method of communication is customary, and the principal regularly sends such emails to parents.

Phase 2: Collecting community feedback

Ongoing process of listening and resonating with the school community. This includes the specific process of sending out the surveys, participation and responses from the school community, and the collection of survey data for community resonance.

The administration of the questionnaire was smooth, without the need for any additional technical support. *(of note - the Swiss beta phase testing took place some time after the other countries trialled, and many of the initial technical issues, including the implementation of a QR code linkage, had already been addressed)*

Since the participants used a QR code to participate, an exact rate of participation - the proportion of sent and fulfilled questionnaires - could not be calculated. Please refer to the inserted chart, which displays the participants categorised by their role/function in the school community.

Wer hat teilgenommen?

1. Teilnehmertyp

Teilnehmertyp	Anzahl
Fachpersonen	4 participant
Familien	108 Teilnehmer:innen
Lehrpersonen	30 Teilnehmer:innen
Personal	7 participant
Schulleitung	1 participant
Schüler:innen	169 Teilnehmer:innen

Results were encouraging, as it can be seen on the following chart:

ALLGEMEINE ERGEBNISSE

	Schulleitung	Lehrpersonen	Personal	Fachpersonen	Familien	Schüler:innen
Gemeinsame Visionen (78%)	Schulleitung: 74%	Lehrpersonen: 79%	Personal: 74%	Fachpersonen: 81%	Familien: 72%	Schüler:innen: 83%
Empathische Kommunikat...	Schulleitung: 77%	Lehrpersonen: 80%	Personal: 79%	Fachpersonen: 81%	Familien: 73%	Schüler:innen: 81%
Zusammenar...	Schulleitung: 71%	Lehrpersonen: 79%	Personal: 78%	Fachpersonen: 85%	Familien: 71%	Schüler:innen: 81%
Innovation (75%)	Schulleitung: 79%	Lehrpersonen: 82%	Personal: 81%	Fachpersonen: 86%	Familien: 63%	Schüler:innen: 78%
Vertrauen (83%)	Schulleitung: 80%	Lehrpersonen: 88%	Personal: 86%	Fachpersonen: 96%	Familien: 78%	Schüler:innen: 85%
Gleichstellung (71%)	Schulleitung: 74%	Lehrpersonen: 82%	Personal: 76%	Fachpersonen: 98%	Familien: 66%	Schüler:innen: 66%
Individuelles Lernen (76%)	Schulleitung: 75%	Lehrpersonen: 75%	Personal: 82%	Fachpersonen: 93%	Familien: 73%	Schüler:innen: 78%

The analysis is still ongoing. However, the novelty of the tool limited the interpretation of the results, as we were missing previous references or other schools to compare with.

Phase 3: Thinking about and analysing results

Ongoing process of understanding and reflecting on school community feedback and resonance. It refers to the process that the weaving team takes in interpreting, analysing and prioritising general results obtained through the tool.

Different workshops have been planned to interpret the results. It is planned to be conducted in a multi-step process. First, the school team, teachers, and caregivers discussed the results.

The principal and the country administrator decided to present two dimensions to the team: the one with the highest results and the one with the lowest results. The chosen dimensions were 'trust' and 'equity'. Screenshots and questions for interpretation were prepared and printed to be used during the workshop.

The principal and the country administrator conducted a three-hour workshop together. Team members were randomly assigned to interpretation teams, emphasising the importance of mixing teams to incorporate diverse perspectives during the interpretation process. During the workshop, there was a deep and intense exchange of ideas among team members. Starting the interpretation with the dimension of trust, which was a strength of the team, proved to be a helpful strategy in engaging team members in discussions.

This workshop consisted of four topics. Firstly, the country administrator introduced the tool and explained its theoretical usage. It was emphasised that the tool empowers schools to utilise it according to their individual needs. This phase was followed by two rounds of result presentations. The fourth topic focused on planning the next steps for further work with the tool.

How the results were presented and discussed:

The subscales of the dimensions were presented, and each team was assigned a specific subscale result to discuss and interpret. During the discussions, teams shared their impressions, confirming their existing perceptions of their school while also discovering surprising results. They generated initial ideas on what could be inferred from the results and identified which findings should be further investigated. All these impressions were documented and presented to the entire group. This approach ensured that all important ideas were shared among the entire team, even though not all participants interpreted every result.

Two key points emerged from the interpretations that should be highlighted here: Firstly, the team was pleasantly surprised by the high level of trust among not only team members but also parents and students. They were delighted with this result and intend to prioritise its maintenance and improvement. Secondly, they recognized a misalignment between equity principles and everyday practices. This was an area the team expressed a strong desire to address and work on.

Unfortunately, due to the intense and time-consuming nature of the discussions, the planning of further process steps could not be thoroughly explored.

Phase 4: Bringing data to action

Ongoing process of translating informed feedback into collective and systemic strategies that supports school development.
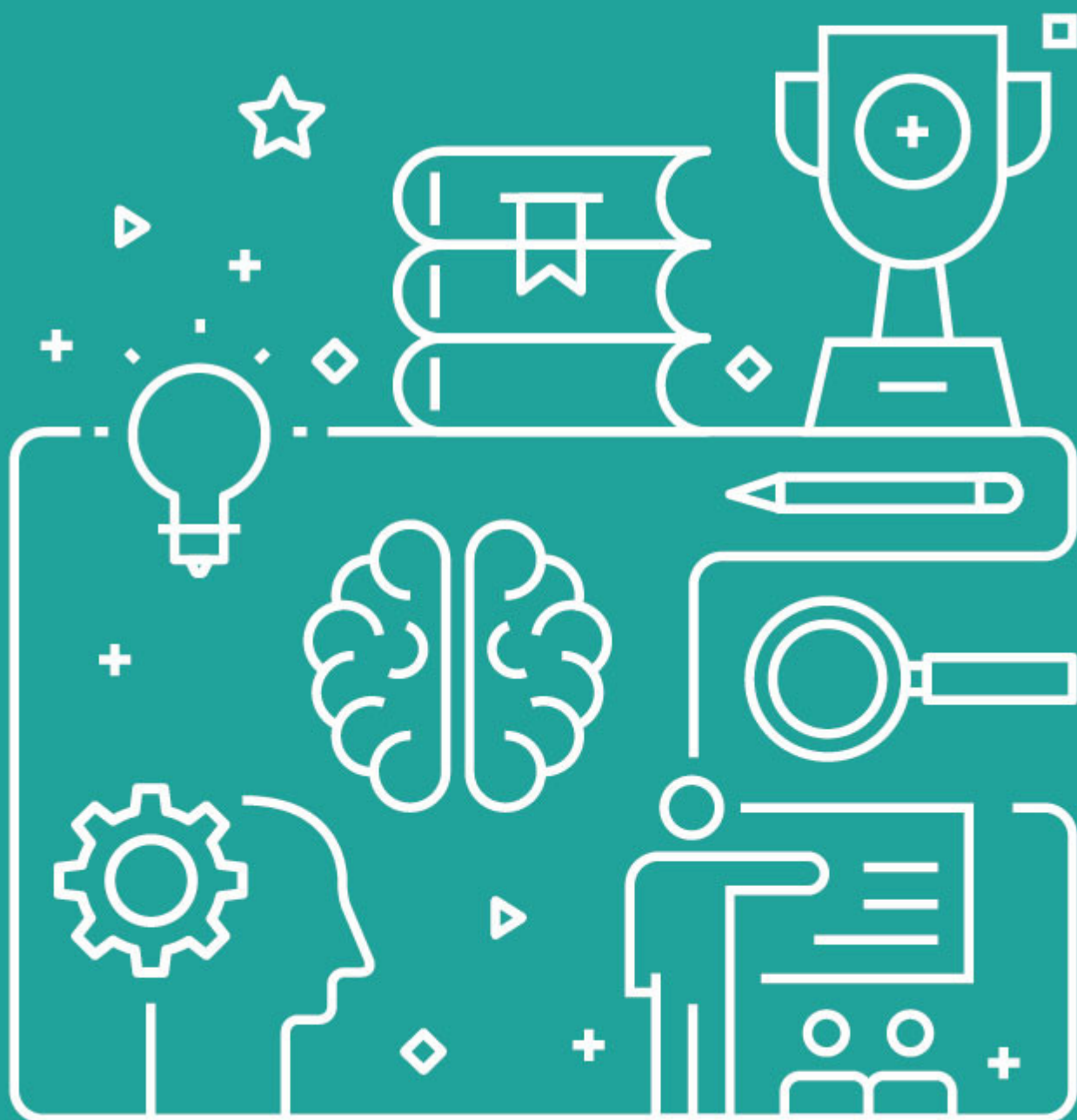
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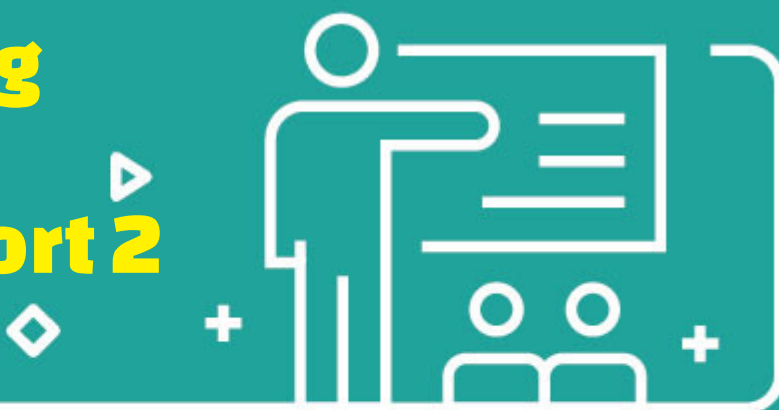
SchoolWeavers
Case Study in Taiwan

LE Trilogy Report 2: Case Study 4

The SchoolWeavers Case Study in Taiwan

The Taiwanese SchoolWeavers' Tool Case was conducted and written up by Dr. Yi-Hwa Liou (National Taipei University, Taiwan).

1. Context

This study explores a prestigious experimental elementary school which is located in an administrative district in Taipei City in Taiwan, easily accessible via transportation. The school boasts a century-long history, with its teachers undertaking a range of responsibilities, such as pursuing curriculum innovations, coaching preservice teachers, and teaching classroom experiments, in addition to their daily tasks. The teachers possess excellent professional abilities and the school itself has been granted the Demonstration School Award for Teacher Professional Development by the Ministry of Education (MOE), Taiwan. The pillars of the school are research and development, implementation, reflection, and re-innovation, while the institution's aim is to create more possibilities in the teaching and learning process through team collaboration. The school has shown a positive attitude toward partaking in programs organised by education authorities, and the teachers are highly interested in instructional innovation and the development of the tools system; therefore, they were eager to take part in the SchoolWeavers Tool Project.

2. Implementation of SchoolWeavers Tool
Overview of the Phases of Engagement with the SchoolWeavers Tool

Phase 1: Obtaining community engagement

Initial and ongoing process of engaging with all school-community stakeholders for diverse purposes. In the beginning of the SchoolWeavers journey, refers to all previous intentional activities and strategies before sending/receiving tool surveys for community mobilisation and engagement.

This section documents how the project weaving team was initiated and organised, as well as strategies for involving schoolwide and community-wide participants to engage in the 'data collection' weaving activities.

Creating a Project Weaving Team (Core Team)

As an experimental elementary school, the Research and Development Division (R&D Division) plays a key role in initiating change and leading school development. The responsibilities and functions of the R&D Division are to promote teachers' professional development, curriculum and teaching research and development, design and construction of IT facilities, and application training. As such, when it came to creating a core team that can lead the SchoolWeaver Tool Project, the chief of the R&D Division worked with the school principal in selecting the qualified participants among the school and community members for this project. The selection criteria of school members include: foreign language skills, personality traits, such as openness and enthusiasm, showing interest in innovations, dedication to teaching, and good interactions with peers and students. The core team consists of several conveners from different teacher professional communities, including the special education teacher community.

When it came to selecting local experts and the parent representative, it was unanimously agreed that the former Parents' Association (PA) president would be the ideal candidate given that he has played a variety of roles at the school: an alumnus, a parent, a volunteer, and the former president of the PA. When the participants of the core team were finally decided, the chief of the R&D Division (referred to as the chief) informed the teachers about this project in person or via a phone call, and nearly all of the invited teachers showed enthusiasm regarding the study. The core team was then created with seven members from the school and its community. The team was led by the school principal. The discussion between the chief and the headmaster is described below.

When I held a discussion with the principal, he suggested a few names. I then invited those persons, privately, to join the team. While developing this team, we set, as top priorities, team collaboration and the multitude of needs that must be met. We also aimed to choose teachers who had excellent English language skills, given that this is a cross-national project. Teachers were expected to provide their ideas in the discussion process, and they mentioned finding teachers with research experience, such as Teacher C. They also talked about inviting a gifted education teacher (Teacher E), as we initially only thought about inviting regular education teachers. There were two reasons behind the suggestion regarding the gifted education teacher: first of all, Teacher E had been consistently implementing projects, and we felt that he must be able to provide insights for this project. Secondly, we were hoping that Teacher E might offer fresh ideas, as he had expertise in special education. Indeed, the core team was developed in this way. (B1, chief of the R&D Division)

During the process of choosing the community representative from local experts, the principal pointed out that we needed to find someone with wide networks in the community. It was deemed that the former PA president would be a better candidate than the incumbent PA president, as the latter needs to handle PA affairs. It was decided that the former president, also an alumnus of our school, was enthusiastic and capable and would be able to provide a different perspective for the project. (B1, chief of the R&D Division)

Building Trusting Research–Practice Partnership Gains Participants' Buy-ins to Participate in the Project

Some teachers in the core team declared that their trust and familiarity in the professor responsible for the implementation of the project motivated them to join in.

When I received the phone call from the chief, who told me that the headmaster would like teachers with different expertise to join this project, my first reaction was that I might not be of great help. Yet the chief cordially asked me to work with the other members during the implementation process. I felt relieved to learn that it was a professor with whom we had worked and were on good terms who would serve as a coordinator in this project, so I agreed to join the team. (D, English teacher)

I did not think much when I received the phone call. I just said yes when I learned that the professor, who I know, would be at the helm of this project. (E, Gifted education teacher)

During the one-year implementation process of this project, the administrative team of the school was adjusted; therefore, the period of study saw two principals and two chiefs of the R&D Division (shown in Table 1).

Table 1

The Role of the Core Team

Code	Job title
A1	Principal (school year 2021)
A2	Principal (school year 2022)
B1	Chief of the R&D Division (school year 2021)
B2	Chief of the R&D Division (school year 2022)
C	Sociology teacher
D	English teacher
E	Gifted education teacher
F	Homeroom teacher (for grades five and six)
G	Former president of the PA

MOBILIZATION STRATEGY 1- How will the project be presented to the community?

Ex. What format, what objectives...

After the core team was created, the principal invited all members to attend the first core team meeting (see Figure 1), at which the professor gave a brief introduction to the project, and how it would be implemented, by showing the website of the SchoolWeavers project and relevant videos so that all members could get a better grasp of the project itself.

Regarding the content of the project, I started by visiting its website so as to know more about the nature of the organisation and what its core missions are. I found that this organisation has branches in many countries, and I also watched a couple of videos on the platform which piqued my interest. I then realised that this project was aimed at helping needy children across the world so that they have more opportunities to receive education. This project has been launched by individuals who genuinely want to help children in less developed areas with scant resources. I feel this is a great deed and I appreciate such efforts. (D, English teacher)

When I discovered what this project was about and what was included in the questionnaire, I felt that our school may get a lot from the project, and so I communicated that I would love to take part in it. (E, Gifted education teacher)

Figure 1: First Meeting with the Core Team

In terms of enlisting the help of a range of participants, the core team sought to ask students, teachers, parents, and local experts to help fill out the questionnaire. The way in which participants were recruited is described below:

Recruiting Student Participants

The chief of the R&D Division asked the computer teacher to help students fill out the questionnaire in the classroom. He helped with the solving of problems when students found certain question items on the questionnaire difficult to understand or did not know how to fill out the questionnaire correctly.

> I went to our computer teacher for help, as he was willing to help handle situations when his students encountered problems with filling out the survey. (B1, chief of the R&D Division)

Recruiting Teacher Participants

Each of the teachers on the core team invited other teachers, including gifted education/special education teachers, computer teachers, and homeroom teachers, as well as administrative staff who were willing to partake in the project. They first made sure not to invite the same teacher. How these teacher representatives invited other teachers to partake in the project is described below.

> I first went to a few teachers with whom I have been getting along well and those whom I felt might be willing to help with the survey. Some teachers seemed to be very busy and possibly not able to help with the survey, so I decided to ask those who were more willing to help fill out the questionnaire. In so doing, I achieved a higher success rate in terms of getting the work done. I asked other English teachers and some homeroom teachers to help with the survey. (D, English teacher)

> I teach a gifted class, and so I asked teachers who also teach gifted classes for help while thinking about asking other special education teachers for assistance. I also sought help from computer teachers because I believed that they might have had a very different view on this project. (E, Gifted education teacher)

> I asked the chief about the teachers' list and tried to ask those who had not yet been asked about offering help. I then went to seek help from special education teachers of different grades and teachers who assumed administrative roles. (C, Sociology teacher)

Recruiting Parent Participants

The former president of the PA was responsible for inviting the key members of the PA. They are representatives of the PA and therefore have a grasp of the current situation and have experience in handling school-related public affairs.

> Back then, I had a talk with the chief about whom to invite. After all, I am not the incumbent president of the PA, and it would be more appropriate to invite the current key members of the PA to fill out the questionnaire because they are elected representatives and are familiar with school-related public affairs. (G, former president of the PA)

Recruiting Community Member Participants

During the process of inviting external participants, the core team considered carefully what it meant to be a local expert who would be invited, as a third party, to offer help to the school. The former president decided to invite volunteers, in particular those with longer periods of service and those who served in leadership roles.

In terms of inviting local experts, we thought about inviting the volunteer team. The volunteer team is composed of many groups: crossing guards, library aides, and emotional management consultants. As indicated by their names, crossing guards help children safely cross the roads, while library aides help with sorting and shelving returned books, in addition to being involved in promotional activities. Emotional management consultants are served by certain psychological counsellors in the community. As parents themselves, they believe that children need emotional education, and take an active role in editing educational materials about emotional intelligence in the hopes of helping children to understand their emotions. So, I invited a few persons who have had longer periods of service and served as leaders with wider networks to partake in this project. (G, former president of the PA)

The former president of the PA pointed out that the term "local experts" sounded a bit daunting to many people, as they felt that they were only volunteers with little expertise. The former president then persuaded them by highlighting the benefits of providing extra service to other people, and they agreed to participate in the project.

Honestly, I think the name community professionals scared a lot of people when they were first introduced to the project, with some perhaps feeling that they were not professionals. I was doing the things required, and there was nothing special. I explained to them that the so-called volunteers are involved in school-related affairs, because, in fact, for the school, the people in the community are actually volunteers, and basically these volunteers are also parents, playing the role of volunteers so as to provide some other additional services to the school. Thus, we explained it to the volunteers from this perspective so that they didn't have to worry. (G, former president of the PA)

The chief of the R&D Division was happy about the outcome of enlisting the help of external participants, although many were concerned about the progress of the project after the survey.

I felt that many teachers had an awareness of taking on challenges. So, everything just went well since the beginning. After we formed a group and everyone was on board, every member showed enthusiasm, not to mention that the former president carefully took steps to get things done according to a timeframe. Everything simply went well from the start. (B1, chief of the R&D Division)

MOBILIZATION STRATEGY 2- How will you document the previous ideas that the various actors in the community have regarding the central domains or dimensions before answering the questionnaires? (What is meant by empathy, collaboration, trust, innovation, equity …? Why do you think it is important?)

Ex. Recorded interviews with volunteer actors; Mixed group meetings with a sample of students, teachers…; differentiated group meetings with the different actors separately.

Pilot Survey Administration

We interviewed teachers about their ideas on "innovation," "trust," "cooperation," and "empathy" prior to them filling out the survey. Some teachers provided their insights into "innovation" from the perspective of instruction. The excerpt from the interviews is as follows:

> In terms of school innovations, I'd feel like integrating them into the curriculum. For instance, I usually combine English learning with nature. This year, the outbreak of the Ukraine–Russia war provided a good example which the fifth and sixth graders could use to reflect on the issue of immigration. So, I decided not to use the example of the Rohingya people and instead used the Ukraine–Russia war to help students think of immigration in a critical way. (English teacher)

Before the teachers filled out the questionnaire, they were interviewed about their opinions on "trust," and tended to define trust in terms of teachers' teaching concepts or styles. An excerpt can be found below:

> I do not feel like staying in a high-trust environment as there are two types of teachers at school. Some teachers have positive attitudes and seek innovation, whereas others are more conservative in the classroom. They do not get along well. Perhaps the leader at the R&D Division is also concerned about this issue of cooperation because we are not of the same mind when it comes to teaching. (Homeroom teacher of third grade)

In terms of "cooperation," the division chief said in an interview that cooperation between different divisions and offices is vital to school operations. While each division has its responsibilities and duties, staff must work in a cooperative and mutually-supportive way. An excerpt is set out below:

> Large events require cross-office collaboration. For example, if a joint exam is held by the Academic Affairs Office, then that office needs help from other offices, while we at the R&D Division have to host international guests. Employees in our division need to take different responsibilities, ranging from coordination to showing the guests the way to the demonstration lecture. For example, with regard to the commencement ceremony held by the Student Affairs Office, this also requires cross-office collaboration, and we'd love to pitch in and offer help when necessary. (B1, chief of the R&D Division)

School teachers' perspectives on empathy varied with the interpretations generated from teachers' different roles in the school. An excerpt can be seen below:

> When we implement school projects or planning, it's mostly done by the administrative team. To them, the teaching or the students' learning effect matters more. It is not overemphasising to say that the teachers are pretty busy as they probably spend 95% of their time and energy on the teaching practice and their students. So, I think we should show empathy for the teachers when we promote projects and other relevant matters, while also trying to have conversations with them at school meetings to let them understand what is being implemented and how. (A2, Principal)

Currently, the school has set up a counselling mechanism in relation to disadvantaged students, where the individual's situation is of concern. We also collaborate with external institutes, such as the Yonglin Foundation, to assist with the students' after-class learning or individual needs. (B2, chief of the R&D Division)

MOBILIZATION STRATEGY 3- In which specific space, who will support and with which device will each of the actors answer the questionnaires?

Ex. Families will respond in an initial online meeting; students in the tutoring class; teachers will do this in a cloister meeting using the mobile...

The locations where the project participants completed the questionnaire surveys, as well as the tools they used, are described as follows. The participants included students, teachers, parents (families) and community professionals.

Administering Student Survey

The questionnaire surveys designed for the students were undertaken in a computer or information classroom while those students were having a class. The core team and teachers worked together to provide timely assistance to students who had questions about completing the questionnaire.

Administering Teacher Survey

Representatives were chosen from the core team to set up a LINE Group via their smartphones in order to send text messages to the teachers being surveyed. These teachers were reminded to pay attention to their school mailboxes and confirm whether they had received our email. After receiving the email, they could log in to the Tool's platform in order to complete the questionnaires. The teachers could communicate any queries about the questionnaires and obtain answers from the representatives from the core team via the established LINE Group. An example is given below to explain how the representatives from the core team offered help.

The participants in the LINE Group generally reflected that they were not clear about the purposes of filling out these questionnaires. Replies were submitted for each of the questions raised by these teachers. They were told that the tool could be further extended and applied in our school, and that future practice could be better as a result of the corrections made by this tool. (D, English teacher)

Virtual Collaboration via LINE Instant Communication Application

The chief of the R&D Division reflected on a problem with the user interface of the Tool's online platform via LINE. The excerpt is set out below:

> 2021.11.28 Sunday
>
> 15:07 Professor: Hi, B1. Sorry to bother you on a Sunday.
>
> Just a quick update on the errors found last time. They have already been fixed via the Tool platform. Currently, the questionnaires can be released for a test.

However, please keep me posted if you or other teachers spot any other errors.

Thank you, B1. (hands put together)

Have a nice Sunday! (happy face)

15:36 B1, Chief of the R&D Division: Got it.

15:37 B1, Chief of the R&D Division: Thank you. Professor.

15:38 Professor: B1.

15:38 B1, Chief of the R&D Division: Stickers.

2021.11.29 Monday

09:13 B1, Chief of the R&D Division: Professor, we still failed to add any new participants.

09:13 B1, Chief of the R&D Division: Photos.

09:33 Professor: This is weird. Let me have a check and I'll get back to you later. Thank you, B1.

09:33 B1, Chief of the R&D Division: Got it. Thank you, Professor.

10:00 Professor: Hi, B1.

May I ask in which way you added a new participant? By Excel or manual operation?

10:00 B1, Chief of the R&D Division: I tried to add one manually but it didn't work.

10:01 Professor: Then, please send me this piece of data. I'll try it myself.

Communications between the core team and the teachers being surveyed took place via the established LINE Group. Excerpts are as below:

2021.11.17 Wednesday

20:18 B1 added Professor to the group.

20:22 E, Gifted education teacher: Stickers.

20:23 Professor: Thanks for the invitation from your team.

Professor successfully joined the group.

Appreciate the team's assistance. (hands put together) (hands put together)

20:23 B1, Chief of the R&D Division: Welcome. Please join us, Professor.

20:27 D, English teacher: Welcome, Professor.

20:35 G, Former president of the PA: Welcome, Professor.

21:42 F, Homeroom teacher: Stickers.

21:43 F, Homeroom teacher: Stickers.

21:43 B1, Chief of the R&D Division: Thank you all.

21:43 F, Homeroom teacher: Added a new note.

21:44 B1, Chief of the R&D Division: Stickers.

2021.11.18 Thursday

12:00 B1, Chief of the R&D Division: I'd like to give you a brief introduction here. Two missions are expected to be achieved with the help of the participants being surveyed.

1 – Score each of the items listed in the questionnaires based on self-perception.

2 – Make suggestions or comments on the design of the questionnaires (inclusive of statements, errors or anything which needs to be corrected).

In order to achieve the first mission, an email-based invitation to complete the questionnaire surveys will be sent to the participants.

To achieve the second mission, the invitation letter will be accompanied by a link to a form on which the participants can give suggestions as to what corrections should be made.

A review meeting will be called by the core team after the completion of the questionnaire surveys.

The schedule for implementing the project is listed below for your reference:

2021/11/18-2021/12/02 Finish sending invitations to the participants

2021/12/06-2022/01/07 Send and collect questionnaires

2022/01/07-2022/01/18 Compile suggestions and information collected from the questionnaires

It is expected that the meeting for further discussions will be held at the end of February 2022 or at the beginning of March 2022.

12:00 B1, Chief of the R&D Division: Thank you all for your generous support.

22:53 B1, Chief of the R&D Division: https://www.neteduproject.org/

2021.11.19 Friday

09:49 F, Homeroom teacher: Added a new note.

09:50 B1, Chief of the R&D Division: Thank you.

2021.12.06 Monday

21:48 B1, Chief of the R&D Division: Thank you all for your great assistance. Currently, the name lists of the teachers and students have been imported via the platform. The emails will be sent out after a confirmation has been received from the Professor. At that point, your assistance in completing the questionnaire surveys and any suggestions you may have would be very much appreciated.

21:57 D, English teacher: Stickers.

21:58 D, English teacher: Thank you, Director.

Administering Surveys to Students' Families and Community Professionals

Students' parents and families, as well as the representative of the community professionals (former president of the PA) in the core team were concerned about the fact that the families and community professionals had their respective daily schedules and so it perhaps would not be possible to arrange the same time periods for them to complete the questionnaires. Meanwhile, it was impossible to have one-on-one communications. In this case, neither students' families nor the professionals were able to receive timely assistance if they had questions about completing the questionnaires. Therefore, the former president of the PA attempted to prepare an operation manual for using the Tool to complete the questionnaires. The former president wrote down, in the manual, the difficulties encountered while operating the Tool and the ways to solve these problems, so that the students' families and community professionals could follow the instructions and avoid possible problems arising during the filling out of the questionnaires.

> At the beginning of this project, I wondered about how I could communicate with the families and professionals and guide them in completing the questionnaires. I tried to write down some instructions because it was impossible for me to clearly give individual explanations to tens of people. In addition, you would never know when they filled out the questionnaires. Some of them might do it after midnight and others might do it during the day. It's difficult for me to offer timely help. So, I tried to write something down. (G, former president of PA)

The following is an excerpt showing the problems which the students' families and community professionals encountered; these were mentioned in the LINE Group after they had filled out the questionnaires.

2022.01.05 Wednesday

15:25 B1, Chief of the R&D Division: Dear Professor, the following covers the messages sent by the President of the PA for your reference.

15:25 B1, Chief of the R&D Division: Photos.

15:39 B1, Chief of the R&D Division: For now, it seems that it didn't go well for the students' families and community professionals in completing the questionnaires and making suggestions on corrections of the questionnaires.

1. Many participants mentioned that they did not receive the invitation letter. They could not find it, even in the spam file.

==> We did not send the emails to school email addresses. It seems that the email systems used by many participants categorised the emails sent from netedutools.org as spam. In fact, sending invitation letters is similar to sending spam. Therefore, the same problem will occur when the system being tested formally goes online.

2. Some participants were asked to key in an account name and password after receiving the invitation letter.

3. I received two invitation letters on 12/14. One asked me to key in an account name and password and the other guided me to directly access the questionnaire.

==> Based on the above, it is inferred that the problem is not that which was mentioned in the discussion with the Director last time. The window for keying in an account name and password popped out because a survey had been completed.

I examined the URLs respectively in the two emails and found that the parameters differed from each other. I don't understand why there was such a difference between the invitation emails, both of which were generated from the same system. It's necessary to ask the staff of the NetEdu Tool system for reconfirmation.

4. In reference to the above-mentioned points, I would like to know if it is possible to resend the invitation letter to those who didn't successfully complete the questionnaires. Otherwise, they would be unable to carry this on.

5. I would also like to know whether a status report could be provided by the system so that I can get a picture of the status of the questionnaire surveys (never accessed/not completed yet/completed) across different roles in our school and then make further contact with those who have not finished the questionnaires.

16:18 Professor: B1 and G, thanks for your suggestions!

I will relay these issues (spam, inconsistent URL parameters for the questionnaires, etc.) to the system staff.

I had the same situation, i.e., being asked to key in an account name and password after clicking the link. I flagged up this issue last time, but it seems to still be a problem.

I'll get in touch with the system staff to clarify the linking problem. Then we don't have to resend the invitation letters. Please ask the participants who have no problem accessing the questionnaires to provide their feedback and comments. With regard to those who could not successfully gain access, please ask them to wait a while.

It may be difficult to provide a status report. Many professional questionnaire survey platforms are capable of providing such a tracking service. However, the NetEdu Tool is limited in terms of development. Nonetheless, I'll still try to ask them to make such a function possible in the future.

MOBILIZATION STRATEGY 4- Once the questionnaires have been sent through the tool, in case we do not reach 75% response in the expected time, how will you reach the actors who have not yet answered the questionnaires before the end of the deadline?

Ex. We will plan reminders in the online tool; the weaving team will contact key influencer actors…

The Important Role of Core Members in Survey Administration

The core team members were those primarily responsible for helping to track the persons who had not yet completed the survey. For example, a teacher representative from the core team used the LINE Group medium to contact the invited teachers and thus ascertain whether they had responded. If the representative noticed that a teacher had not filled out the survey or was confused about any of the questions, the core team would take the initiative to ask if there was anything they could do to help.

Remind the teachers to respond, and check whether they have responded in LINE or not. (E, Gifted education teacher)

Ask the teachers if they have any questions and if they need any help. If they are confused about the two letters that they received, I would go help out. (D, English teacher)

Phase 2: Collecting community feedback

Ongoing process of listening and resonating with the school community. This includes the specific process of sending out the surveys, participation and responses from the school community, and the collection of survey data for community resonance.

According to the respondents, there are a few areas of the Tool that can be further improved: user interface, overall design, survey items. Participants also raised questions and issues they encountered while using the Tool to take the survey. They provided possible solutions with which to address these issues and expressed concerns and feelings about using the Tool.

Feedback on User Interface

Enter centre information

1. Country cannot be entered in the address section of the organisation.

2. It is more appropriate to use "Excellent, A, B, C, D" in the section for students' grades.

3. The description of "Number of students who started taking the course" is not very applicable to Taiwan.

View results

1. Some texts appear as simplified Chinese characters.

2. The domain items and the question items are not numbered, which is not clear enough visually for reading.

Feedback on the SchoolWeavers Tool's Overall Design: Issues and Problems

The feedback from the teachers who participated in the survey can be divided into two categories: survey scale design issues and lack of item clarity.

Table 2 illustrates the questions which the teachers asked about the scale design, including the design of the domain items, and the strange translations of the options "okay" and "strongly disagree." They also mentioned that the questions are not numbered, and some teachers had questions about the design of the "school community" and "trust" domains.

Table 2

Survey Scale Design Issues

- The (school) leadership team on the survey homepage.
- The (school) leadership team on the survey homepage.
- The translation of option 4, "Okay," is very strange.
- Exit appears at the end of the survey.
- Option 3, "Disagree."
- Neither the domain items nor the questions are numbered.
- The option "Others" on the basic personal information page.
- "Strongly disagree" and "Strongly agree."
- "Okay"?
- 1 2 3 4 5 6
- The fourth option, "Okay," is strange.
- The options "strongly agree" and "strongly disagree" are weird.
- The definition of the six-point scale is strange.
- "Community" feels weird.
- School community.
- "Okay" is strange here.
- Shouldn't parents be the target of the survey at the trust level?

Table 3 below mainly presents teachers' questions about the meaning of the questions in each domain. Teachers thought that some questions were not very clear and not well-defined, which caused confusion when it came to filling in the answers.

Table 3

Lack of Item Clarity

- In the statement "My school is responsive to the needs and concerns expressed by school leaders," I am unsure what the difference is between "school" and "school leader," and how to distinguish them.
- "In this school, the staff are willing to take risks to make the school better."
- This makes it possible to gather the views of teachers, school leaders, students, families, and relevant community professionals.
- "A collaborative process exists for developing a shared vision among teachers."
- This process gathers the views of teachers, school leaders, students, families, and relevant community professionals.
- "A collaborative process exists for developing a shared vision among teachers."
- "My school makes an effort to inform the school community about our goals and achievements."
- "School leaders and parents think of each other as partners in educating children."
- "My voice and opinions are important in decision-making at my school."
- "My school provides information and conducts events in parents' first language to help me communicate with them."
- The "Collaboration" page has the time and resources needed to facilitate collaboration.
- "Resources shared with other teachers, staff and community professionals help us to improve our practice."
- "In this school, school leaders are willing to take risks to make the school better."
- Unsure about what the following statement is saying: "In the school, responsibilities to lead actions and projects are shared by a large group of professionals."
- The word "our" should be added at the beginning of the following statement: "Collaboration with other schools helps us to improve students' learning."
- The second to last, third to last, and fourth to last questions of the domain "Collaboration" are not very clear.
- Shouldn't parents be the target of the survey at the trust level?
- In the domain of "equity," my answers are to the questions but not to "my school." So, what is really the question here?
- "Economically disadvantaged students have more to gain in schools because they bring less to the classroom."
- "Time and resources are provided to facilitate collaborative work."
- "School leaders take into account the voice of staff in the creation of new projects."
- "In this school, generally educators group students by ability levels."
- "School leaders take into account the voice of families in the creation of new projects."
- 4. What is the definition of "evaluations" in the statement "The school establishes evaluations that contribute to keeping the school on track"?
- 5. Should the word "English" in the sentence "The most important goal in working with immigrant children and English language learners is that they assimilate into our society" be changed to "Chinese"?
- "Spaces in the school, such as classrooms, halls and corridors favour communication and interaction between teachers, staff, community professionals and families."
- "In this school, the teachers are willing to take risks to make the school better."
- "In my school it is OK to make mistakes."
- "In this school, the teachers are continuously encouraged to learn and seek new ideas."; 1234 Okay 56 "In this school, the teachers are willing to take risks to make

the school better."; 12 Strongly disagree 3456 "In my school it is OK to make mistakes."; 123 Disagree 456 "In my school new and creative ideas arising from our discussions are currently implemented in actions or projects."; 1234 Okay 56 "I extend the knowledge learned from others to my own discipline/area."; 1234 Okay 56 "School leaders take into account the voice of staff in the creation of new projects."; 1234 Okay 56 "School leaders takes into account the voice of community professionals in the creation of new projects."; 123 Disagree 456 "School leaders take into account the voice of families in the creation of new projects"; 1234 Okay 56 "School leaders take into account the voice of students in the creation of new projects."

- "School leaders facilitate formal meetings for the exchange of new and creative ideas, allocating specific resources."
- "I feel respected by community professionals in this school."
- "An important part of being an educator is examining one's own attitudes and beliefs about race, class, gender, disabilities, and sexual orientation."
- "The most important goal in working with immigrant children and English language learners is that they assimilate into our society."
- "Teachers provide students the opportunity to choose where they want to work during the school day."
- The statement "Teachers assume shared responsibility and accountability for student learning" on the "Shared Purpose" page.
- The statement "My voice and opinions are important in decision-making at my school" on the "Shared Purpose" page.
- The statement "Communication systems promote a flow of information across the entire school community, including staff, parents, and community professionals" on the "Empathic Communication" page.
- The statement "Spaces in the school, such as classrooms, halls and corridors favour communication and interaction between teachers, staff, community professionals and families" on the "Empathic Communication" page.
- The statement "My school provides information and conducts events in parents' first language to help me communicate with them" on the "Empathic Communication" page.
- The statement "School leaders mediate differences between teachers by focusing on the constructive part of conflict and discussion" on the "Collaboration by Actors" page.
- The "community after-school programs."
- The statement "In this school, generally educators group students by ability levels" on the "Equity" page.
- The statement "I provide students the opportunity to choose where they want to work during the school day" on the "Personalized Learning" page.
- The statement "I provide students the opportunity to choose the instructional materials" on the "Personalized Learning" page.

Feedback on SchoolWeavers Tool's Overall Design: Suggestions

Suggestions for revision or feedback from the teachers taking this questionnaire can be divided into two categories: (1) Design of Questionnaire, (2) Ambiguities in Question

Feedback on Design of Questionnaire (Table 4): some of the extracts are below:

Table 4

Feedback on Questionnaire Design

- The distributor of the questionnaire can be put in.
- The distributor of the questionnaire can be put in.
- Average or No Comment is suggested.
- The End is suggested.
- Slightly Disagree.
- Please define School and Leader of School.
- Please number the questions, e.g., 1-1.
- Partly Agree, Partly Disagree.
- It'd be better to define the six-point scale first. In addition, Point 4 sounds odd. You should use "slightly" or "fairly."
- It is suggested that "moderately" be used.
- Level of agreement can be divided into: moderately, fairly, totally.
- The use of "considerably" and "totally" could be difficult to clarify.
- Others: I am not able to check sentences in the question simultaneously and answer right away.
- If you want to investigate more, repeating the questions can make it clearer.
- Average.

Table 5 below presents Feedback on Ambiguities in Question, which includes unclear and incoherent sentences, descriptions without a subject, or vague definitions of family and community. Some extracts can be seen below:

Table 5

Feedback on Ambiguities in Question

- The pause of the sentence seems odd to me.
- Use "parents" in place of "family."
- Teachers participate in the development of a shared vision.
- The meaning is clearer when using "parents" in place of "family."
- It can be changed to "others."
- Teachers have belief in the development of a shared vision.
- The school puts efforts into making the school communities understand the instructional goal and effectiveness.
- The school leader and parents treat each other as partners in children's education.
- An individual's right to speak and opinions are respected when decision-making is conducted by the school.
- The school provides parents with information in their native language and plans activities, building up a platform for mutual communication.
- Sufficient time and resources are provided to promote collaboration.
- Shared resources among the school leaders, teachers, staff and professionals within the communities can improve our efficiency and effectiveness in work.
- Our school leader is willing to take risks in order to promote school development.
- No subject of this sentence is found. I wonder what it refers to.
- For this question, "parents" should be used in place of "family."
- I can hardly understand it. Does it mean ability grouping, differentiated instruction, or adaptive instruction?
- What is the definition of "family"?
- I personally feel that the level of Strongly Disagree is higher than that of Mostly Disagree. It is suggested to change to a five-point scale.
- Remove the word "community."
- Remove the word "community."
- The sentences are not coherent.
- The wording "taking risk" is not adequate.
- The sentences are not coherent.
- The sentences are not coherent.
- The sentences are too complicated.
- Respecting me → Showing a high level of respect to me.
- The sentences are complicated.
- Immigrant children and English-users are two different subjects.
- The sentences are not coherent.
- The following description is unclear: the communication system enables the flow of information across the school communities, including school staff, parents and professionals (up-to-down or in-and-out).
  - Recurring: talking with other teachers about feelings, worries and frustrations with other teachers is allowed in the school.
- "The teacher is responsible for guiding the students in terms of learning and evaluating their learning effect."
- It is more adequate to rewrite the sentence as "When the school is making decisions, the right to speak and the opinions of each grade shall be respected."
- An effective communication platform will improve the information flow across the school community, including staff, parents and professionals.
- The school leader will mediate the dispute among teachers with communication and discussion.
- Childcare club or tutoring centre?
- Abilities can be divided into different kinds, but the purpose is unclear.
- The sentence can be revised as "I make it so the students have a chance to choose teaching materials subject to course requirements."

Participants' Views on the Role and Use of the SchoolWeavers Tool

Table 6 presents teachers' overall feedback on the use of the Tool. Some teachers referred to the possible discrepancy between the situation in the questionnaire and that in the domestic culture or on the current campus. The feelings and emotions of teachers in filling out the survey, as shown in Table 6, constitute an issue which also needs attention.

Table 6

Other Feedback on SchoolWeavers Tool

- No intention to fill in the questionnaire.
- No intention to fill in the questionnaire.
- No intention to fill in the questionnaire.
- No clues.
- You should review and make all of the sentences clear and coherent, then ask teachers for feedback or opinions. This could be more efficient and effective.
- At present there is limited access to the campus, at restricted times.
- So far there's no such requirement.
- It can't be fulfilled under the current learning system.
- Boring.
- Never heard of it.
- That is right.
- What, you said I was too lazy to write much?

Feedback on Survey Items

Participants stated that some question items are unclear and some are irrelevant to their context.

Questions Assessing Shared Purpose

1. "Teachers assume shared responsibility and accountability for student learning."

2. "My voice and opinions are important in decision-making at my school."

3. "In the school, responsibilities to lead actions and projects are shared by a large group of professionals." (The scope of this item seems quite broad. It is strange that a school's internal actions and projects are shared by external professionals. It may make more sense to say that external professionals "take part in" the actions and projects.)

4. "A collaborative process exists for developing a shared vision among teachers." (In this item, who are the teachers having a shared vision?)

Questions Assessing Equity

1. Do we have to answer all the items falling into the domain of "Equity" from a general point of view or only by considering "my school"?

2. "An important part of being an educator is examining one's own attitudes and beliefs about race, class, gender, disabilities, and sexual orientation." (The statement is not clear enough. Does it inquire about the fact that educators need to treat all students in an equitable manner?)

3. "Economically disadvantaged students have more to gain in schools because they bring less to the classroom." (The meaning of this item is vague. What does this have to do with equity?)

4. In this school, generally educators group students by ability levels. (The meaning of this item is vague. Is it a reverse coded question?)

5. "The most important goal in working with immigrant children and "English" language learners is that they assimilate into our society." (Should the word "English" in this item be revised into "Chinese"?)

Questions Assessing Innovation

1. "In this school, the teachers are willing to take risks to make the school better." (The phrase "take risks" is not culturally applicable to the teachers here in Taiwan.)

2. "In school it is OK to make mistakes." (Is it a reverse coded question?)

3. "School leaders take into consideration the voice of families in the creation of new projects." (This item is not quite applicable to current school operations in Taiwan.)

4. "School leaders take into account the voice of families in the creation of new projects."

5. "The school establishes evaluations that contribute to keeping the school on track." (What is the definition of "evaluations"?)

Questions Assessing Collaboration

1. "School leaders mediate differences by focusing on the constructive part of conflict and discussion." (Unable to fully understand the meaning of this item.)

2. "Time and resources are provided to facilitate collaborative work." (The meaning of this item is vague.)

Questions Assessing Empathic Communication

1. "Communication systems promote a flow of information across the entire school community, including staff, parents, and community professionals." (What do the so-called "communication systems" refer to?)

2. "My school provides information and conducts events in parents' first language to help me communicate with them." (This item is not culturally applicable in Taiwan.)

3. "My school is responsive to the needs and concerns of students." (What are the definitions of "my school" and "school leaders"? How do we distinguish the two?)

Questions Assessing Personalized Learning

1. "I provide students the opportunity to choose where they want to work during the school day." (This item is not culturally applicable in Taiwan.)

2. "I provide students the opportunity to choose instructional materials (such as books, pen and paper, or their device)." (This item is not culturally applicable in Taiwan.)

Regarding questions that are perceived irrelevant to participants' context, they are listed below.

1. "The school provides information and plans activities in the parents' native language to facilitate my communication with the parents." Currently, despite having immigrant children studying at the school, the school rarely plans specific information exchange or activities in new immigrants' native language.

2. "Sharing resources among the school leader, teachers, staff and community professionals can help us improve our work practice." "Community professional" in this part is not clearly defined, which makes it troublesome to answer the questions.

3. Regarding innovation in the questionnaire, the description shows a less direct connection to innovation. Examples of this are "to improve innovation through risk taking" and "allowing for mistakes has connection to innovation."

4. Regarding community in the questionnaire, some of the situations described are far from reality in the nation. For example: "Every corner within the campus, such as classrooms, lobby, and corridors are open for interactive communication among teachers, staff, community professionals and families." Currently, the campus is open on a limited basis, while the use of school space by those external to the institution also requires permission from the school.

5. The community professionals felt that some questions regarding student personalization are not applicable to them. They don't really know how to evaluate, for instance, because they don't interact with the children nor support them in study. Although some volunteers read the children stories in the classroom or conduct interaction with the children in Emotion Management class, they don't feel able to assess the school course or standard course, not even to score the children's performance. So, the community professionals are not likely to answer this part of the questionnaire. (G, former president of the PA)

In brief, it is found, from the teachers' feedback, that some parts of the questionnaire are less likely to be applied due to the difference in the national and cultural conditionS. Besides, the ambiguity and unfamiliar wording in the description also make it annoying for teachers to answer the questions. Feedback from parents and community professionals on the questionnaire is mainly aimed at Student Personalization.

Phase 3: Thinking about and analysing results

Ongoing process of understanding and reflecting on school community feedback and resonance. It refers to the process that the weaving team take in interpreting, analysing and prioritising general results obtained through the tool.

After examining the results of the survey, the team realised that the school is lacking when it comes to aspects which consider community resources. The school has focused on its own operation and development, while communication and interaction with the neighbourhood institutes or community have received less consideration and attention. Furthermore, the school, as a "migratory school," accommodates students across districts, which makes it more difficult to build up a direct connection to the neighbourhood community.

School–Community Collaboration

The school can enhance connections between itself and community resources...

> The school accommodates children from different districts and operates as a "migratory school," which makes it more difficult to link to neighbourhood community resources. There may not be any institute around either. The school currently makes much of human resources, and so the resources from parents are demanded. (C, Sociology teacher)

> Parents, as professionals in different fields, may be invited to school and will perhaps assist children on a regular basis. In addition to enhancing the above-mentioned initiative, the school may also act, in the coming future, to make the neighbourhood community aware of how important it is to combine school and community resources. Human resources from the community should be provided for the school and the school ought to give feedback in return. (D, English teacher)

Joint Planning among School, Parents, and Community

The participation of parents and community professionals should be increased.

Indeed, the representative of parents and community professionals suggested that the school plan for a joint course involving students and parents, which aims to enhance the connection among students, parents, and community professionals.

> The school could design certain courses conducted by the parents – temporarily acting as teachers – which allow the parents to interact with the children and join the class in person, while also increasing the joint participation of students and parents. Taking camping as an example, parents with a great deal of experience in camping could guide children through the planning and preparation. (G, former president of the PA)

Facilitating Innovative Thinking and Behavior

The teachers pointed out that innovative thinking could be enhanced by the operation of a school community, in-service learning of innovation, and interaction with other schools. Teachers' overall feedback on innovation was as below:

1. To set goals in the short, medium and long term, preventing parallel movement that brings pressure.

2. To clarify problems and difficulties raised by the teachers and fix them.

3. To implement a Mentor Teacher System in a practical manner, organising relevant learning groups.

4. To arrange more grade forums, allowing better communication and interaction among teachers.

5. To hold innovative in-service learning more frequently, creating an open atmosphere on campus.

6. To create cross-school exchange activities, allowing us to continuously improve by reflecting on others' pros and cons, as it is said that "An ass in Germany is a professor in Rome."

7. To power up teachers' ability with adequate in-service education where hands-on experience is possible and practical.

8. To hold in-service training regarding innovation/creativity lessons.

9. To enhance group cohesiveness in teachers, so as to boost their energy for collaborative lesson planning.

10. The conducting of appealing and innovative training for the teachers is recommended.

Guiding Directions of Improvement

Regarding Collaboration in the questionnaire, the teachers identified potential goals as their future vision, such as "to collaborate with others on shared decision-making," "to work with a clear objective and strategy," and "to activate cross-team or cross-unit collaboration" (see Figure 2).

Figure 2

Collective Feedback on Areas of Improvement
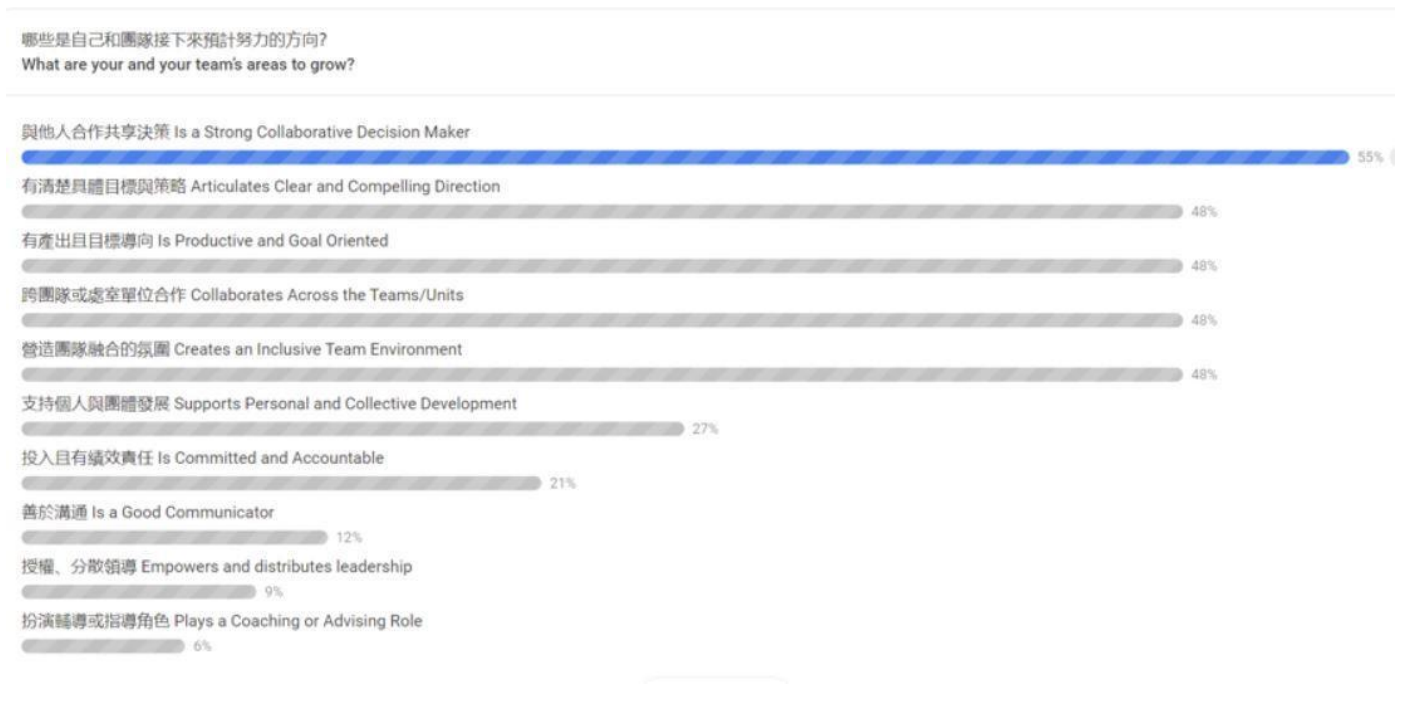
Phase 4: Bringing data to action

Ongoing process of translating informed feedback into collective and systemic strategies that supports school development.

After engaging in this project, the participants put forth the belief that the following improvement strategies can be proposed.

Strengthening School-Community Partnership. After joining the SchoolWeavers Tool Project, the school in the case study was of the view that its connection to the community should be enhanced. Therefore, the school team proposed countermeasures accordingly to make this connection even closer, allowing adequate participation from the parents and community professionals. This strategy benefits both the school and the students.

Localising the questionnaire. Some teachers gave feedback on the questionnaire, stating that the description was ambiguous or did not correspond to the situation in the country. Therefore, it is proposed to modify the description or the context. In addition to this, they were also concerned about the applicability of the content. For instance, the parents or community professionals in the country would not carry out assessment of students. As such, when the parents or community professionals answered the questions regarding Student Personalization, they felt confused or annoyed.

Promoting the school in the community. Having taken part in the SchoolWeavers Tool Project, it is likely that the school will now make a video for marketing and promoting purposes. Through the filming, internally the teachers will better understand the school's advantages and work together on the weaknesses. Such collaboration is expected to forge a consensus among teachers and gel them together. Externally, the parents and community professionals will be aware of the current situation and the results of the school development, i.e., that the tie between the school and the community may be getting stronger.

Encouraging teamwork feedback system. The current online platform of the Tool is designed for the school leader, teachers, students, parents and community professionals to understand their perception of the school. The school development path can also be explored via this feedback mechanism. We propose that a section of the questionnaire be dedicated to the concept of teamwork or group work: the design of the questionnaire in terms of construction review and respondents will be accomplished through school collaboration or work specialisation. This allows each part of the questionnaire to be answered by a representative from the team or group sharing the same profession and thoughts. It is believed that such results from the survey, leading to the follow-up strategy or action, will correspond significantly to the school's ecosystem and development path.
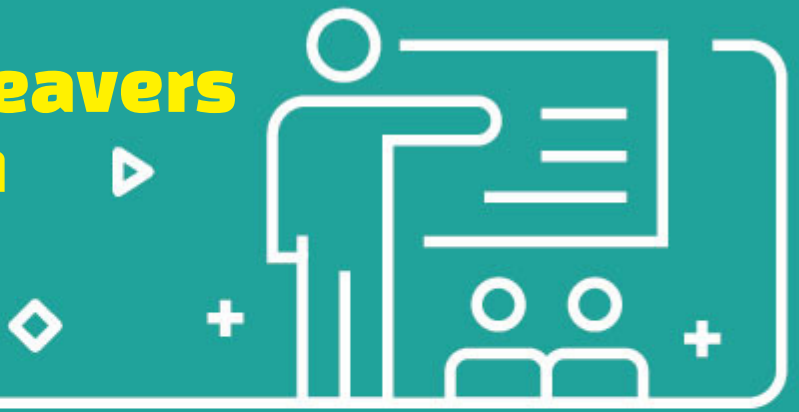
Using multimodality for younger students. Regarding Student Personalization in the questionnaire, children from the lower grades of primary school may not be able to answer the questions in literal style. As such, a more interactive format is proposed, including, for example, videos, narrative writing, hearing, pictures, and multiple choice, all of which will make the questionnaire fairly comprehensible for the young children when they answer.

3. Conclusion: Reflections and Recommendations

In our case, participants generally agreed that the Tool could serve as a mediator which stimulates dialogue and discussion among stakeholders regarding the shaping of a learning ecosystem. They reflected on how their partnership relationships with the families and communities can be further strengthened. The data and evidence collected through the Tool can help the school and participants understand its strengths and weaknesses, thus making it possible for them to develop strategic planning for better outcomes. The Tool can help the school to not only examine the level of the learning ecosystem, but also engage students, families and the broader community as partners in supporting student learning, well-being, and the overall development of its learning ecosystem.

The SchoolWeavers Case Study in Taiwan