

# Development of an innovation- friendly education system

Report

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## DEVELOPMENT OF AN INNOVATION-FRIENDLY EDUCATION SYSTEM

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## Summary

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The aim of this report is to examine innovation-friendliness in the education system. By this, we mean an education system that recognises problems and unsatisfied needs and searches workable solutions to them. An innovation-friendly system enables the development of these solutions and ensures their high-quality implementation.

Innovation can be defined in many ways, but in the context of this report, innovation refers to an improvement of the current situation – a solution that is, or may be, useful in many different contexts. The report looks at innovation as a cohesive concept, outlining the preconditions for its functionality using the develop-implement-finance model. However, it should be noted that an innovation's operating model influences the way these issues are connected and has an impact on the organisation which uses the innovation. In most cases, innovative tools are easier to integrate than innovations related to the content of the work. For example, innovations influencing the professional identity of education and training staff require renewal that starts inside each employee, whereas the introduction of a single tool or operating model can be done quickly.

The report's theoretical section addresses the various topics related to innovation-friendliness. We use Rogers' theory on the diffusion of innovation, outlining how innovations are introduced in schools and how the process of introduction can be described through Hellström's concept of the way of change, and through

Fullan's theory of change management. Innovations and their relationship with the education system are then examined through the findings and research of the world's organisations which study education and innovation.

As for observations connected with theory and research, they are reflected in the experiences of innovation work by Finnish and international innovation developers and users in the field of education. The interviews were conducted using a semi-structured method. For analysing the answers, we formed a theory-based model; 'develop-implement-finance', which can be used to address the key areas of innovation work.

Any new innovation is fragile. In general, it can be said that years of passionate work often precede implementing innovations. This work involves refining an idea, through multiple experiments, into an easy-to-replicate innovation. If poorly implemented and under-resourced, development and implementing may fail in the very beginning. Therefore, potential opposition does not necessarily mean that the innovation is no good. It may only mean that it has been 'sold' arrogantly and implemented with haste. The best innovations contribute to development and implementing in close collaboration with end-users. High-quality diffusion of innovation requires years of sustained effort and a large amount of support for quality implementation.

As part of this report, we specifically studied public innovations used in Finland, funded through various types of project funding. In Finland, public education is exceptionally strong, and it supports innovative development operations through project activities. At the same time, the project-based financing model makes the continuation of innovative activities uncertain – this point arises in all interviews on Finnish innovations.

Even if the innovation in question is a non-profit one, a so-called public innovation, it still needs the support of a long-term funding model built on a sustainable basis if it is to have real resources for development and implementing activities. In too many cases, funding is short-term, project-specific and given over too many targets. In regrettably many cases, funding focuses on launching new projects or operating models, and there is little funding available for the development and implementing of activities that are proven to be good. In addition, innovators do not always take responsibility for raising funding, but often take a 'victim's attitude' and complain if funding does not come automatically.

Another challenge is a weak link between implementing and development activities. Many people object to anything new because they are not sure whether the new

direction is any better. If the development work is too hasty and aggressive, and if the direction is not well defined, it may happen that ideas (many of which do not work) are implemented instead of innovations, and nobody is concerned over implementation. This easily leads to detesting the word 'innovation' as such, because in the worst case, it involves poorly planned extra work – even though that is exactly not what innovation should be about.

It is therefore essential that the recipient's situation is carefully considered when implementing innovation. Rather than 'force-feeding' innovations from the top down, there should be patience to recognise the challenges and wishes of the receiving party and *they should feel excited about the innovation*.

In many respects, Finland has one of the best education systems in the world. However, this does not automatically mean that our innovations are exceptionally good on a global scale. On the contrary, in some cases, the core of the Finnish education system, the lack of competition between schools and equality, may even counteract innovation. By no means does this mean that these principles should be compromised, on the contrary, but this 'challenge' posed by a strong education system to innovation activities should be frankly recognised.

The one aspect in which Finland is, or at least could be, unique on a global scale is the *scale of doing great things and equality of education*. The core of our system is to implement, in many cases, great innovations in *all* schools in the area. Not many other countries can do that.

From the viewpoint of an innovation-friendly education system, it is important that all development activities are approached in a positive way, listening to the teachers rather than blaming them – all theories and interviews emphasise the importance of peer support. At the same time, it should be remembered that developing an innovation-friendly system does not involve anything strange, just cooperation based on strong pedagogical development, in which the real problems are solved jointly, through the participation of all parties.

In such cooperation, Finland could be, *it should be*, the best in the world.

## Foreword by the Innovation Centre

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How can the public education system support the creation, development, implementation and funding of educational innovations? The purpose of this report is to stimulate debate and interest in an innovation-friendly education system and to highlight perspectives on what is slowing down, preventing and enabling the implementing and adoption of innovations and best practices.

Innovation, experimentation and development are not an end in themselves. They are the means to an end, ways of solving everyday problems in teaching, learning and education, and seizing opportunities for the better. We experiment because there is no way of knowing in advance what the effects are if we do otherwise. Learning and teaching are people-to-people interaction. In this case, experimentations and the created innovations are integral to the people who created them, part of their experience and tacit knowledge that cannot be outsourced to be disseminated to everyone, the way physical products or scientific and measurable results can. In many cases, the process of an experiment is more important than the end result, because it creates a common understanding and operational culture. The process can be exploited more widely, and its implementing supported, but the final result cannot, without going through the same process of learning as the people who created it went through.

Implementing of operating models is a slow process. It requires interest in doing things in a new way, drive and long-term work. Experimentation is needed to

develop an operating model. If the activity responds to a genuine need, it will also generate the drive necessary for the diffusion of the innovation. Engaging the target group and other actors from the outset, at the planning and development stage, creates commitment. Therefore, experimenting, development and generating innovations should be part of everyday life, including in terms of resources, and not separate or extra work for developers.

The Innovation Centre was established in spring 2017 to support the development of early childhood education and training providers' operational culture and the creation of innovations. The activities started with the New Comprehensive School programme and form part of a broader central government reform and reform of the Finnish National Agency for Education. As an innovation unit, the Innovation Centre has assumed a role at the interface of the Finnish National Agency for Education; seeking new paths, conducting tests and collecting learning. Together with education providers, school developers and education administration experts, work has begun on finding effective tools and models for people-centred development and learning across different levels of the system.

The Innovation Centre's two pilot programmes serve as key platforms for joint activities and learning. In them, projects which have received government grants for the development of basic education receive sparring and support in implementing systematic experiments through the methods of co-creation and

design. The key issue in our work has been to find out how local knowledge, experiences and initiatives can be utilised from the bottom up and made to grow at the national level in education development. New ways of learning from development work and identifying what seems to work, what not, and why, are particularly necessary. To meet this need, the Innovation Centre uses the experiments created in the programs to build a multi-perspective assessment model that supports collaborative learning.

We asked HundrED, the education sector expert specialising in teaching innovations worldwide, to present their expertise and experiences in Finland and globally about the implementing of innovations. The purpose of the report is to gain insight into what is slowing down, preventing or enabling the implementing of innovations. We are specifically interested in increasing understanding of which factors relating to the cultural approach can contribute to increasing the creation and utilisation of innovations at school and municipal level, and providing insights into what could be the national player's role in relation to education and training sector innovations in the development of education. We hope that this perspective will help stimulate debate on how more and better innovations could be created in the Finnish education system, how they could be implemented more widely and be embedded deeper in various schools and municipalities in Finland.



Olli-Pekka Heinonen

Director General,  
the Finnish National Agency for Education



Anneli Rautiainen

Head of Unit, Innovation Centre of  
the Finnish National Agency for Education



## Foreword by HundrED

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HundrED.org is a non-profit educational organisation founded in 2015. Our goal is to identify the best pedagogically sound innovations in the world which improve education and encourage these innovations to implement. To date, about 70% of the innovations selected by HundrED are non-profit.

Our activities are international. Throughout our history, we have reviewed well over 5,000 educational innovations from more than 160 countries on all continents. Of this total, we compile smaller collections of innovations on different themes and areas, and annually select one hundred interesting innovations for the HundrED Global Collection. The innovations selected for the 2020 Collection have implement to an average of 10.7 countries and reached around 75 million learners at the time of collecting the information.

We look for innovations across the board throughout the school world and its various sectors, from new methods of teaching and ways of learning to assessment development, from teacher education to learning environments and change management. The final selections from the innovations we have chosen are made by a team of around 100 educational experts, the HundrED Academy. For example, for the 2020 Collection, they evaluated more than 2,000 innovations using our tools.

Over the years, we have found that the most interesting innovations do not always come from the best-performing education systems, often the reverse. In countries



with strong education systems, the pressure to reform is lower than in countries with weak education systems or systems in crisis. However, many insights made with small resources would work well in other contexts. Along with exporting education, we encourage everyone working in schools to adopt an inquisitive, curious and open approach – great operating models are found in all countries of the world, and they very rarely get the attention they deserve.

Various investigations and surveys play a major role in our operations. Not only do we want to identify great innovations and make them better known, but we also want to understand the challenges of implementing and implementing innovations: why is one innovation implementing and another one not? What should be done to support the implementing of innovations and what should be avoided? This report is one example of this work.

We hope that the theory, examples and interviews will help readers to better understand the field in which innovators, passionate about learning, operate. In everyday activities, both experimenting with and developing new operating models is intertwined with the basic work. Particularly for public innovations, it would be great to have more visibility for this important work, done by individual employees in education and training, to advance the education system. When individual acts are noticed, co-creation networks become possible and the culture of an innovation-friendly education system can be strengthened.

We do not imagine for a moment that education system development would consist of haphazardly chosen individual innovations. Everything must always be based on a long-term vision and a high-quality curriculum, implemented through a variety of effective operating models – innovations.

HundrED's long-term goal is to be the world's leading expert in innovations which improve education and assist all children worldwide in receiving education in the way that suits them best.

The journey is only beginning, but the work is already in full swing.



Lasse Leponiemi

Executive Director,  
HundrED

# Introduction

The world is changing – inside and outside schools. Some forecasts see the change as truly dramatic, and even the most cautious ones find it remarkable. It goes without saying that as the world changes, schools must evolve and keep up with the change. Very few disagree with this core challenge.

Therefore, fundamental and difficult issues are not usually related to the need for change, but to its implementation. What is changed and what is not, and how the change is implemented so that learners and teachers can keep up.

This report does not comment on the content of innovations, that is, what should be taught in future schools and how, because a lot of content research has already been done.

Instead, this report focuses on how solutions that are proven to work – innovations – can be disseminated so that they benefit as many as possible. How to create a culture that is enthusiastic about change? This, of course, does not mean the same as being uncritical.

Still, a small frame of reference is probably in place.

If the school's mission is to help learners succeed, even thrive, in tomorrow's uncertain world, it is essential to identify what is likely to be needed in the future and what is not. Many experts believe that in the future world, machines will perform better – faster, more efficiently, more securely – than humans. And vice versa, the things which humans perform better than machines will remain in human hands. These are often related to people-to-people communication, collaboration and creative thinking.

On this basis, many current occupations are predicted to disappear in the coming decades due to technological advances, such as automation and artificial intelligence.<sup>1</sup> Of course, this does not mean that the school's only task would be to prepare learners for the working life, but it is also difficult to imagine a world in which school would be completely isolated from the development of the wider world.

In a world where every individual has access to an ever-increasing amount of information at their fingertips, it is increasingly important to learn how to use knowledge and think clearly – for example, to promote wellbeing and sustainable development.<sup>2</sup> The wider world is changing due to the combined effect of many different factors. It is affected, internationally, by various economic, cultural, technological, environmental and political forces and, as consequence of changes in these, the education system and education also need to be rethought.<sup>3,4,5</sup> However, in the school world, change is challenging. For example, what kind of change is too fast or too slow? How can the impacts and functionality of new things be verified in a changing world? No wonder that, despite good intentions, many school reforms all around the world have met with difficulties, in one way or another.

What lies behind these failures? Delays in identifying challenges, in decision-making, in implementing reforms and in assessing their true impact have sometimes contributed to the failure. Along with increased confusion, reforms have resulted in slow and weak impacts on learning outcomes.<sup>6</sup>

But in many cases, reforms have also been hasty and aggressive. In the spirit of reform, the school has been developed on the basis of new ideas, rather than innovations proven to work. However, they involve an unfortunate challenge: very often they do *not* work.

IDEA

## Good bad change

In Finland, the debate over education system development has become more prominent in recent years – the painful adjustment efforts of governments, combined with content reform, have highlighted the political nature of education system development, which various target groups, not only educators but everyone from parents to employers, want to comment on.

A key element of change is tolerance of uncertainty – no matter how much we call for certainty, it is ultimately impossible to know what the impacts of measures implemented will be in the long term. It is impossible to create a system which would be perfect in everyone's opinion.





## Innovation is defined in many ways

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Innovation is often seen as a kind of problem-solving process.<sup>7</sup> It is a solution to a perceived problem<sup>8</sup> and usually it contains features that facilitate its diffusion.

Innovation can be described as a practice or product which is new or perceived by adopters as new and useful, improving the quality of life.<sup>9,10</sup>

The diffusion of innovation, a workable solution, is always social in nature and occurs through interaction between people.<sup>11</sup>

The OECD has argued that, in education, innovation can, in the *best* case scenario, **1)** improve learning outcomes, **2)** improve the quality of education, **3)** produce fairer education, **4)** produce education more sensibly, and **5)** modernise education to better reflect the present and future.<sup>12</sup>

School development should always be guided by the primary interest of the learner.<sup>13</sup> Good innovation always begins from this starting point, *takes the school in the desired direction, and is implemented with quality.*

But it is good to remember that not even good innovations solve everything. They only provide a solution or *an approach to a specific situation or problem.* Instead of individual innovations, it is always a question of a system, an entity.

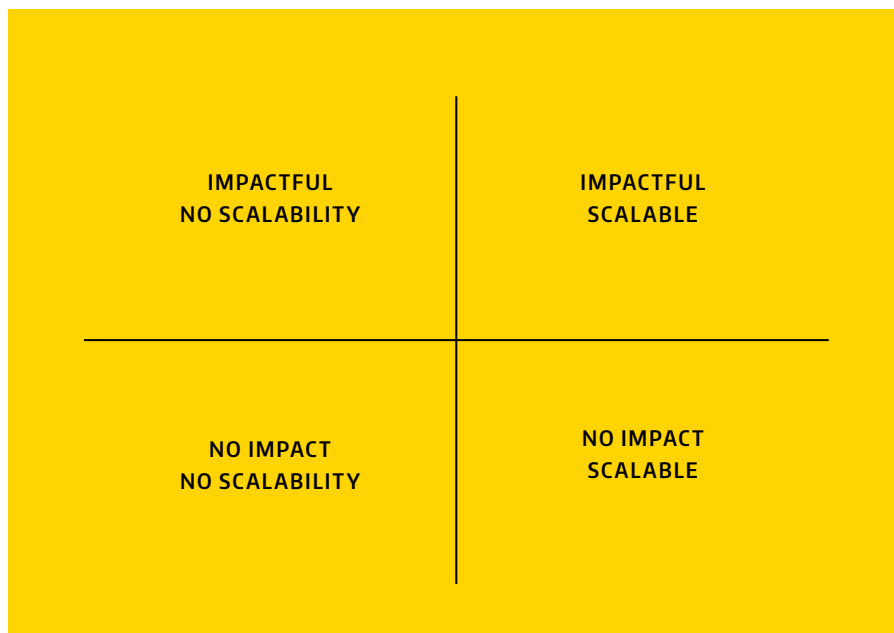
It is important for any individual school community to identify the group of innovations that could at present take the school in the desired direction and thus promote learning in the best possible way.

In addition, it is worthwhile to emphasise that if innovation is to benefit the whole community, it is vital that development activities are carried out in close cooperation with the community as a whole.

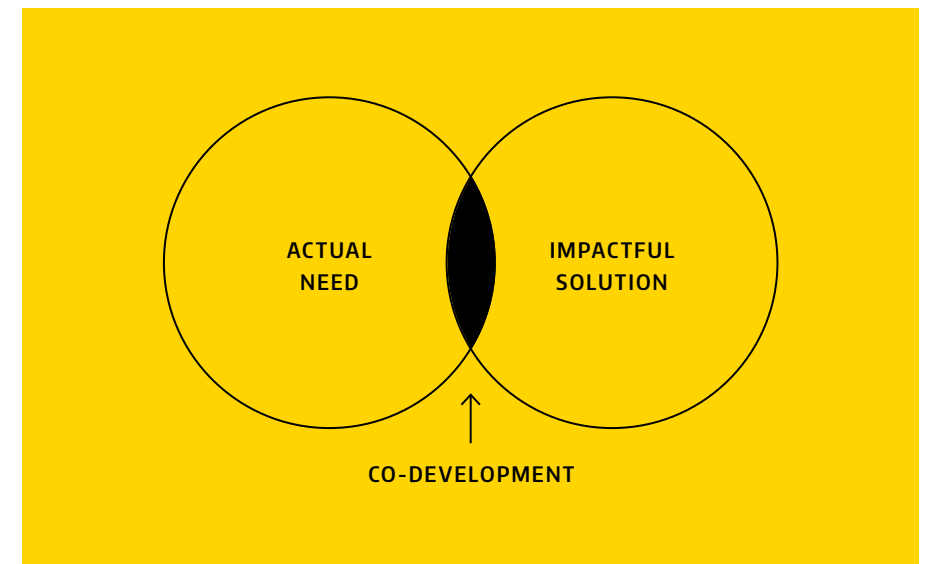
Before choosing and implementing innovations, the school community should discuss which problems the community really wants to solve, and the entire community should be involved in the change. For this reason, not only the choice of innovations, but also the target state is important in the school community – it is essential to maintain a continuous discussion on the direction of development.

When revising operating models, the direction of development should be observed, the observations should be learned from and the direction possibly corrected due to what is learned.

HundrED has studied teaching innovations on all continents for many years. At HundrED, innovations are evaluated through two variables: the **effectiveness of innovation** and **its scalability**.



We want innovations, which develop education, to be proven pedagogically effective and take the school in the desired direction. Repeatability is also integral to innovation, which means that it has the potential to implement to other contexts. To have the prerequisites for being truly scalable, an innovation must respond to the challenges or development needs experienced in the school community.



But, as stated earlier, not even good innovations rarely implement automatically. It is therefore essential that an effort is made to implement the innovation. For this to be possible at all, it is necessary to understand the nature of innovations and the process of their diffusion.

Innovation is usually not static. It is not 'ready' but needs to be continually developed and adapted to the changing world, feedback and context. This, of course, requires not only funding, but also time, responsible developers and structures that support the activity.

## Perspectives on the current situation in Finland

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Many different parties develop schools in Finland. The Basic Education Act provides the statutory framework for teaching. First and foremost, the Parliament decides on legislation, funding and guidelines for education policy. In society, the Government holds executive power in politics, and it is the ministry's task to assist the Government in power in exercising that power. The ministry is responsible for assisting with political decisions, such as the preparation of laws, decrees, regulations and decisions.<sup>14</sup>

The Finnish National Agency for Education (EDUFI) is responsible for the nationwide development of education and the implementation of education policy as the national development agency. EDUFI's operations are guided by four impact objectives, which provide the framework for the agency's activities. EDUFI's mission is to promote equality in education and internationalisation, to improve the wellbeing of learners, to raise the level of competence through continuous learning and to increase open-mindedness.<sup>15</sup> According to the Early Childhood Education and Basic Education Act, each municipality is obliged to provide education and teaching. Basic education is mostly organised by municipalities, as for example in 2018, 95% of basic education was municipally organised.<sup>16</sup> Depending on the municipality, the organisation of development activities related to education varies. They are organised both locally within the municipality and regionally by

several municipalities. Moreover, each school, class, teacher and learner develop education and teaching in their own context. It can be said that the development of Finnish schools is carried out by a wide network of multiple operators at many different levels.

In Finland, the central government and the organiser of education and training, that is, the municipality, are responsible for financing of education. At the central government level, the provision of education is supported through the system of central government transfers to local government. Funding for education through the system of central government transfers to local government comes from two different transfers: central government transfers for the municipality's basic public services from the Ministry of Finance, and transfers for educational and cultural services from the Ministry for Education and Culture. The primary premise of the central government transfer system is that the recipient has the freedom to decide on the targeting of the central government transfer.<sup>17</sup>

Through the system of central government transfers to local government, education and training receive core funding, performance-based funding, targeted funding and development funding.<sup>18</sup>

Development funding is distributed as discretionary government transfers. The purpose of discretionary government transfers is to "support the implementation





of education policies, the development of education and training, and the achievement of equality in education".<sup>19</sup> This means that financial resources are distributed to municipalities in the form of discretionary government transfers, so that they can develop their activities. It should be noted, however, that discretionary government transfers may only be used for activities in accordance with the decision on discretionary government transfer.<sup>20</sup> For example, if it is discovered that a predetermined use or need does not best meet the actual need for improvement, it will be difficult to alter the activities during the funding period. When applying for project funding, the project period needs and objectives must be anticipated for funding purposes in advance, which reduces the possibility of flexible development decisions along the way. In addition, applying for project funding and managing a project are often perceived as time-consuming and challenging.<sup>21</sup>

# Innovation- friendliness in education

Innovations and their introduction have been researched widely. Everett M. Rogers' theory of innovation diffusion is one of the most respected and well-known scientific studies. Consequently, we review innovation-friendliness and introduction of innovations at school level, based on the findings of Martti Hellström and Michael Fullan. Finally, we look at educational innovations as part of the education system, based on findings by CEI, the OECD, Transcend and Brookings.

## Everett M. Rogers

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Everett M. Rogers, the late American sociologist, is one of the most prominent experts on the diffusion of innovations. His best-known theory is 'Diffusion of Innovations'.

Before perusing it, we will review certain characteristics of innovation that, according to Rogers, predict the ease and speed of diffusion.

According to Rogers, the key factors for innovation diffusion include:

- Relative advantage
- Compatibility
- Complexity
- Trialability/testability
- Observability.<sup>22</sup>

Rogers argues that the relative advantage of innovation outweighs its objective advantage. According to him, it is important that people really feel that the innovation benefits them and hence think it will bring something good for them.

Compatibility refers to the innovation's values and norms that already exist in context, and to their compatibility with the new innovation. If innovation conflicts

with the prevailing context, its implementation will become more challenging, as it requires community-based changes, for example in values.

By the concept of complexity, Rogers means the ease or difficulty of understanding the idea of innovation – the simpler the idea of the innovation, the easier it is for it to implement to other contexts.

Trialability/testability and observability are also important factors in exploring the diffusion of innovation. According to Rogers, the fact that an innovation is easy to test, and the trial is easy to observe, also predicts its diffusion.<sup>23</sup>

According to Rogers' theory of innovation, the decision to introduce an innovation is made through the following thought process. First, the implementer receives information about the innovation. Through the information received, the implementer develops a certain bias towards the innovation. All this leads to the decision to either implement or reject the innovation. If the implementer accepts the idea of the innovation, he or she may try it in practice. Throughout the process, the implementer seeks information about the innovation in order to manage uncertainty about the future.<sup>24</sup>

The process is different for every person.

According to Rogers, individuals within a social system can be divided into five categories as adopters of the innovation: 1) innovators, 2) early adopters, 3) early majority, 4) late majority, and 5) laggards.

According to Rogers, the diffusion of innovation occurs in the order of these categories. In his theory, the smallest group of all, the innovators, are the first people in the social system to embrace a new idea.

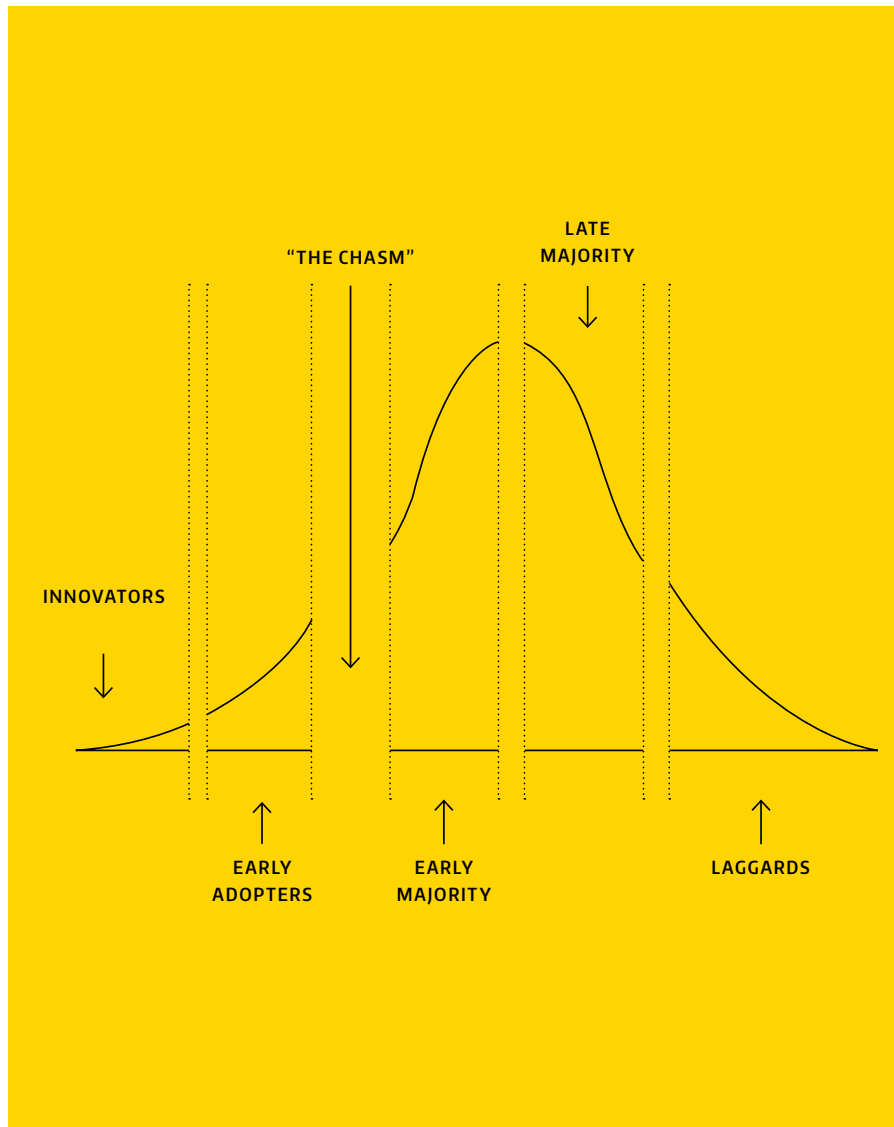
Innovators often present the idea to others in the community but are not always full members of the social system, being outsiders in some way. However, the next group of adopters, the early adopters, are an integral part of the community, and therefore have the greatest power to influence others by being role models and often opinion leaders.

In the next phase of the diffusion of innovations, the early majority will adopt the innovation, just before the average participant gets excited about the idea. The late majority, on the other hand, is somewhat sceptical in adopting the innovation and will do so only after many others have already put the idea into practice.



The further the process of innovation diffusion progresses, the less the group members' opinions will influence other members of the social system. Laggards are the last to adopt an innovation. They are very sceptical about anything new and prefer to base their decisions on how things have been done in the past.<sup>25</sup>

So, according to Rogers' theory, the diffusion of innovations is a social process.



In many cases, people considering the adoption of innovation will prefer to listen to the subjective experiences and advice of colleagues already experimenting with it, rather than base their opinions on objective, scientific knowledge.

Consequently, in the diffusion of innovations, it would be important to target early stage measures at early adopters, that is, the group that will adopt the innovation quite early in the diffusion process.

The experiences and role model of early adopters result in a social process where innovations found to work well will begin to implement to other groups in the social system.<sup>26</sup> And vice versa, if not even early adopters are enthusiastic, it is highly unlikely that the innovation will implement.

Furthermore, diffusion of innovation is often about the so-called 'critical mass' of individuals whose attitude towards innovation is positive. In many cases it is more effective to focus on encouraging the cautiously positive (early adopters and early majority) than turning opponents around. Most of them will follow, as long as the majority are enthusiastic about the innovation and tell positive stories about it.

## Martti Hellström

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Martti Hellström, Finnish Doctor of Philosophy (Education), studied innovation-friendliness in his doctoral dissertation. Hellström lists the following key factors for the success of innovation:

- Clarity
- Practicality
- Necessity and usefulness for the school.<sup>27</sup>

According to Hellström, it is clear that the clearer and more practical the innovation, the easier it will be to disseminate. It is also essential that the target group itself regards the innovation necessary and useful.<sup>28</sup>

In his doctoral dissertation on the way of change, Hellström argues that for success, it is not that decisive who takes the initiative to present the innovation. Instead, it is important that the school community is committed to implementing the innovation and, if possible, has itself decided to implement it.

The community's own will to implement an innovation is therefore essential for the change to succeed. In many cases, the success of an innovation may be hindered by the fact that the party who implements the innovation in practice does not feel having made the actual decision to implement it.

This is also confirmed by Hellström's observation that the actors' experience of implementing the innovation of their own accord would seem to be more important than the origin of the innovation.<sup>29</sup>

According to Hellström, development activities consist of three different sub-sectors: **1)** innovation, **2)** diffusion, and **3)** reception, i.e. adoption.

The starting point for development activities is usually a malfunction that requires change. In addition to the above, the success of the change depends on the current situation and atmosphere, the different parts of the system, and the culture. Related factors either promote or slow down the change.

In his dissertation, Hellström classifies the factors that support the diffusion of innovation as communicative and strategic features.

The most important communicative features that support the implementation of an innovation are "involvement, consultation, preparation, justification, joint decision, support and investing in the spirit of being 'us'."

According to Hellström, the most important strategic features are "enabling the project, planning, organising, buoying, rapid pace of change, control and rewarding." In addition, whenever problems occur, tackling them and trying to resolve them will predict the success of the implementation. Resources are another issue to consider.<sup>30</sup>

# Michael Fullan

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Change is very often a highly multidimensional phenomenon, and it understandably causes opposition in people.<sup>31,32</sup> In an organisation, a positive attitude towards innovation can be enhanced by focusing on explaining the need for change.

Michael Fullan, a Canadian author who has long studied education and educational reform, and contributed to it, has compiled a list of factors that oppose and support change. Fullan has presented his list in connection with the dissemination of the concept of deep learning and its principles.

Fullan believes that in order for us to be able to face an uncertain future and the challenges it involves; schools need to deliver a new kind of deep learning that prepares learners to creating a better world and more wellbeing.<sup>33</sup>

Factors that cause change resistance include:

- Change happens outside the comfort zone
- Change is complex
- Change is unclear
- Difficult to assess the advantage of change
- Lack of support by a bigger system<sup>34</sup>

Fullan also lists factors he believes will favour change:

- Exciting
- Passion and purpose
- Collective
- Speed of change
- Societal disruption - the need to change the perceived problems in society.<sup>35</sup>

Leadership is proven to play a major role in change situations. Effective leadership in schools is linked to students' improved learning outcomes.<sup>36</sup> However, the school leaders, principals, may feel lonely in their roles.<sup>37</sup>

Michael Fullan has put forward an effective leadership model amidst change, resulting in social engagement. Fullan thinks leadership is the key to situations of change that will inevitably cause emotions in employees. Effective management should lead to a situation where employees think that even the most difficult problems can be handled productively. The leader's agenda is to help employees face issues that they find challenging and force them to venture outside their comfort zone.





Fullan presents an effective change management model, which consists of five interspersing and overlapping themes. First, an effective leader acts with moral purpose to bring about positive change in the community.

Secondly, the leader must understand the change process.

Third, the key to successful change is fostering and building interactive relationships within the work community. Through these themes, knowledge and skills in the community increase through a social process, whereby information transforms into knowledge meaningful for the community.

Finally, an effective leader of change makes coherence in the midst of change. Fullan describes coherence making as a time-consuming process that can never be finally achieved – nor should it. In the process of change, it is important to tolerate uncertainty and traverse the edge of chaos while seeking coherence.

With these five themes, a leader is able to navigate successfully through change. It is also important for the leader to sustain energy, excitement and optimism.<sup>38</sup>

The leader also learns in the midst of change – an effective change process leads to learning for the community as a whole, and for the leader as well.<sup>39</sup> Rapid, continuous change in the world, therefore, requires a leader to adapt quickly and innovate. A forward-thinking leader is not content with a gradual, at times slow, change in education, but rather relies on the power of experimentation and innovation<sup>40</sup>, incorporating new ways of learning into school practices, harnessing the potential of technology, and recognising the importance of new players.<sup>41</sup> The leader's strong pedagogical attitude predicts success for the innovation.<sup>42</sup> Pedagogically competent leaders strive to create an environment in which the professional skills of all teachers can thrive.<sup>43</sup>

## CEI

In 2016, the Center for Education Innovations (CEI), jointly with UNICEF, released a report entitled 'Journeys to Scale', telling the story of the journeys of five selected educational innovations. The report outlines the challenges of scalability and implementation through five innovations and makes recommendations to support innovative practices.

Follow-up has shown that scalability is a broad concept and there is no simple way to implement it. Successful implementation of innovation requires a more profound local change in values and beliefs, in order for it not to remain a mere superficial experiment.

The case studies of five innovations revealed that context influences the pace of scaling, the speed at which innovation scaled and how successfully it could be made to thrive.<sup>44</sup> Context influences the implementation of innovation at the local level, and it is important to recognise that the same principles can be followed in different places, but the context must always be taken into consideration.<sup>45</sup>

The OECD's report on innovative pedagogies from the teachers' viewpoint also reveals that innovations are context related. In many cases, scaled innovations are not perfect copies of the original idea, but rather seek inspiration from the model, and adapt it to their context.<sup>46</sup>



## OECD – Centre for Educational Research and Innovation (CERI)

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Which is the more effective model from the viewpoint of innovation diffusion, top down or bottom up?

The so-called top-down model is guided by a cross-curricular reform of the education system, in which the top decision-maker sets the goal for the development effort. In top-down guidance, the idea is often to push change through local administration into every school and classroom.

If successful, top-down guidance will bring about large-scale changes. At the same time, however, it is a challenging and often inadequate approach in today's complex world.<sup>47</sup> It is particularly challenging in a country like Finland, where many people in the system have a great deal of autonomy and freedom of action.

Therefore, when promoting change, it is important to adopt an approach that takes the entire system into consideration, taking into account the tensions created by change and seeking a balance between innovation and risk aversion, for example. Time and resources must be allocated to change, and its rationale and benefits must be justified credibly.

Successful reform can take place in many different central government structures.

Reforms have been successfully implemented in both fragmented and centralised state structures. According to a report produced by the OECD's Centre for Educational Research and Innovation (CERI), it seems that coherence, stakeholder engagement, and running of the process itself are more important in terms of success than state level structures.

Effective governance works through building capacity, open dialogue and stakeholder involvement.<sup>48</sup>

The OECD's Centre for Educational Research and Innovation (CERI) has produced a summary report 'Schools at the crossroads of innovation in cities and regions' on its work on school development over many years.

CERI's vision for implementing innovations is that they are more likely to succeed in open learning and innovation ecosystems.

In other words, it is important for the success of innovations that the school opens its doors to outside parties and communities. According to the report, the benefits of such activities are mutual – the school gets important links with other communities to ensure diverse, innovative learning, and other parts of society can, in the best case scenario, learn from development work done at school and thus produce wellbeing to society in a broader sense.

According to the CERI report, the community's openness is a prerequisite for sustainable innovation. Creating such a culture is best accomplished by sharing responsibilities horizontally within the community and empowering people to be active.

The report also highlights the importance of the local and regional level in implementing innovation. The regional and local levels provide opportunities for networking and partnership at a close range. People implementing the innovation play an important role in the success of innovation and enabling their commitment and collaboration will deliver the best results.<sup>49</sup>

An operational culture where innovation is an integral part of everyday life is made possible by transforming schools into true learning communities. According to the CERl report, a real learning organisation is created by:

- Developing and sharing a vision centred on the learning of all students
- Ensuring continuous learning opportunities for all staff
- Promoting team learning and collaboration among all staff
- Establishing a culture of inquiry, innovation and exploration
- Embedding systems for collecting and exchanging knowledge and learning
- Learning with and from the external environment and broader learning system
- Modelling and growing learning leadership.<sup>50</sup>

Similar trends are present in the OECD's international recommendations for successful implementation, derived from studies of learning environments. They emphasise culture change, clarifying focus, capacity creation, collaboration & co-operation, communication technologies & platforms, and change agents.<sup>51</sup>

The Asia Society and OECD's Center for Global Education's report on teaching for global competence among learners highlights communication as well as excessive rush, lack of restraint, as the biggest challenges for implementation.

Change always takes time, and the results of development may not be available immediately. Restraint and confidence in success is required. The report also highlights the importance of assessment. In order to know that the change has truly been successful and has resulted in something positive, it must be shown, made visible in some way.<sup>52</sup>

Assessment of development produces answers about the usefulness of change and increases its reliability. That is not always easy. In particular, the benefits, or the lack thereof, of holistic innovations that renew learning across school subjects, can be difficult to identify.<sup>53</sup> Therefore, innovation assessment should be broad enough to truly measure how the innovative practice has worked and in what context.<sup>54,55</sup>

Innovations that rely on longer-term planning and assessment seem to have proven to be more successful. The continuous assessment of an innovation enables it to be redeveloped, which is seen as essential to its success.<sup>56,57</sup>

One more observation based on OECD's reports.

It is important that innovations are primarily based on the needs and interests of teachers and learners. This is best ensured by engaging learners in the innovation planning process.<sup>58</sup> A learner-centred approach enables learners to commit to learning.

When planning to implement innovation and when assessing implementation in schools, different groups of learners should also be taken into account; whether the reform has helped some more than others, and how can everyone benefit equally from the new way of learning?<sup>59</sup> The starting point for all development at school should be that all students benefit from the innovation.<sup>60</sup>

# Transcend

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The US-based non-profit organisation Transcend has created a five-C model as a framework for conducive internal conditions for innovation in school communities.

According to the model, it is important that the people implementing innovation have deep and sustaining belief in innovation. This conviction, belief in the importance and potential of the innovation, fuels engagement and ensures that the innovation is prioritised in the community. This is important if, and when, there are challenges in implementing the innovation – as is almost always the case.

In addition, it is important that the community understands the direction of progress, and the reasons for it. It is essential that the community has a common vision, which is as clear as possible – clarity – that steers the efforts for change in a common direction.

It is important for the success of innovation that the school community has the capacity to bring about change. Capacity in this context refers to the support of personnel, funding and time required.

Coalition between all stakeholders is seen as playing an important role in the success of change. Important stakeholders include leaders, educators, students and caregivers, and other community members.

Finally, the 5C model highlights culture, which refers to values, norms, and practices that support innovation.<sup>61</sup>

Transcend lists these five factors – conviction, clarity, capacity, coalition and culture – as essential factors in building an innovation-friendly culture within the education system.



## Brookings – Center for Universal Education (CUE)

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The reports produced by Brookings on education tell the story of how high-quality education could be produced more efficiently around the world. The report 'Millions learning. Scaling Up Quality Education in Developing Countries' finds that successful scaling of new operating models often occurs when new approaches and ideas are allowed to develop and grow on the margins and then implement.

The report identifies 14 core ingredients, which, when considered, contribute to scaling new educational operating models in the best possible way. These ingredients include essential models for designing, delivering, financing, and enabling the scaling of activities.

For designing an innovation, it is essential that committed leaders plan for scale from the outset, aiming at implementing the activity as widely as possible and making it effective. In planning the activities, it is important to consider the local needs, cost-effectiveness, flexible adaptation and suitability of the innovation, and the workload of the teachers. On the other hand, it is essential in the delivery of the innovation to take a combination of technical and political actions into account. These include, for example, multi-stakeholder collaboration, learning both within and outside the community, up-to-date technology and its exploitation in a proactive way, and collecting data.

As for finance, Brookings emphasises not only its existence but also its targeting. Funding should be flexible, stable and predictable over the long term, and should focus particularly on the operationally critical middle phase, where innovation transforms from a pilot to broader uptake. In addition to this, a supportive policy environment that encourages the development of education and central government decisions that support the implementation of innovative activities are crucial.<sup>62</sup>

Brookings has also emphasised the importance of networks in school development and so-called hybrid learning environments, which extend schools and learning beyond the organisations of the formal system, as part of the wider world.<sup>63</sup>



## Other observations

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Many researchers who have studied change in schools emphasise clarity in implementing innovation. Consistency and a clear direction are key factors in successful change.<sup>64,65,66,67,68</sup>

Lack of consistency can be a barrier to implementing innovation. The vision for a post-change school should therefore be shared by all members of the school community. Achieving a common goal can be challenging as all individuals naturally understand the vision in individual ways.<sup>69</sup>

In addition, people working in the school community may be required to respond to a variety of problems, which can lead to many separate development projects, which is where public funding for development guides applicants. This inherently noble idea may in fact turn against development, if clarity and a precise goal for the development are lacking or become too complex.<sup>70</sup>

Finnish researchers who have studied school development over many decades agree with the idea and propose that in many cases, the idea of 'less and more focused' often produces better results.<sup>71</sup>

At the same time, researchers argue that it is important to play around with thoughts and ideas hypothetically, and to consider the potential consequences of development. The so-called dual mission of school often creates contradictions, as

the school should simultaneously both renew and preserve culture and pass it on to posterity.<sup>72</sup>

Therefore, it is essential that there is an ongoing debate within the community on what is important, and the aim is to build coherence both in terms of objectives of the activity, and means of action, and between actors at different levels. The biggest obstacle to development, Finnish researchers say, is that development often forces individuals to work at the interfaces of their usual job. Overcoming this obstacle requires confidence, in both the innovation and one's own talents.<sup>73</sup>

In the Finnish national core curriculum for basic education, such a learning community is at the heart of the operational culture. According to the national core curriculum, "the school acts as a learning community and encourages all its members to learn". A learning community fosters an atmosphere where everyone feels safe to try new things and learn from their mistakes. A learning community also increases the desire to explore and experiment.<sup>74</sup>

There is fairly broad consensus among researchers that collaboration at all levels and between them is essential for the successful implementation of innovation.<sup>75, 76, 77, 78</sup> School networks and collaboration between them are considered important in the scalability of innovation and change. Networks facilitate the development of uniform teaching approaches, the creation of support materials, professional sharing, and





sharing of learning and leadership. Such networks seem to include both a strong pedagogical enthusiasm and a willingness to develop. In addition, the networks offer good opportunities for peer support between colleagues and feedback from outside the school, both of which are proven to promote development.<sup>79,80</sup>

Researchers have refined the idea of collaboration into a concept of “collective impact” that aims to achieve a major impact in change through collaboration. In order to achieve a collective impact, principles that reinforce the journey of development travelled together must be adhered to. In addition to a common vision, people in the community must act in a variety of roles, but in a coordinated way with the same goal. So, there must be clarity and integrity in the activities. The success of co-creation is also influenced by communication, which is essential to the change created together. In order for co-creation to take place at all, it must be ensured that there is an appropriate framework for it: a leader steering the change, the financial resources and the need for change.<sup>81</sup>

# About the implementation of the report

The purpose of the report is to highlight functioning support mechanisms that enable municipalities to adopt and support innovative practices. In addition, the report seeks to encourage local and global cooperation in sharing best practices between multiple stakeholders in the field of education and training. The aim of the research part is to understand how the diffusion of innovative practices works and how it can be promoted.

The research questions for this report are:

1. What enables efficient adoption of innovative activities and solutions in the public education system?
2. How can the public education system support the implementation and diffusion of educational innovations?

This report utilises mixed methods research, combining qualitative and quantitative research approaches. In the best-case scenario, this approach facilitates the multidimensional examination of research questions.<sup>82</sup> The wide range of stakeholders involved in the study also emphasises the multidimensional approach. The report seeks to highlight the views and experiences of people, involved in development work at various levels, of the functioning of innovations.



The national research section was implemented in Finland. For the purpose of the report, we looked at three Finnish innovations that have successfully implement either inside or outside Finland. These innovations were selected for closer scrutiny because they are publicly funded, have reached the stage of rapid growth, and have implement over a geographically wide area.

For the international research section, we reviewed four innovations around the world to enable a comparison between them and Finnish innovations. These innovations have also implement successfully, especially to other countries. All four international innovations have been selected for the HundrED Global Collection, which presents 100 global innovations in education and training every year.

All in all, the report sought to identify the factors that influence the growth of innovation. Innovations were studied by reviewing their functioning through articles, innovation implementation guidelines, target group interviews or online surveys. Perspectives focussing on innovation were enriched by personal interviews. The following table summarises the methodology used for collecting information on each innovation and which stakeholders were examined.

INNOVATION	MODE OF DATA COLLECTION	STAKEHOLDERS EXAMINED
THE STUDENT AGENTS	SEMI-STRUCTURED INTERVIEW	PROJECT COORDINATORS (2) GUIDING TEACHERS (4) STUDENTS (8)
VERME	QUESTIONNAIRE SEMI-STRUCTURED INTERVIEW	MENTORS / QUESTIONNAIRE (51) MENTORS / INTERVIEW (4)
TUTOR TEACHER ACTIVITY	SEMI-STRUCTURED INTERVIEW	REGIONAL COORDINATORS (7)
DREAM A DREAM	SEMI-STRUCTURED INTERVIEW	DEVELOPER (1)
REMAKE LEARNING	SEMI-STRUCTURED INTERVIEW	REGIONAL MANAGER (1)
CHATTA	SEMI-STRUCTURED INTERVIEW	DEVELOPER (1)
EDCAMP	SEMI-STRUCTURED INTERVIEW	DEVELOPER (1)

All interviews in this report were conducted using semi-structured thematic interviews. A semi-structured thematic interview allows changing the order of the questions and asking the interviewee specifying further questions.<sup>83</sup> The method provided the freedom to address themes relevant to the research objectives during the interviews. The interviews were recorded and transcribed verbatim.

In terms of quantity, the largest sample of subjects was with the Verme model, and it was decided to examine it both through a questionnaire and through interviews. The questionnaire contained quantitative and qualitative questions about respondents' attitudes towards the innovation, and which factors they have seen as facilitating or impeding its implementation. The interviews helped to deepen the perspectives in addition to the questionnaire material.

In the case of Finnish innovations, both the interviews and the questionnaire utilised the same set of questions, drawn up on the basis of the research objectives and research questions. Interview questions were modified for each stakeholder group, while maintaining recurring themes. Most interview questions were modified for student interviews, which sought to find out whether students' perspectives corresponded to those of other interviewees or whether conflicts arose between them.

As the research progressed, it became clear that certain key themes essential for the success of the innovation came up repeatedly. For this reason, to examine

international innovations, interview questions were targeted based on these themes. The examination of international innovations focused on their developers' experiences in developing, disseminating and financing innovation.

The qualitative material was analysed by means of thematic design. The transcribed material was coded into most frequently repeated key themes for each innovation. In addition, the most relevant observations for the research questions were taken from the data.

The research findings for each innovation were also reflected against the model of innovation success, presented at the beginning of the report, and the theoretical framework. The analysis helps in understanding the different strengths or challenges in the workings of the innovations selected for this report. The purpose of the analyses is to show how activities can be developed in order for them to grow and be sustainable in the long term.

When looking at the results of the study, it should be remembered that they represent a limited number of subjects' experiences at a given time and place. As a result, this report does not tell the whole truth about the topic under study, but rather presents perspectives on developing an innovation-friendly education system within the material compiled here.



## **Develop-Implement-Finance model**

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The central role of the community in the implementing of innovation is common for the theories on the diffusion of innovation presented in this report. All theories assume that the innovation must respond to a commonly recognised problem or need. To enable the growth phase, the target group needs to understand the advantages of the innovation and its implementation must be sufficiently easy. In order for an innovation to implement rapidly, it must be possible to credibly verify its effectiveness for anyone in doubt, and the funding must be sufficient to allow scaling activities.

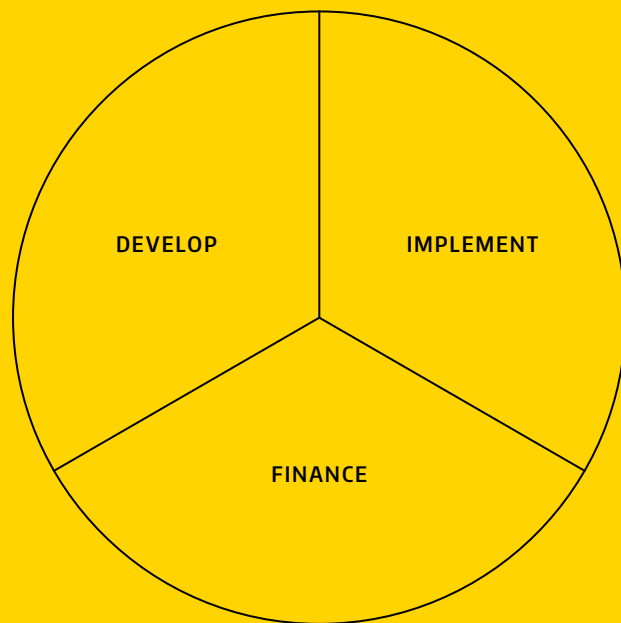
For the sake of clarity, we approach the prerequisites for the success of innovation through three areas in this report.

In order to work in the long term, innovation must be developed, disseminated and its long-term funding secured. All components are interconnected and form a circle. Development helps both diffusion and access to finance, which, in turn, enables further development and more effective diffusion.

The model has been utilised as part of HundrED's operations and, above all, in assisting international educational innovations. The model has helped innovators and stakeholders understand the holistic and systemic nature of development

activities. It is important that all aspects of this model are kept in mind by those who drive the action, and that resources are allocated to all of them when the situation so requires.

While all aspects are important, it is clear, that at different times, greater emphasis is needed on a particular area. In the early stages, attention should focus first and foremost on developing the innovation. Implementing an incomplete innovation often results in problems being scaled as well. Access to finance also becomes easier when there is clear evidence of the innovation in question being one that truly develops learning.



Development of innovations often requires years of pedagogically ambitious product development work. This entails field work, that is, developing the innovation with the target group, the users, conducting various experiments and improving the activities based on feedback. Ideas, not even the best ones, are not ready-made innovations. Perfecting their functionality requires tireless development – an idea becomes an innovation only when the action is repeatable, and the quality of results meets expectations.

It is important that implementing begins only when the true essence of the innovation, and what makes it work, is understood. This area requires not only time and resources, but also an in-depth understanding of the challenges of innovation implementing (i.e. diffusion, which Rogers refers to); the greater the change in approach, the more thoroughly the benefits of the innovation must be demonstrated to the target group.

An innovation-friendly education system is the result of all of the above. In such a system, there is an open and enthusiastic debate about school development, in order to identify challenges and solutions and to reach a consensus on the need for change.

Many different ideas are tried out for the problems identified, but only the most effective are implemented in partnership with the community through multi-stakeholder involvement.

All this requires long-term and visionary funding.







# Finnish innovations

In order to study the factors that promote or hinder an innovation-friendly culture in the education system, we examined three Finnish innovations: Student Agents, Verme, the Tutor teacher activity. The common denominator for all of them is that they are socially created and operate on the basis of public funding from the central government or municipalities.

Each innovation was analysed through the develop-implement-finance model and their performance was mirrored against the innovation theories presented at the beginning of the report. Because these innovations are community-based, there are variations in the organisation of activities in different localities. In the interviews, the interviewees always deal with the activity based on their personal frame of reference.





A model to develop the technology skills of the whole school community.

## The Student Agents

### Finland

The Student Agent activity started in 2013 as part of the KuumaTVT project, funded by the Finnish National Agency for Education's project funding. Initially, the activities were coordinated and developed by three experts from different municipalities, with the aim of implementing the activities to all ten municipalities of the KuumaTVT project around the Helsinki metropolitan area. This goal was successful, as Student Agent activities now exist in all municipalities in the region.<sup>84</sup> In addition, the activities have expanded to municipalities outside the project in recent years.

The Student Agent activity arose from the teachers' need to get help in teaching up-to-date technological skills to students and teachers. The Student Agent activity makes use of the knowledge and skills that students already have. In the activity, students teach other students, and the teacher at the same time, in the role of a Student Agent. Thus, the innovation supports both the work of teachers and the development of students' own competences.<sup>8586</sup> Over time, the activities have expanded from teaching digital skills to other sectors as well. Today, different schools may have, for example, feeling agents, sports agents, or reading tip agents.

The Student Agent activity was examined in this context from the perspective of the student agents themselves, as well as the teachers and coordinators organising the activity. We interviewed two project coordinators for the activity, four teachers guiding student agents, and a total of eight student agents. The interviewed project coordinators had a dual job description: they mainly work as teachers themselves and spend a part of their working time on the coordinating work. The student agents interviewed were between 11 and 14 years old. The interviews with the project coordinators and teachers were conducted as individual interviews and the student agents were interviewed in three separate group interviews.

## DEVELOP

All interviewees felt that one of the major factors contributing to the development of student agent activities is the role of enthusiastic student agents. The students and the fact that they clearly benefit from the activity were seen as the main reason for their wanting to continue with the activity and develop it further.

Another important factor in the implementation of the activities was top-down support for development – teachers emphasised the support of the principal, and coordinators, the support received from both the principal and the municipal decision-makers.

The Student Agent activity was seen as a way to engage students in the transformation of the operating culture. Interviews with student agents reinforce this view, as students said they shared their skills and knowledge with other students as well as teachers and felt that the activity originated in them personally.

The interviewees felt that the lack of time, and haste, were the main obstacles. Several interviews also revealed the negative attitudes of other teachers towards the activity, and the related challenges. The interviewees felt that other teachers were suspicious of getting involved.

The teachers' negative attitude was attributed to either a lack of awareness or courage to try something new. Joint discussion, allowing time to digest the idea, and encouragement for new activities were thought to change the attitude of suspicious teachers.

The interviews revealed the need for frequent and abundant discussions between teachers. On the other hand, some interviewees stated that when teachers saw the benefits of the activity in practice, their attitude became more positive.

These viewpoints are in line with Rogers' theory of innovation diffusion. As the activity implements from the early adopters to a larger group, the role of positive experiences and examples is emphasised. The more successfully positive user experiences can be described, the easier it is to develop the innovation and to eliminate challenges related to its adoption.<sup>87</sup>

The development of Student Agent activities relies on cooperation and collective development. Co-creation has clearly increased enthusiasm and influenced the activity positively. In addition, the starting point for the activity is involving learners as active operators, which was reinforced in the student interviews – student agents felt that the action was driven by their own ideas.



## IMPLEMENT

Teacher ownership in development was seen as an important driver of change. Any orders from outside the community to implement the innovation were regarded negative. Instead, working together and discussions were experienced as the way forward.

Successful implementing of Student Agent activities at the school level takes place face to face from teacher to teacher. However, the diffusion of innovation was regarded as a process, which requires conscious and regular discussion with other teachers.

The implementing of Student Agent activities seems to be dual in nature: enthusiastic, engaged teachers see the activity as important, willing to develop it and wishing it to become an integral part of the operating culture of every school in Finland. On the other hand, interviewees shed light on their experiences of how teachers and other school colleagues outside this enthusiastic active group may not be happy to get involved.

The situation can be regarded as the adoption phase in Rogers' innovation theory, where early adopters implement the word within the community about adopting a new approach. This group plays a key role in successful implementation; they are often well-networked within the community, appreciated and others seek their support. For example, in the case of Student Agent activities, such persons act as coordinators and assist with introduction.

It always takes time to instil an innovation in the community. According to Rogers' innovation theory, a new approach implements slowly within the community, group by group, starting with enthusiastic innovators and ending with the 'laggards', who only get involved in new activities with great suspicion at the last minute.<sup>88</sup>

It emerged from the material that the implementing of Student Agent activities in the community initially began face-to-face, in interactive situations, where the message was distributed equally from the teachers acting as project coordinators to other teachers. The message being communicated this way, in social interaction, is one of the key factors in the implementing of innovation.<sup>89</sup> On the other hand, it could be considered whether the activity could be more widespread if more time resources were available for it. The teachers who worked as project coordinators carried out the development and dissemination work alongside their own work, as a kind of side job, and they felt that they had very little time of their own when working in such a dual role.

## FINANCE

Although most of the interviewees felt that the funding was in order at present, they were concerned about its future and how it would affect the continuity of operations. Financial resources were considered essential for the activity and without them, the activity was regarded as being jeopardised. At the end of project funding, the alternative was that the funding for the activity would come from municipal resources and, in practice, the salary of mentoring teachers, for example, could be secured by making Student Agent activities an optional subject, which would involve a financial compensation for teachers for lessons taught. It seems that the individuals coordinating the activities were considering different options for how resources can be secured in the future, by edging the activity into existing structures.

In terms of funding, the interviews revealed uncertainty about continuity and concerns about which resources could be used in the future to continue the activities. From the funding point of view, Student Agent activities are vulnerable, as the sustainability and long-term funding essential to the sustainability of the activities are still lacking.

If the effectiveness of the activity and its impact on learning and the school community are not reliably measured and reported during project funding, the risk of funding being terminated increases. The positive thing is, however, that the various options for financing of activities after the end of project funding have clearly been considered.

However, the operational risk may be that no one is clearly responsible for the activities and is not responsible for acquiring the necessary resources for them, as the work is mainly carried out alongside one's own activities. If such key people run out of enthusiasm, the innovation may be left without a regional developer of activities and the activities will fade away.





## Suvi Koivumäki and Pirkko-Liisa Aatola

STUDENT AGENT ACTIVITY, FINLAND

Suvi Koivumäki and Pirkko-Liisa Aatola act as project coordinators and teachers for the Student Agent activity in the City of Nokia. They are jointly responsible for leading the activities and spend one day a week of their working time coordinating the activities. On other days of the week, Koivumäki works as a class teacher and Aatola as a special needs class teacher.

### How did you get involved? Your story?

**Suvi:** We started the activity together. We have both been tutor teachers and there has been frequent talk that there should be Student Agent activities in our city as well. In the end, the decision was made to start the activities and apply for project funding. We received the funding and started directly by coordinating Student Agent activities throughout the municipality.

### What have been the successes from your point of view?

**Pirkko-Liisa:** Well, organising together and co-creation have been an enormous lesson for myself. I also think that when two people are equally responsible for the job, there is a different degree of boldness and courage. It is safer for the two of us to examine both the good and the bad sides of the activity.

### What have been the challenges from your point of view?

**Pirkko-Liisa:** Time is definitely the challenge in this job, as alongside this activity, each of us is also fully responsible for our own class. Limited time limits the development of activities. We are fully involved one day a week, but on other days, we have to do things kind of on the side.

When there are two of us, Suvi and I, doing this, it's always easier to be out there and take on those blows and bumps. In a way, the challenge lies in that as throughout the teaching sector, the whole staff is totally overworked, it is challenging to dare open your mouth and ask, "Hey, let's think about this a little and who would like to be involved." It requires great talent to be able to skilfully introduce a new idea, which takes off, into the community.

### What has this required of you?

**Suvi:** A certain kind of foolhardiness. In this work, we have had to take a different approach to things. The Finnish National Agency for Education's Innovation Centre's project has brought a new kind of thinking to experimentation and development. First, we try something on a small scale and if it doesn't work, we test something else.

**Pirkko-Liisa:** We also need to be able to zigzag creatively and observe widely. We need to outline what we are going to develop, and why we develop. A wide variety of things has to be reviewed when you start changing the operating culture.

### Would you like to add anything related to the topic?

**Pirkko-Liisa:** If I think about development work, there is a lot of thinking going on about how the activity will remain permanent. We have experimented and developed, but what will remain alive in our school? What will remain alive in our city?

**Suvi:** Resourcing is required to maintain the activities. And especially when we mentioned that colleagues are busy, we do not want this to become an additional burden to just be counted as part of the teacher's work and salary. All work done must absolutely be compensated. A lot of time is also needed because this is a systemic change and a change of mindset. In addition, support from supervisors and management, as well as understanding for that the work we do is important, is of paramount importance.



Peer group mentoring is supporting personal development among teachers all over Finland.

## Verme

### Finland

Verme is an operating model based on peer mentoring of educational professionals. Verme operates in groups and networks, which means that mentoring takes place in small groups of about 4–10 people. The groups operating all over Finland form a network. The groups are led by mentors who are trained, for example, on the themes of constructivist learning, peer equality, narrative and dialogic.

Verme is a form of continuing in-service teacher education and offers opportunities for both experienced professionals and newcomers to share experiences relating to work.<sup>90</sup>

Previous research has proven that Verme is a meaningful professional development model for participants throughout their careers.<sup>91,92</sup> Verme has operated in Finnish municipalities since 2010. During the previous Government term, the model received additional funding, being one of the flagship projects of the Government's teacher education development program. The 'Verme2' project, which ran from 2017 to 2019, explored new ways of leveraging activities in different group configurations, such as mentoring meetings between supervisors or different education and

training professionals and youth work. In addition, efforts were made to continue and consolidate the activities as part of the workings of Finnish municipalities by training more mentors and strengthening the network of mentors already trained.

The Verme<sup>2</sup> project ended in 2019 and according to the final report, Verme was also experienced as positive in the new groups that were tested during the project. The report identified Verme's challenges and development targets as lack of time of group participants and long-term funding models. Among other things, the report recommends that activities should be considered as part of working hours for everyone working in the education and training sector.<sup>93</sup>

The experiences of mentors, trained by the University of Helsinki, of Verme were surveyed for this report through a questionnaire and in-depth interviews. A total of 51 mentors responded to the survey during summer 2019 and additional interviews were conducted with four Verme mentors.

## DEVELOP

Verme activities are carried out in municipalities with varying practices. Some municipalities have a coordinator responsible for the development of activities, others don't have one. All municipalities implementing Verme have Verme mentors, who are responsible for the activities of their group. Teachers who participate in groups are also involved in the planning of group activities, for example in the form of topics. University-based Verme mentor trainings and nationwide networking meetings aim to provide a clear direction and guidelines for activities nationwide.

Long-term resourcing has allowed long-term development of Verme. The great thing about developing Verme is that the Verme mentors have a positive attitude towards the model. About 60% of respondents rated their level of engagement as strong and almost 90% either slight or strong to the implementation of Verme.

Based on this, it seems that Verme mentors have a positive attitude and approach towards the activity. This is confirmed by the interviewees' experiences of Verme being regarded as a very important operating model and its further development is hoped to continue in the future.

In terms of development, Verme mentors experienced peer support from group members and mentoring colleagues, as well as support from colleagues outside the Verme groups, the employer and the municipality, as essential. The Verme activities were regarded as dialogic, empowering and emotional because of the peer support

it provided. In particular, the positive and encouraging attitude of the supervisor and the municipality were considered to be an essential factor promoting the activity.

On the other hand, the way in which the activity was coordinated in the municipalities was crucial to the promotion of activities. In this respect, the situations of the respondents differed quite a lot. In some municipalities, a person was designated to coordinate activities, while in some municipalities there was no such person. The same operational risk is evident in Verme as in the Student Agent activity; the lack of coordination is perceived to undermine the activity, and its development in particular.

The collected data clearly indicates that municipalities use highly different practices with Verme. In some municipalities, the activity is clearly more coordinated at the municipal level than in others, which is largely reflected in how solidly the activity develops and is refined further in the municipalities. Fragmented and uneven product development is likely to have impeded the implementing of this innovation. The inclusive approach to development is positive. Most of the respondents felt that Verme's networking format is important for its development as it enables colleagues to interact and creates a confidential space for discussion and sharing of personal work experiences.

However, many simultaneous but separate reforms and development activities were seen as taking up time from teachers, which is limited as is, and this was thought to be a potential obstacle to the implementation of Verme and the engagement of participants.

Verme mentors have a strong desire to promote the activity. In recent years, there has been intense development of activities in cooperation with universities and vocational teacher training institutes, Finnish Institute for Educational Research and the municipalities and training providers in the framework of the Verme<sup>2</sup> project, and experiences have been positive.

Such contextual development, where innovation can always be tailored to each environment, was also seen as a key success factor in the 'Journeys to Scale' report. When local values, convictions and needs can be profoundly considered, innovation has the potential to become part of the core activities.<sup>94</sup>

In Verme's case, the networked format of inter-municipal cooperation was seen as a factor that develops the activities. A framework for cooperation across municipal borders has been created, for example, during training days for Verme

mentors, where mentors have discussed and shared the various practices of the municipalities. Networked development across stakeholder borders was identified in the theoretical section of this report as a driver for the success of innovation. However, networked activities involve the risk that the hard core of the innovation starts to change in various directions.<sup>95, 96</sup>

## IMPLEMENT

From the viewpoint of Rogers' diffusion theory, strong support from the field indicates that Verme's operating model has reached both the early and late majority. Both groups need to be convinced of the necessity and effectiveness of activities. In addition, the late majority, in particular, shuns all risks involved in the activity.

The role of the municipality in coordinating and implementing innovation is emphasised here. The use of Verme in schools was seen as better and wider, the more respondents relied on the future continuance of Verme activities by the municipality. The stronger the role of the municipality, the lower the perceived operational and financial risks.

Continuous, regular implementing seems to be dependent not only on development, but also on whether a designated person or party works in the background, promoting the activity and striving to do so consistently. If such a model is missing in the municipality, the implement of activity within the municipality will remain superficial. Time is often the reason for this. The problems relating to working time, highlighted in the recommendations of Verme<sup>2</sup> project's final report<sup>97</sup>, were repeated in this study as well.

As was the case with the Student Agents, one of the biggest challenges facing Verme in terms of carrying out its activities was, therefore, teachers' lack of time. Many respondents felt that coordinating schedules was the major obstacle to the activity. In addition, the replies revealed that in some municipalities, it is not possible to participate in Verme activities during working hours, which means that the development activities were transferred to the participants' leisure time. Although this significantly weakened the chances of participating in the activity, it is also an indication of the activity's attractiveness – even in these municipalities, individuals participated voluntarily.

On the other hand, some interviewees from different municipalities reported that Verme activities in their municipality could be counted towards the teachers' planning and training day quota. It can therefore be concluded that persons involved

in Verme activities are, depending on the municipality, in an unequal position as to whether the activities are included in the planning and training time included in their working hours. If structures do not allow for participation or it is not seen as work, there is no potential for the activity to implement and it remains a marginal activity for innovators and early adopters only.

It is likely that the model could be more widely implement in municipalities if it could be considered as working hours. Currently, in some municipalities, teachers are involved in Verme activities in their own time, which may reduce the number of participants.

## FINANCE

Uncertain funding was a recurring topic in discussions with Verme mentors. In some municipalities, funding for the activity has not been received, or it has been difficult. In addition, some respondents felt that the lack of compensation for mentors was challenging in terms of organising the activities. On the other hand, in some municipalities, mentors receive a separate financial compensation for their work. As a result, teachers working in different municipalities are in an unequal position not only in terms of working time but also in terms of financial compensation.

In addition, some respondents wondered about the extent to which Verme has become part of the municipality's activities during its operations and how it will remain in the future when it is no longer supported by project funding. The coordinator in the municipality plays a key role in funding, depending on whether he or she is able to implement the activity so well that the decision is made to invest municipal funding in it. A similar risk related to measuring of the activity and perceiving its benefits is repeated in Verme as in the Student Agent activities; if the effectiveness of the activities cannot be clearly proven, financing is definitely more difficult to obtain.

Lack of funding was considered to be an absolute barrier to the activity. In this area, too, a person responsible for financing, able to justify the importance of the activity, for example, when municipal financing is distributed and able to obtain funding for the activity, emerged as an important factor. On the other hand, it should be remembered in this respect that the economic situations in municipalities vary, which in part has influence on whether the activities can be continued and in what way, when central government project funding ends.



## Liisa Halme

VERME, FINLAND

Liisa Halme is a teacher at Stadin ammatti- ja aikuisopisto Helsinki Vocational College. Her basic education is Master of Philosophy, majoring in English Philology. She has been a mentor in Verme for about three years in Helsinki.

### How did you get involved? Your story?

I got to know Verme in 2015 when I was completing my teacher's pedagogical studies at Haaga-Helia School of Vocational Teacher Education. Already at that stage, I found the activity interesting and important. The following autumn, I started with the Skilled Verme Training organised by the Department of Teacher Education at the University of Helsinki and graduated as a Verme Mentor in April 2016.

Verme combines things that are close to my heart. The activity gives the opportunity to consider the many different aspects of being a teacher and working as a teacher. Reflecting on my own teacher's identity and work in the peer group, especially during the organisational transition, has been necessary for me and my colleagues.

### What have been successes for you?

In my current workplace, I have always been able to form a Verme group and the group has operated throughout the year. Participants have been very committed to the activity and from my perspective, it means feedback to me on the fact that I, as mentor, have managed to create a functioning group of the participants. I've been able to express, in the spirit of Verme, why the activity exists at all, how useful it can be and what kind of power there is inside the group. The Verme activity is not a coffee table discussion, as it really has a purpose, direction and goal, and this is what the group creates together.

### What have been the challenges for you?

The challenges are mostly related to group discussions as we are all different individuals. In challenging situations, the role of the mentor is essential as he/she must be able to give everyone equal space in the meetings. This implementation of dialogue is challenging at times, but I am aware of it and I try to guide the discussion gently but firmly so that everyone feels they get the time they need.

### What has this required of you?

My working time has been resourced to allocate time for Verme mentoring. The meetings themselves take a couple of hours a month, but it is the mentor's job to make practical arrangements and devise appropriate methods to deal with the topic of the meeting. I like this kind of work and this gives me the chance to experiment, say, with different methods of cooperation. However, the structure of the Verme activity is relatively straightforward, so it doesn't require too much of me, but rather I get to do things I like and what matters.

### Would you like to add something more about the topic?

Equal sharing, learning from one another and listening to each other is paramount in Verme. In my opinion, Verme activities influence the spirit of the workplace as a whole, even though the entire work community is not involved. With some of the employees committed to Verme's cornerstones (including confidentiality, dialogue, equality), I believe that Verme's spirit will inevitably permeate everything we do in the workplace. I would like to see Verme activities as a permanent feature of every school and educational organisation in the future. I regard the activity as very important for common development, wellbeing at work and coping at work.





Teachers act as spearheads of development, training their colleagues around the city.

## Tutor teacher activity

### Finland

Tutor teacher activities are based on the promotion of new pedagogy and digitalisation. There are over 2,000 tutor teachers in comprehensive schools in Finland, who support all teachers in the implementation of the Finnish national core curriculum for basic education, introduced in 2016, and new pedagogy, and in matters related to digitalisation.<sup>98</sup>

Tutor teacher activities date back to the flagship projects of Prime Minister Sipilä's Government. One of the flagship projects during the 2015–2019 government term was "new learning environments and digital materials for comprehensive schools". One of the key areas for improvement in this regard was basic and in-service teacher training. To implement this flagship project, the New Comprehensive School program was established with the goal of learner-centred learning, the world's most talented teachers, and a community-based culture. Tutor teacher activity was the most significant practical measure to develop the competence of Finnish teachers during the previous Government term.<sup>99</sup>

Tutor teacher activities have been supported by discretionary government transfers and networked development activities. The goal of tutor teacher activities has been to “have a tutor teacher in all 2,500 comprehensive schools in Finland to support new pedagogy and promote digitalisation.” This has been largely achieved, as in 2017, there were 2,289 tutor teachers in Finnish schools.<sup>100</sup> Tutor teacher activities are carried out in almost all municipalities in Finland (96% of all municipalities in Finland).<sup>101</sup>

For the purposes of this report, we reviewed tutor teacher activities based on the experiences of regional tutor teacher activity coordinators. We interviewed seven regional coordinators from all over Finland on how they have experienced the tutor teacher activity in their area and the challenges and successes they have had along the way.

## DEVELOP

Tutor teacher activities are networked on a national basis. Tutor teacher activities in municipalities are surrounded by a national network and regional networks. The national network is maintained by the Finnish National Agency for Education. Coordinators have been appointed for the regional networks and they seek to develop activities in their region. In addition, there are municipal coordinators who are responsible for developing activities in their municipality.

In tutor teacher activities, co-creation and networks were considered important for development. Activities are developed within the city or municipality through both national and regional networks. The networks were regarded as promoting the development of activities in every way. In tutor teacher activity networks, representatives of municipalities or regions have the opportunity to exchange views and information on well-functioning practices and discuss challenges or opportunities in the activities, which contribute to local development. The importance of networks is emphasised in innovation research, according to which they play a key role in generating people's enthusiasm and willingness to develop.<sup>102,103</sup>

In tutor teacher activity, a community spirit in development was regarded essential at all levels. At the regional and municipal level, the most important facilitating factors for the implementation of the activities were the support of the central government, municipal decision-makers and the school principal. The phenomenon was described in interviews in many different terms. The regional coordinators described the commitment, support and positive attitude of the central government and municipal administration as well as school management as important factors in the promotion of activities. Based on the interviews, the support of these parties was proven, for example, in that decision-makers have repeatedly expressed their appreciation for the activity.

On the other hand, the regional coordinators also emphasised the need for support at work for tutor teachers working in schools. In this sense, city-level coordinators play a key role in building an internal network of tutor teachers. In some municipalities, there were examples of how two tutor teachers in the same school or a tutor teacher mentoring model develop the activities more steadily than the model of one tutor teacher. Co-ordination of activities at municipal and regional level was considered crucial for development.

Support and a positive attitude to innovation at many different levels were regarded as drivers for development in the tutor teacher activity. In fact, the

innovation has had central government level support from the outset, as it was part of the implementation of the Government's flagship project. In this context, however, it can be considered that the key role is played by the extent to which the people who carry out innovation in schools and municipalities have ownership of the implementation and development of the innovation. According to Hellström's doctoral dissertation, the ownership of the people implementing the innovation is important for the innovation's success.<sup>104</sup>

## IMPLEMENT

Tutor teacher activities are disseminated through regional networks, in order to engage nearby municipalities in the activity. Discretionary government transfers in the deployment phase of the activity have allowed for widespread diffusion at an early stage. The effectiveness of the activities has been demonstrated and good practices have been disseminated through nationwide network meetings.

From time to time, the operating culture of schools was regarded as a factor that slowed down the implement of activity – which also emerged in the analysis of student agents. Interviewees addressed the subject, for example, as the reluctance of teachers to open the doors of their classroom to tutor teachers or to receive support and help. According to Rogers' innovation theory, the role of communication is emphasised at the persuasion stage. It can help reduce uncertainties associated with adoption. Creating in the school community an atmosphere which enables the further development of activities was considered important for the implementing of activities. The problem is strongly related to the fact that policies that change the way schools operate do not immediately find a place in the minds of all members of the school community.<sup>105</sup>

Some of the interviewees did emphasise the slow pace of change in the education system. The interviewees felt that introducing and adapting a new operating model is time consuming and often slow, especially if the school community has been acting in a certain way for decades. Almost invariably, change in the operating culture is a slow and arduous process.

The problems in disseminating the tutor teacher activity seem to be relatively similar to those with the Student Agent activities. There are different groups of teachers in the school community, which, according to Rogers' model in his innovation theory, are divided on a timeline at different points in adapting a new idea.<sup>106</sup> Some teachers are happy to be involved from the outset, while others still doubt whether it is useful, and some are openly against it.

## FINANCE

Central government's financial support was considered the most important facilitator of the tutor teacher activity. Central government funding was regarded as important, especially in the start-up phase.

While funding was considered to be the key prerequisite to success in the tutor teacher activity, it has its downside. Interviewees expressed the scarcity of resources or tight financial situation as a barrier to implementation of the activity at regional and municipal level. Uncertainty was caused by changes in funding models or channels in particular – for example, the end of government project funding and the subsequent securing of other funding. The interviewees were therefore concerned about the extent to which the activities would continue after the end of project funding, and some suspected that the activities would decline as this happened.

As far as the tutor teacher activity is concerned, it is interesting to see how much the topic of finance was repeated in the interviews. Government-led funding was regarded to be a major driving force for action and the reason why the activities have taken root throughout Finland. At the same time, uncertainty of funding in the future was perceived as worrying. Tutor teacher activities are at a turning point as regards funding, as are other Finnish innovations presented above, when project funding ends. Many municipalities will soon be deciding on the future of the activities and where the funding will come from in the future, and how extensively, on what grounds funding can be allocated and how will it fit into current pay and budget structures?



## Jarno Bruun

### TUTOR TEACHER ACTIVITY, FINLAND

Jarno Bruun is the Development Coordinator for the City of Kuopio. Prior to his role as coordinator, he worked for almost 20 years as a classroom teacher. In the framework of the tutor teacher activities, he organises the tutor teacher activities in Kuopio and is involved in organising the activities of the North Savo regional tutor teacher network.

#### How did you get involved? Your story?

Digital subjects have been very strongly involved in my journey since my studies. During my studies, I completed teacher's ICT pedagogical studies as a minor subject and thus I have been involved in that type of activity since my graduation. I have also been involved in development work in the City of Kuopio since the beginning of my career, that is, for more than 20 years. Initially, I was involved in city development teams and then as a regional support person in neighbouring schools as well. So, when I worked as a class teacher, I was simultaneously the support person for my own school and neighbouring schools. Currently I have been working at the office for about four years, but I also visit schools constantly. As matters stand, I spend one day of the working week in schools in working pairs with teachers, implementing projects and launching activities relating to digital skills.

#### What have been successes for you?

From a personal point of view, success has been in finding the kind of team that has made it work. I have noticed that through this group, the activities really have an impact way down to the grassroots level, and also on children's learning. In the end, that's the most important goal.

Seen from the viewpoint of the City of Kuopio, I believe that we have an operational structure that works. We have tutor teachers in all 40 comprehensive schools, and even more in some. These 54 tutor teachers also have mentors who work as partners with teachers, so they don't feel left alone. This structure of tutor teacher activity allows for the flexible flow of information both ways between the school field and the administration. I also work as one of these circulating mentors, along with a few other people, and this way we get an overall view of the situation in the schools in a whole different way. In addition, regional cooperation with the North Savo network has been extremely important for co-creation.

#### What have been the challenges for you?

I think the biggest challenge has been the attitude towards digitalisation. Attitudes towards digitalisation vary widely and, for example, in the media, it is sometimes portrayed in a negative light, which easily forms opposites. This, of course, causes debate in schools where we have had to motivate teachers that this is indeed a skill that must be practiced, and is essential for the future.

There are many teachers in schools who are ready to get involved without hesitation, but there is also a suspicious group. To penetrate that wall of suspicion requires skills that teachers may not normally need at work. For this reason, the tutor teachers, for example, have found that they need tools to help them talk in a

way that makes people change their operating methods and behaviour. In the end, there is no other way to change that attitude than to have a conversation. It is time consuming and sometimes challenging.

#### What has this required of you?

For myself, this has particularly required that I help the tutor teachers in discussions so that they do not feel left alone in schools. In my opinion, if the funding is allocated solely at hiring school-specific tutor teachers, without network support, the activities are weak. It has been clearly seen in Kuopio that tutor teachers are happy to share this resource with another teacher so that they can get a working partner at the school. This clearly demonstrates that these activities also require psychological support.

#### Would you like to add something more about the topic?

I think that nationwide networking has also been essential to the development of operations. These networking meetings have provided an opportunity to meet and exchange good experiences with representatives of different municipal and regional networks and to get some good ideas there. I think it is very important for this kind of development work that not only something is developed in a certain area, but that sometimes, at the national level, we come together and share those ideas.

## Observations on Finnish innovations

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Although only a few Finnish community-based educational innovations are covered in this report, we believe that they provide an indicative picture of the current state of Finnish educational innovations and the factors that support and slow down their development.

We have a large number of ambitious actors and good 'preformed ideas', but much of the work is still lacking in perseverance and organisation. Particularly the creation and further development of new operating models based on development projects make the activities volatile and do not actually support continuity. In our view, this is due above all to lack of resources, time being an important one.

Innovation development on a commercial basis differs fundamentally from social and public innovations. The responsibility for development work lies with responsible persons in the company, who, through their own actions, strive to ensure that customers find the innovation so useful that they are ready to start a business relationship with the company. In the early stages of development, in many cases not only own time, but both external venture capital and equity, are invested in the activity. From this point on, the race against time begins, during which the innovation developer must be able to meet customer needs before the

money or other resources reserved for the development work are exhausted. This sense of urgency does not come about in social or public innovations.

It very good that in most innovation activities, the importance of experimentation and development seems to be understood. The culture of co-creation has also implement among teaching staff. Working together has also made it clear that even if product development were centralised regarding the key decisions, development work cannot only be led by ready-made commands or instructions from above, but through continuous dialogue and engagement.

In addition to co-creation in networks, leadership is emphasised in the descriptions of innovations. The innovations whose core people are ready to do a lot of footwork and take the overall responsibility for pushing the activities forward, develop and implement best. The innovators' experiences of the activities being demanding are repeated in interviews. Innovation activity is stressful – especially those who lead or disseminate innovation activity alongside other work, such as the role of the teacher, find it challenging to cope.

In implementing innovations, it is important that the activity can be tailored to local needs flexibly enough. At the same time, the hard core of innovation must be defined clearly enough, so that the core purpose of innovation does not change as part of the application. This is often inadequate. In too many cases, innovators have



not defined very precisely what parts of innovation can be modified, and what not. Moreover, in addition to this supporting documentation, successful introduction of the innovation requires local expertise and recognition of local special characteristics. The challenge in networked activities is that, without coordination, there can be many operating models loosely based on the innovation, which only have the name in common.

The introduction of innovations almost always requires changes in the prevailing operating culture. Making these changes is slow and often difficult. According to Rogers' theory, enthusiastic people are always counterbalanced by people who are not willing to partake in change, but on the contrary, try to prevent it from happening – especially when the situation is still quite good. This must be accepted, and development must continue regardless.

Both innovators and early adopters, in particular, receive a lot of negative feedback when implementing new operating models. Therefore, the closest superiors play an extremely important role in making the change. If they do not support change and defend reform at difficult moments, development may come to a halt and the key people run out of motivation.

When looking at Finnish innovations, it became very clear that project funding played an extremely crucial role – again, for good and for bad. While it can be stated that many innovations are unlikely to exist without project funding, activities easily become too dependent on project money. It is automatically assumed that the end of project funding also means the end of activities, although this need not necessarily be the case. Alternative financing models would often exist, but there is not enough time or expertise to find them. In any project, it would be important to consider what kind of an operational model could be used to continue the valuable activities. In this sense, the situation for market-driven innovations is, in a sense, clearer, as innovators are aware of fundraising being a key part of the activity.

Perhaps similar elements should be built into the development projects, which encourage municipalities and schools participating in the activities to provide partial funding from the outset. This would result in a relatively smaller change in the funding base at the end of the project funding, as there is a tradition of investing in the activities while they are ongoing.

IDEA

## **Innovator's mindset**

A pro-development attitude is a way of working in which the mindset of an innovator is the key tool – how can I do a little better today than yesterday? Which action taken today would be most valuable tomorrow?

The situation becomes challenging if, and when, the innovation begins to grow and implement. Where can I get the time and resources? Which should I compromise, my day job or the development and implementing of the innovation? How do I make sure I don't get exhausted under the burden?

# International innovations

Finland has an exceptionally strong public education system and a tradition of community-based development. However, in the 2017 Brookings study, the share of public innovations is very small, only about 12% of all educational innovations in the world.<sup>107</sup> Due to the low responsiveness and risk-taking capacity of public organisations, as a rule, innovative activities appear to be taking place outside them.

We selected four widespread innovations from around the world, which work in close cooperation with the public sector or which are funded by the public sector. Our aim is to use these examples to highlight the universal aspects of innovation and the specific approaches linked to the national context. The innovations featured in this section were selected for the HundrED Global Collection in 2019.







First of its kind, standardized, validated and published scale to measure Life Skills in disadvantaged children.

## Dream a Dream

Bengaluru, India

Dream a Dream is a foundation, established in 1999, to help particularly vulnerable young people learn the skills they need in the future.

Dream a Dream consists of several different programs: after-school activities for students, a career-oriented youth program, teacher training and a volunteer program.<sup>108</sup>

All programs aim to equip young people for the future by providing them with opportunities to learn cross-cutting skills in life, such as decision-making and problem-solving skills, critical thinking, and skills for establishing communication and interaction relationships.<sup>109</sup>

Dream a Dream has evolved into a multi-program organisation over the years. Dream a Dream started out by first setting up an after-school program based on learning a wide range of skills through a variety of arts and play techniques.

Next, the innovators realised the need to support children as they grew into adolescents and started to make career choices: the conversations and activities of the young people showed clearly how the socio-economic background influenced their future plans and the jobs they eventually ended up with. For this reason, Dream a Dream decided to develop a career-oriented program for young people, where they will have the opportunity to learn the skills that are essential to life management and future working life.

In 2013, Dream a Dream expanded its activities to include teacher education, in order to increase the effectiveness of the operating models developed by the foundation. Today, the organisation cooperates with three Indian states and has implemented its welfare-based curriculum in public schools in these states. The program reaches approximately 1.5 million learners on a daily basis, from early childhood education to 8th grade students.

The Life Skill Assessment Tool developed by Dream a Dream was selected for the HundrED Global Collection in 2018 and 2019. The Dream Life Skills Assessment Scale (DLSAS) has been developed to assess the development of skills that meet the goals of the Dream a Dream programs. For example, the assessment tool can be used to assess a young person's ability to show initiative or interact with others.<sup>110</sup>

An innovation developer was interviewed for the review of Dream a Dream.

## DEVELOP

The Dream a Dream project and related innovations have been developed over the long term. The organisation has started with one program and developed its activities as the need for the next step has been recognised. The activities have been developed primarily based on the needs of the learners. When developers discovered that young people were still in a vulnerable position during their transition to working life, they developed activities to support this phase of transition.

The development work has responded to the problems identified and tried to resolve them as quickly as possible. Based on innovation research, the need-based approach is extremely important for the success of activities.<sup>111</sup> The interview revealed that the programs may have been developed for a few years before they were implemented, which is indicative of the long-term approach to development.

In Dream a Dream, development is based on a thorough understanding of the needs of learners, their parents, and teachers. To deepen their understanding of the target group, everyone in the organisation is required to spend time with children, young people, teachers and parents, and listen to their views. To make these insights visible, the organisation has a team dedicated to gathering user experiences, finding convergent trends in them, and ultimately recording the observations. This approach is a key part of the development activities of this innovation.



## IMPLEMENT

Dream a Dream is now being distributed through state partnerships. In order to be able to do this with governmental bodies, the need had to be identified. A precondition for the dissemination work was to begin to regard the socio-emotional skills of the children as critical. This required a great deal of dialogue and convincing those in power that the implementing of such activities is important for the children's future. As the activity was recognised at the state level, new partnerships could be created to support the innovation and resources collected for rapid expansion.

All in all, changing the mindset and attitudes of people has been considered challenging in implementing innovation. Traditional learning in India is largely centred around mathematics and literacy, which has led some people to resist the innovation which focuses on the learning of so-called soft skills. The developer of the innovation believes the resistance is due to the fact that the idea behind the innovation is not understood. On the other hand, assessment of such skills is generally perceived as difficult, which, according to the developer, may easily have led to the topic being ignored. Indeed, according to Fullan's theory, resistance to change arises out of such factors: change often occurs outside one's comfort zone, and may seem unclear, especially if its advantages are difficult to assess.<sup>112</sup>

The aim is to implement Dream a Dream's activities also through scientific knowledge. According to the innovation developer, not much research on life management and socio-emotional skills has been done in India. For this reason, a research team has been set up at Dream a Dream to investigate the topic, collect evidence of the effectiveness of the activities, publish reports and studies, write blogs and generally produce information on the topic. In this way, the work is made visible and its meaning validated. This is considered to be an important way to dispel the mistrust of innovation, because communication can justify the significance and benefits of innovation. The organisation's research team consists of four people.

## FINANCE

Dream a Dream is a charity that mainly finances its activities through donations and other outside funding. In the opinion of the innovation developer, it is important to build financing on a sufficiently diversified basis, so that the activity is not dependent on one single entity only. That is why today, Dream a Dream's funding comes from many different sources, and none of them are overly significant for the continued existence of the activities. Therefore, the end of any individual funding cannot finish the organisation's activities completely. In addition, the innovation developer finds it important to establish long-term financing relationships, which further secure the financial base in the long term.

A team of three, each with their own area of responsibility, is responsible for raising funding for the innovation. For example, there is a person in the team responsible for maintaining relationships with businesses, and another responsible for writing grant applications. In addition, there are people in the back-up team who help with maintaining financing relationships, including preparation of reports and scheduling.

According to the developer, especially in the early stages of the activity, fundraising was challenging, but as the credibility of the activity increased, it became easier. It is important that the financiers begin to believe in the idea of the innovation and realise why the activity is an important and relevant part of the learning process for children and young people.



## Vishal Talreja

DREAM A DREAM, BENGALURU, INDIA

Vishal Talreja is one of the founders of Dream a Dream. Talreja has been working with children and adolescents for over 17 years. He is a passionate dreamer and believes in the potential of every learner.

### How did you get involved? Your story?

I was one of the 12 founders. Most of our founders graduated from university about the same time. We started the organisation as a volunteer network. Initially, it was a group of people who came together on weekends to spend time with the children. Dream a Dream became an official organisation in 2000.

In fact, Dream a Dream's story began more than 20 years ago when I was doing an exchange program in Finland. I was deeply impressed by the people I met during the exchange program. I could go to a restaurant and make friends with the waitress or a shop cashier could become my new friend. I grew up in a society where this was not possible. So, in Finland, I saw a different world which inspired me. I decided to go back to India and change the way we see equality between people in our country. This experience contributed to the birth of Dream a Dream.

### What have been successes for you?

In practice, Dream a Dream has seen three major successes over the last 20 years. In the early years, we worked directly with children who came from adverse conditions. Our goal was to teach children life management skills outside of school, for example through sport, play and art. For the first 10 years, we looked for schools to cooperate with and implemented after-school activities together with them. However, we found that the transition to working life was a turning point in life for many young people from low socio-economic backgrounds, and then we decided to expand our activities to include young people. As a result, we established a career-oriented life skills program for young people, implemented in youth centres.

Another milestone can be seen in the teacher education program, launched in 2013, which integrates play-based learning, experiential learning and community approaches. Teachers' skills and competences are developed so that they can serve as the best possible role models for children in the acquisition of broad-based skills.

The third milestone came in 2016, when we realised that there are a total of 12 million teachers in India, and if we want to make a big impact through our operations, we need to work with the states. In 2018, after two years of persevering establishment partnerships, there was a breakthrough and we started work in Delhi. A curriculum based on holistic wellbeing was implemented in all public schools in Delhi.

### What have been the challenges for you?

The biggest challenge is to change particularly the mindset of the people who are most opposed to the activity. Secondly, measuring the skills taught in our activities is often perceived as challenging. I have seen that this challenge can easily convert people against our activity. On the other hand, however, it is a weak argument, because without teaching these skills, we cannot help children and young people to cope in the future. I feel that influencing people's thinking and traditional models of thinking about education are our biggest challenge.

### What has this required of you?

Primarily, the biggest change has taken place around our operating culture. For the first 10 years, our organisation focused mainly on providing services to vulnerable young people. When we started our teacher education program, we had to change direction into an organisation developing pedagogical approaches, where we had to understand childhood development and psychology, as well as the impacts of adult behaviour on children's learning. In this sense, increasing knowledge was a major change for our organisation. We began to think about the goals of our operations and how we could take them outside our organisation. Today, members of our organisation work with multiple stakeholders – young people, parents, employers, government officials or teachers – to defend the skills we believe in.

### Would you like to add something more about the topic?

The first 15 years were mainly spent discussing the importance of comprehensive and life-management skills. Today, everyone in India, and internationally, recognises that every child should have these skills, which is great. The question now is how to truly make it a reality.



Chatta helps children to become stronger communicators, readers, writers, and thinkers.

# Chatta

## United Kingdom

Chatta is an educational innovation that supports learners' language development. It was developed in collaboration with hundreds of schools and thousands of teachers and pupils. It is a whole-class teaching resource with pupils aged 3 to 18, and also by teaching assistants as an intervention resource. Parents are central to Chatta and as well as being able to support learning with the Chatta resources they also use the Chatta app to make Chatta stories at home.<sup>113</sup>

Chatta is a company founded in 2016, and Chatta is currently used in four different countries (Finland, United Kingdom, Spain, and Malaysia).<sup>114</sup> The aim of the activity is to support the development of children's linguistic skills at a time when smart devices are increasingly drawing the attention of parents. In many cases, parent-child communication remains poor, which negatively affects children's language development.<sup>115</sup>

Teachers use the Chatta approach at school with their pupils. Chatta can take place every day or every week and fits in with all existing plans and schemes without adding to workload. In the classroom, teachers use Chatta to achieve strong

progress and success for pupils (aged 3 and over) in language, communication and literacy. A whole class Chatta activity can take from 10 minutes to an hour depending on the lesson.<sup>116</sup>

Both images and spoken words combine to make an audio-visual resource which helps scaffold pupils' thinking, speaking and writing whilst strengthening vocabulary and memory. The audio-visual resource created in the lesson can be shared with families, and pupils are encouraged to explain and discuss their learning. Families quickly enjoy the answer to the question "What did you learn about today?" In addition, families use the Chatta software with their children at home.<sup>117</sup>

Family engagement in learning is proven to be a significant indicator of a child's success at school, and coupled with the powerful Chatta approach the impact is powerful. Chatta's design is research-informed and combines a number of proven methods including dual-coding, metacognition, cognitive load theory and the cognitive theory of multimedia learning.<sup>118</sup>

The review of this innovation is based on an interview with its developer.

## **DEVELOP**

Originally, this innovation was born from the need of a local education community. In the city where Chatta was founded, it was noted that children's language development was deteriorating, and their level of language proficiency decreased. The innovation developer examined the problem and reviewed related research, and then developed Chatta.

Today, Chatta's development is based on research and collaboration with users, that is, teachers and learners.<sup>119</sup> In addition to the innovation developer, Chatta is advanced by a team of five people, who assist in teacher training, innovation implementation, collection of feedback, and evaluation. The developer says he is primarily responsible for developing the innovation, but the team around the activity supports the development.

## IMPLEMENT

Active communication and support for the deployment process have contributed most to the implementing of the innovation. Teachers have been trained in the use of the innovation and by supporting the implementation process, they have agreed to test the concept in practice. Successful avenues and ways of implementing innovation have been found through several failures. Instead of being discouraged at the time of failure, however, new ways of selling the product to new areas and gaining teachers' trust have been persistently tried.

User experience has shown that the more clearly the effectiveness of an activity can be verified in an authentic environment, the more likely the innovation's long-time use is. For this reason, Chatta has been distributed by providing schools with an 8-week free trial period to verify the benefits of the activity within the school community in question. During the trial period, the school community's introduction to the innovation is enabled as widely as possible. The key to implementing the innovation is that users decide for themselves whether the activity is useful.<sup>120</sup> At the end of the trial period, a report on the effectiveness of the activity is submitted to the principal responsible for financing, or another body, who will decide whether or not to implement the innovation in question for a fee. The innovation developer considers it essential that users are not asked for funding immediately, but the innovation is trusted to speak for itself.

People-to-people meetings have also been identified as essential to the implementing of Chatta. The difficulty in implementing to other countries lies in that it is not possible to model the activity for teachers without time-consuming and resource-intensive travel. The innovation is also implement to other countries through virtual remote connections, but based on the developer's experience, hands-on demonstration of the activity and face-to-face discussion are the most effective ways to introduce the innovation into a new environment. The key is to find one person who can begin to promote the activity in his or her area of activity. Once this person is convinced of the activity's effectiveness, the first steps of implementing have been taken. Indeed, the social nature of innovation diffusion has been one of the most significant findings throughout the report.<sup>121</sup>

Chatta's lifeline is to achieve a sufficiently broad user base. The innovation team helps the innovation developer market the activity and find new users. This work is part of the team's normal work and is goal oriented.

## FINANCE

Chatta's business is company-based and runs on the basis of the income received from selling the product, that is, the innovation. In practice, this means that in order to stay in business and retain the staff, the innovation must be constantly sold to users.

The innovation developer and one team member are responsible for selling and thus financing the innovation. The objectives of the innovation clearly state that the activities will be continuously implement to new regions and new countries. The innovation developer emphasises that successful sales require responsible employees in all geographic areas where the business is to be implement.

In terms of financing, Chatta's themes are quite similar to the Seppo innovation presented in Finnish innovations. Obtaining external financing is, according to the innovation developer, based on people's trust and the ability to sell ideas to the financiers and win their trust. Obtaining financing is difficult because many entrepreneurs compete for financing, all of whom naturally feel that their own product is the best. In addition, financiers are often interested in the returns, which puts additional pressure on the innovator, as especially in the early stages of the activity, returns are rarely generated. For these reasons, finding a financier who trusts the innovation and gets involved is challenging, in the opinion of Chatta's developer.

As with the Seppo innovation, in Chatta the funding consists of a combination of income financing and investment money. Selling of Chatta's services on a continuous basis is the lifeline of the operation. Without a growing customer base and their aspirations, the innovation would begin to decline and eventually fade away.





## Chris Williams

CHATTA,  
UNITED KINGDOM

Chris Williams is the founder of the Chatta innovation.  
Mr. Williams' background is in teaching.

### How did you get involved? Your story?

As a full-time teacher, I started using digital images with autistic students to help with, for example, transitions, learning of social skills, and other similar situations. At the same time, I began to record words alongside the pictures, and as result, autistic students, who struggled with language development problems, started speaking. I wrote about my findings and experiences and was therefore invited to speak at conferences and asked to carry out a larger project in my own city. The project eventually became Chatta.

### What have been successes for you?

My biggest success was starting to use Chatta in my city. We started with 500 families and within a year, the children's skills had improved. When we started, 49% of children achieved the expected level of speech development and after a year, 83% of children reached the same level of competence. Demonstrating the impact of Chatta with this example has helped me scale activities to other cities. Nowadays, in my own city, every family can use Chatta for free.

### What have been the challenges for you?

The diffusion of innovation has been challenging as it is still relatively new. People do not always understand what the innovation aims to achieve, and sometimes it is challenging to describe it properly. In terms of financing, increasing the productivity of the innovation or obtaining funding in general has not been straightforward and has clearly slowed down the pace of development.

Secondly, schools must also market Chatta to parents in order to best help their child's language development in all environments. So, I also need to change schools so that they cooperate more with parents – and achieving change in schools is slow and difficult. First

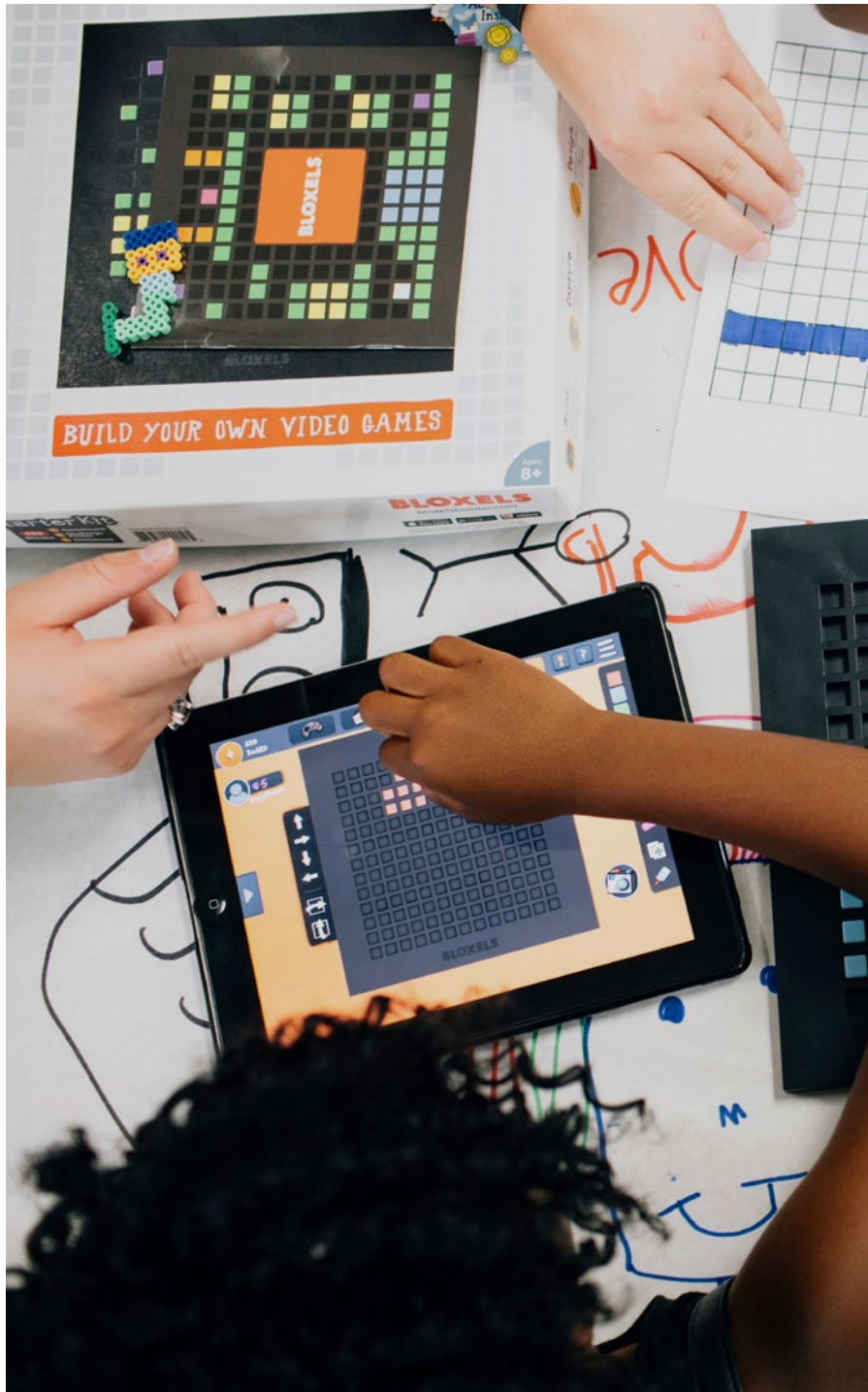
and foremost, the teachers working in schools must be convinced of the product. The best way to build trust is to show them the effectiveness of the activity in practice. Organising a pilot can be challenging, and in the early years, for example, many schools refused to even try Chatta.

We have worked long-term to ensure that Chatta can be tested for free in schools. When teachers use Chatta, they see the effects and continue teaching with it. Still, everything depends on this 8-week trial period. If the teachers do not use Chatta during the trial period, they will not start using it later. That is why we are investing in supporting teachers in starting to use the innovation, especially during the first 8 weeks.

### What has this required of you?

I have given everything to this innovation. I must talk convincingly and persuasively to people. On the other hand, I have also learned to be humble, because if persuade the people too much, it is not good either. All in all, I have had to be persistent and resilient.

I also learned a lot along the way about teachers who work in schools. What kind of challenges do teachers face? How does it feel when you are asked to do one more thing beside all the millions of other things? I have learned how the innovation can be integrated as part of everything that is going on in schools already. This way, people will grasp it more easily, and it will not be against their values or further increase their workload. I have had to dedicate my whole life to this innovation. People may point at me in the streets and say, "There goes the Chatta man."



Remake Learning is a network that ignites engaging, relevant, and equitable learning practices in support of young people.

# Remake Learning

Pittsburgh, USA

Remake Learning is a regional network of nearly 600 organisations, 130 schools, nearly 200 extracurricular organisations and 30 universities working together to provide young people with engaging, relevant and equitable learning opportunities. The innovation works in the City of Pittsburgh and the surrounding area.

Remake Learning is a network founded in 2007. The purpose of Remake Learning is to spark and share best practices and new ideas, to make it easier for colleagues from different disciplines to learn from and help one another, and to leverage resources collectively for greater impact.

The Remake Learning team has 10–16 facilitators who maintain the network's activities and about 100 educational and training professionals who volunteer within the network. Remake Learning cultivates the Pittsburgh region's capacity for equitable innovation in education through five roles: Convening a diverse and inclusive community of practice through meetups and events; catalyzing new approaches to learning by making grants to educators; communicating opportunities, resources, and stories to network members and global audiences; coordinating interdisciplinary efforts and working groups to reduce overlap and enhance collective impact; and championing the future of learning through public events, celebrations and campaigns, including the annual Remake Learning Days festival.<sup>122</sup>

Remake Learning's field director was interviewed to review the innovation.

## **DEVELOP**

Remake Learning has evolved from an informal working group into a more structured network, guided by a council whose members are advisors and active participants in the network's activities.

It is considered essential for the development of the operation that there is one manager (or managers) responsible for taking the action forward. Initially, the organisation manager was responsible for maintaining communication between the council and the team. However, along the way, the manager's role in the operation has changed. As the network began to attract an increasing number of potential partners, managing the network's growth became one of the manager's key tasks.

The organisation is constantly developing its activities. Reflection is one of the key ways in which the development team stops to examine the structure and activities of the network. The recommendations expressed by the council and changes within the network's operational context are regarded as opportunities for further development within the organisation.

The organisation develops activities on the network's terms: what kind of things do people in the community expect to happen? It is believed that every member of the network can help to guide the network's direction. Extensive co-creation ensures that the network's activities meet the needs of its members.<sup>123</sup> In this respect, development of Remake Learning is on the right track.

## IMPLEMENT

Remake Learning's goal is to facilitate collaboration among the network's stakeholders to positively impact tens of thousands of teachers and learners across the Pittsburgh region. At the same time, the network also aims to continuously improve and to scale its impact by sharing stories with other cities. It is important to demonstrate the effectiveness of Remake Learning's activities and to learn from other efforts, both within the network and among the wider education community.

Remake Learning believes that networks are the best way to implement new approaches to learning. Discussions linking different communities are regarded as the starting point for promoting action, and thus as a channel for disseminating new approaches. This idea has confluences with Finnish innovations, which largely both develop and disseminate their activities in a networked manner. The importance of networks in diffusion and sharing of information is essential.<sup>124,125</sup>

## FINANCE

The manager plays a key role in fundraising. Remake Learning's manager has been responsible for both national and international contacts, as well as for economic development and maintaining relationships with grantmakers.

Remake Learning's funding is based on support from various foundations. Over time, efforts have been made to diversify the funding base for operations so that funding for operations comes from as many sources as possible in order to reduce operational risk. In the long term, the organisation has established relationships with financiers where mutual trust is key for both parties. This, of course, makes it easier to secure consistent funding, even as financiers' interests develop and change according to social needs and trends.



## Ani Martinez

**REMAKE LEARNING,  
PITTSBURGH, USA**

Ani Martinez works as field director  
for Remake Learning.

### **How and why was Remake Learning founded?**

Legend has it, that in 2007, a group of museum directors, teachers and educational technology specialists convened to reflect on the importance of simply enhancing cooperation between different actors. The only goal was that they wanted to learn more about each other's areas and find ways to reduce overlaps in development in the same subject areas. In this way, it would be possible to further focus activities on young people's learning and creativity in the field of technology. Over the years, the activity has established itself as the network that is Remake Learning today.

### **What have been successes for you?**

I believe that building activities around the network and highlighting and further developing everything good in the area has contributed to the success of the activity. Further successes include receiving development ideas from the council that supports us, continuous redevelopment of our operations. If an approach fails, we do not maintain it by force, but think of something new instead.

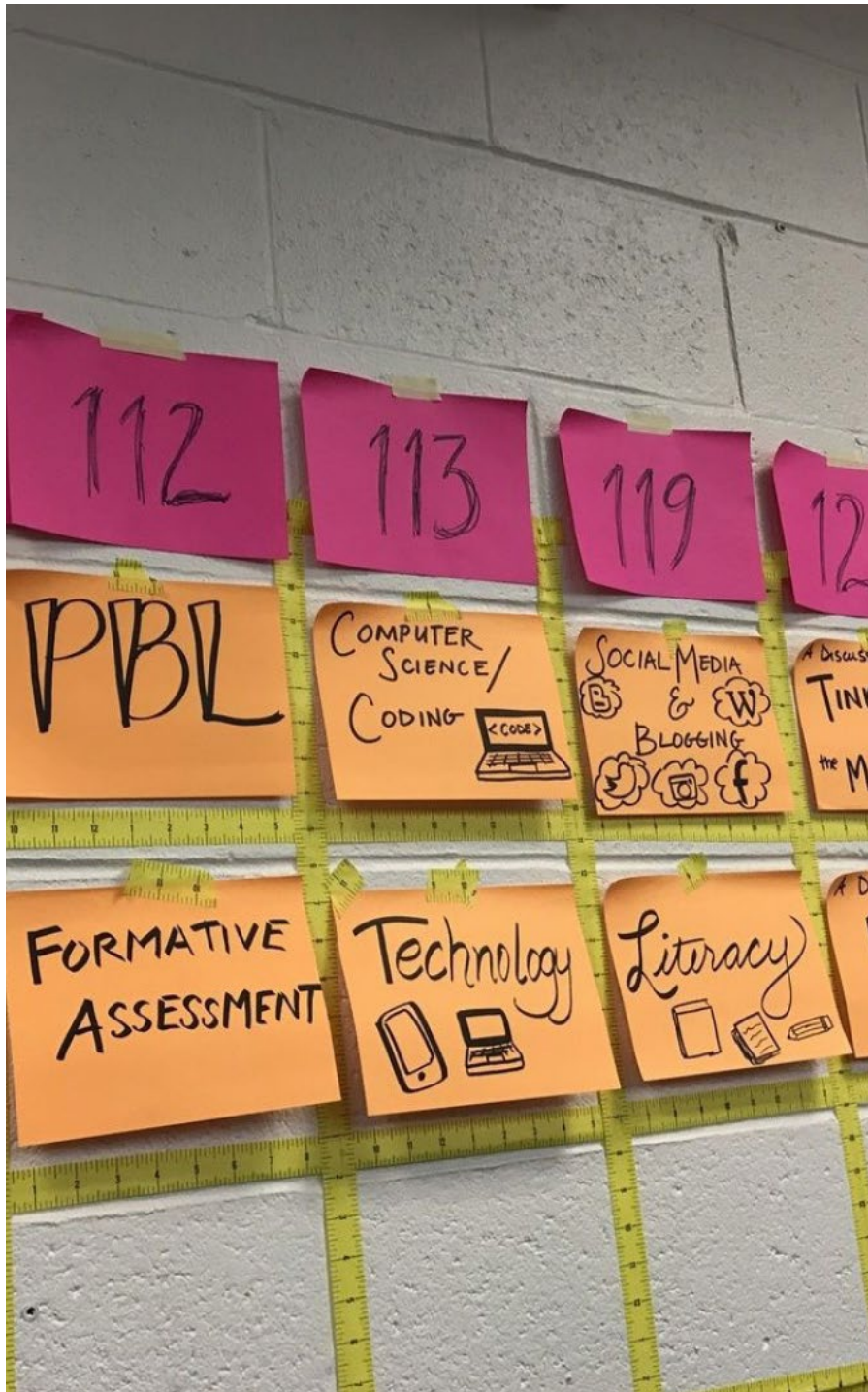
### **What have been the challenges for you?**

From my point of view, the challenge in the activity lies in some people's somewhat sceptical thinking that collective action does not work in the long run. It is sometimes challenging to have people take responsibility for their own role in the network, and this requires encouragement.

### **What has this required?**

In the early days of the operation, more people from certain areas only were involved, but over time, the network began to diversify. The network brought together artists, technicians and people from a wide range of educational sectors, from early childhood education to higher education. As the network expanded, we no longer could set up activities in specific areas only but had to expand to cover the whole field of learning. We had to look critically at what teaching and learning really mean, what education is and how we could focus the debate from education to learning. During the discussions, we realised that as all systems change around us, we need to work together across stakeholder boundaries. We still have a great deal to do, but I believe that the debate has turned in the right direction.





Edcamps are disrupting traditional PD with participant-driven, collaborative conversations by teachers, for teachers.

## Edcamp

Philadelphia, USA

Edcamp aims at professional development of teachers through participatory discussions. Edcamp meetings are organised by volunteer teachers for other teachers. During their meetings, participants decide on a theme that allows everyone to express their needs and wishes for discussion. Gatherings focus on teacher-to-teacher discussions that are tailored on the basis of the teachers' individual needs. Edcamp is based on teachers working together and the experiences of those involved in learning.<sup>126</sup> The Edcamp concept is coordinated by a team of two.

Edcamp is closely related to the Finnish public innovations examined in this report (Student Agents, Tutor teachers, Verme), but it is much more widespread. Founded in 2010 in Philadelphia, Edcamp is estimated to have implemented to 45 countries so far. Although Edcamp has implemented to other Nordic countries, such as Sweden and Norway, it has not been introduced in Finland.

The developer was interviewed to examine the innovation.

## **DEVELOP**

Flexibility in innovation is one of the key factors behind Edcamp's success. The clearly defined boundary conditions of the innovation are simple and at each meeting, the attendees have an opportunity to influence the meeting's form and outcome. The innovation developer describes the applicability of the model as the factor enabling it to survive in the long run, as it is ready to adapt to a changing world. Because the innovation is about discussions between teachers, different topics can be discussed in different years, but the need for discussion and gathering is obvious.

Unlike many other innovations presented, the developer finds it essential that the 'hard core' of the innovation has not changed much over time. As a result, the model has been able to maintain its core goal, which is to bring teachers together to share ideas on topics of particular interest to them.

## IMPLEMENT

A key factor in the implementing of Edcamp is the model's flexibility. The activity requires no resources and can be implemented by any teacher in the school or region.

Enthusiastic teachers involved in Edcamp are key to implementing. Once teachers have had a good experience, they often want to introduce the model to their own community and organise an Edcamp themselves. Instead of marketing the activity, supporting these enthusiastic teachers is paramount, according to the developer. Marketing and presentation of the innovation is certainly done by coordinators, for example through interviews and conference participation, but the most effective disseminators of the activity are still enthusiastic teachers. Teachers are also implementing the activity on social media, which further raises people's awareness of Edcamp.

As with Chatta, the Edcamp developer sees it as essential that the people involved get a first-hand experience of the activity in order to implement the template. This idea is supported by both Rogers' innovation theory on the social nature of diffusion and Hellström's thesis on how ownership must be enabled for users so that they can decide on the introduction of the innovation for themselves.<sup>127,128</sup>

## FINANCE

Edcamp is mainly funded by external funding such as donations from foundations and grants. The key in obtaining funding for Edcamp has been the innovation leader's effort in obtaining it. Obtaining funding has been deliberate and persistent. With Edcamp, finding funding also involves actively seizing opportunities and exploiting them.

The challenges facing Edcamp's funding have included finding potential investors and building trust with them. According to the developer, the process takes time. Establishing confidential financial relationships will, in the long run, help to maintain funding at the required level. Investors need to be convinced of the effectiveness of the operations and often, for this, they need to witness the innovation in practice and visit Edcamp. In addition, when seeking funding, the interests of the financier and their objectives must be taken into account in order to justify the funding sought through them. The innovation developer believes that good stories and accounts will inspire investor interest and make it easier to obtain financing.



## Hadley Ferguson

**EDCAMP,  
PHILADELPHIA, USA**

Hadley Ferguson is one of the founders of Edcamp, and its Executive Director. Ferguson's background is in teaching and she worked as a teacher for 14 years before becoming Executive Director of Edcamp.

### How did you get involved? Your story?

I met a few teachers on Twitter and soon realised that it had become a close group of 9 enthusiastic teachers exchanging thoughts and ideas. We decided to meet for the first time face to face, and this led to organising the first Edcamp. We searched for participants via Twitter, and the first Edcamp attracted about 100 participants across the east coast of the United States. That year, a total of 7 Edcamps were held around the country. People contacted us and asked if they could arrange an Edcamp as well. We responded yes, saying that there are a few simple principles to follow when organising an Edcamp: it should be free of charge, and participant oriented. We wanted to make sure that every teacher is welcome to Edcamp.

### What have been successes for you?

The greatest thing about Edcamp is that ultimately, it has nothing to do with us as persons. The teachers, and their desire to develop their teaching, lie at the core of everything. We recently conducted a study that found that nearly 80% of the teachers participating in Edcamp have over 10 years' experience of working as a teacher.

There is a general perception that the interest in changing or developing one's teaching diminishes as one progresses in one's career. Still, our study showed that 80% of Edcamp participants are specifically those who have worked in the sector for a long time. They voluntarily give up their free time to develop their own professionalism, and I think this result underlines why the model is implementing so well. The participants are not young teachers, who are considering whether they want to continue in the field, but teachers who are committed to the profession and consider it part of their identity. They attend Edcamp meetings to find tools for developing their skills and share their ideas with others.

### What have been the challenges for you?

Maintaining the activity is challenging, whether it is to find funding or something else. It is still important that we create a basis for the activities through a team of two. Activities like Edcamp would most certainly be arranged without us being the organisers, but I believe that our support is of great importance to Edcamp organisers. Now they have someone to answer their questions. We respond to hundreds of emails from organisers, which include questions, both big and small. I think that without this organisation, the work would have been fragmented into smaller groups. The organising has helped to implement the activity more widely under the same brand.

It has been 10 years since its inception and new organisers still join in on a continuous basis. I think it is important that the organisers of Edcamps are not left alone, but that we provide them with support and assistance when needed.

### What has this required of you?

Because of Edcamp, I left my job that I really loved. When I became Executive Director, I had no experience in maintaining a non-profit organisation. I had never before hired a lawyer or accountant or assembled a Board for an activity. I've learned a lot of things, promoting an activity in which I believe tremendously. At times, it has been challenging to lead the activity, but also emotional, because in my work I get to travel to different locations to meet Edcamp organisers to encourage them, and it has been very inspiring.

## Observations on international innovations

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It seems that the best-implement innovations have precisely defined the core of what they are doing – what must *not* be changed. At the same time, these actors are listening to their target audience with a delicate ear, so that innovation can be tailored to suit different countries and contexts, where appropriate. The innovation founders and developers' starting point for the development of activities is a genuine desire to understand the needs of both learners and teachers, and to create workable solutions. Indeed, innovation development can be perceived as balancing between the model created and its application, with the person coordinating the activities taking care of the boundary conditions that the activity wishes to preserve.

The diffusion of innovations highlights the social nature of changing an operating culture. Documentation and implementing of user experiences, both through communication and the grapevine, are emphasised in the diffusion of all innovations. The experiences of other implementers are invariably seen as the best way to persuade others to try an innovation in practice. In addition, innovation developers describe the different ways in which they try to lower the threshold to experiment; innovation can be tested free of charge, impact reports are available, or the opportunity to participate in training is available for those interested.

In order to succeed with the activity, obtaining funding was a matter of course for international innovations. The innovations built their funding models on many different sources of funding, which strengthens the diversity of operations and reduces financial risk. Developers of international innovations considered it extremely important that the operation of innovations should not be jeopardised if any individual funding were to end.

Resilience and perseverance are key features of all the international innovations examined. Innovation developers bear the responsibility for promoting the activity and are prepared to take risks in order to succeed. For example, while implementing the activity across borders is not easy, a huge amount of work is done for it because the benefits that the innovation offers are perceived to be so great. If something fails in the activity, it is developed further on the basis of lessons learned and another approach is tried.

International innovations have a person or a group of people working in the background full-time, focusing solely on the promotion of the innovation or some of its essential elements – development, implementing or funding. This seems to be the key to the success of innovations in every respect; a firm belief in one's own efforts and the innovation's potential.





# Why is innovation-friendliness needed?

An innovation-friendly education system refers to a system in which the aim is to constantly develop education at all levels, seeking solutions that the target group has found good, and functioning.

So, it all starts with the desire to develop the school itself and to tackle the challenges of learning – whether it reflects socio-economic differences in learning outcomes, the development and transformation of literacy, or a new kind of pedagogical approach. Innovation-friendliness is a desire to develop an operational culture and support the development of learners' skills.

In the best-case scenario, innovations solve existing problems and challenges, helping teachers to teach and learners to learn. A well-implemented innovation-friendly education system is therefore in the best interests of all, above all children.

Developing an innovation-friendly education system is not a simple task. This report has repeatedly revealed that change is always a complex and time-consuming process, which will quite understandably cause a great deal of resistance in many people.<sup>129,130</sup> Sometimes this resistance is frustrating for the innovators and the early adopters of the new operating models. Within the education system, leaders must

provide adequate protection for the development, improvement, deployment and resourcing of new operating models. This work must be done tirelessly.

Change is particularly complicated in complex ecosystems; which education systems always are. However, the development of an open and enthusiastic, innovation-friendly education system is essential for the systematic, high-quality development of the school and for the learning of future skills.<sup>131,132,133</sup>

In a slightly simplified form, an innovation-friendly education system consists of three components. First, the general atmosphere must be supportive of

development activities. All stakeholders must see the change as necessary and even be excited about it. Instead of accusations ("school has to change"), it is important to encourage everyone ("school development is important").

Problem-solving is always difficult and in many cases, new solutions do not work. However, new ideas should be tested, and their potential non-functioning accepted. This is the core of an experimental culture. Try and approve. Pick the one that works.

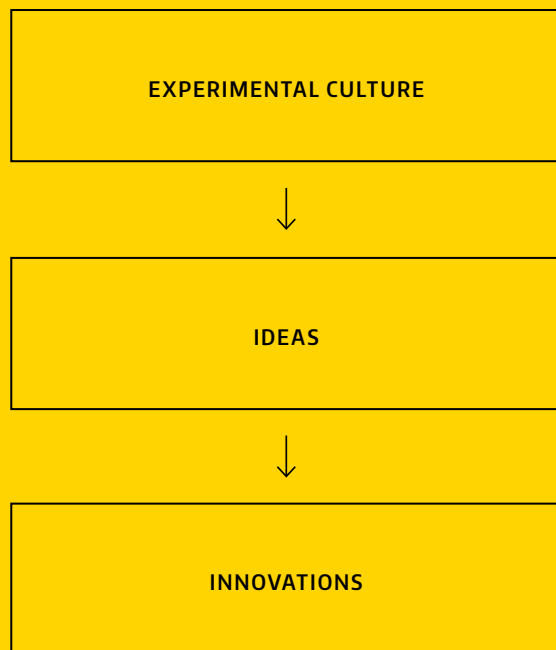
And after that, the things that work, the innovations, must be made to implement as effectively as possible. This requires continuous development, active implementing, high-quality implementation and long-term funding.

Any innovation that works well strengthens confidence in the potential for change and improves the atmosphere. At best, this becomes a positive circle, where problems are solved in an enthusiastic atmosphere. Experiment bravely and accept the nature of experimenting – not everything works as expected at all times.

At best, an innovation solves a problem which the community itself recognises or observes a need that has not yet been met. An innovation fit for diffusion is almost invariably relatively easy to understand, easy to experiment with, and relatively effective to demonstrate as efficient. At best, the benefits of adopting an innovation begin to implement as word of mouth in 'success stories' that inspire people to experiment with the innovation and thus help implement the innovation further.

To achieve this, inspirational and visionary leadership is needed at all levels of the system – not forgetting restraint and sufficient resources. In this context, it is worth stressing that while money is often important, resources may mean many other things – such as time.

All this requires careful justification for the need for change. Unless the community sees a need for change, its implementation will be very challenging. For example, Martti Hellström states that in order to implement innovations, their clarity, feasibility and necessity and their usefulness for the school (or the destination) are important, while Everett M. Rogers talks about relative advantage, compatibility, testability/trialability and observability.





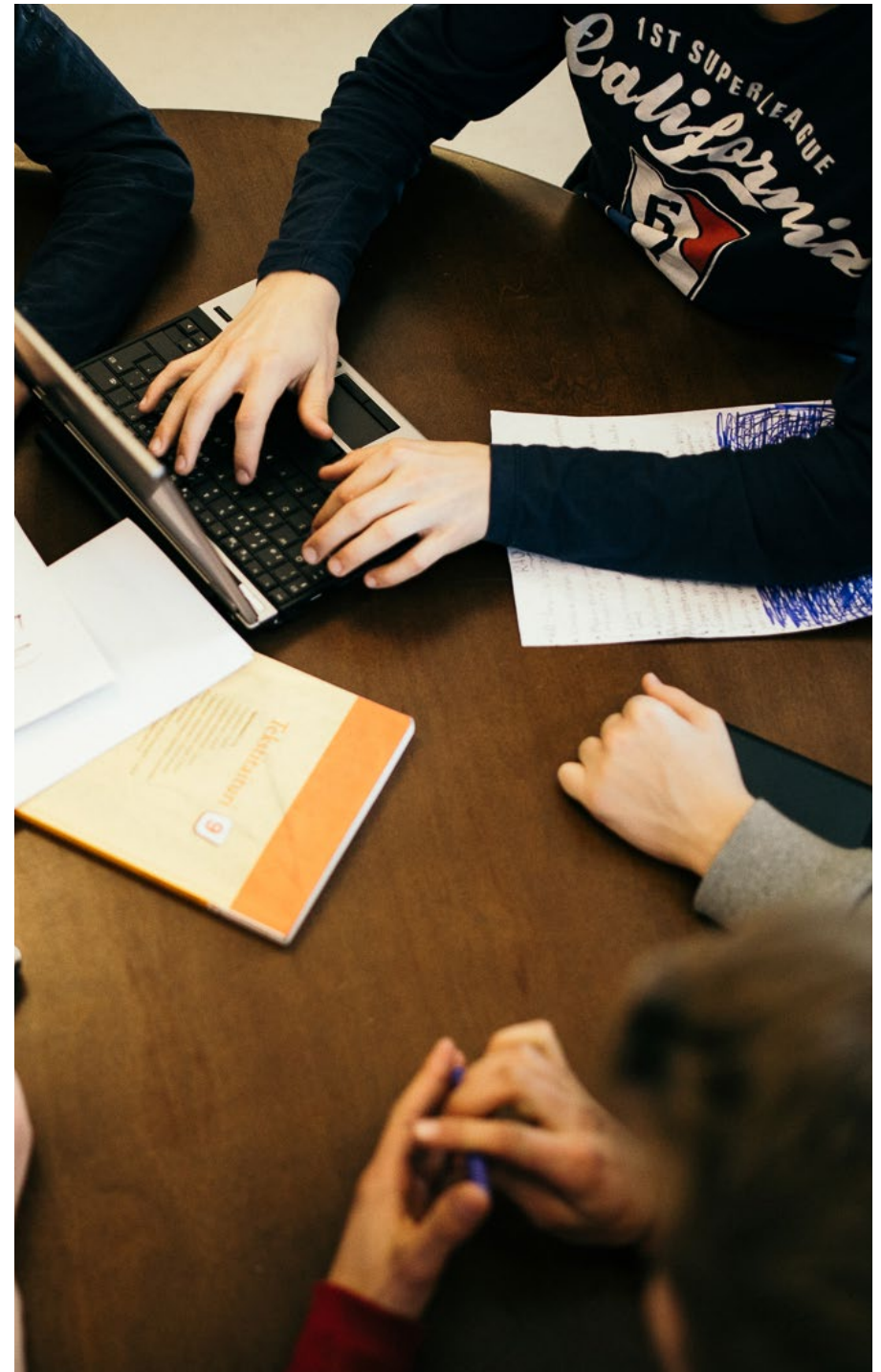
IDEA

## The role and influence of the media

When reading news about education, the number of negative articles seems to be relatively high – in a country that, according to international comparisons, still has one of the best education systems in the world.

Positive examples also have a place in the education debate. Not because the existence of defects should be denied, but because of the need to give a realistic and true picture of education. Everyone working in education and training deserves it.

However, the school world can also look itself in the mirror. The education and training sector itself must become better in communicating its successes.



# The paradox of development

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Finland is considered by many to have one of the best education systems in the world. However, this does not mean that the system should not be developed in a changing world. In a system which has fallen into crisis, no one questions the need for change. Paradoxically, as innovation research has shown in many contexts, the development of a reasonably well-functioning model is much more challenging than falling into a crisis. The “If it works, don’t fix it” thinking is deeply rooted.

The key question is: why develop if everything works just fine?

In all areas, including in the education system, if development is neglected, the result is a situation where everything does not work anymore, and then it is much more difficult to implement change. Studies have shown that it makes more sense to make continuous improvements when everything is still working reasonably well. This requires an innovation-friendly attitude in the education system.

So, it is not about changing everything, but about continual improvement, the systematic improvement of many small things.

In this context, the importance of the language used, and communication, cannot be overlooked. School development should not be talked about in a way which automatically creates polarisation and resistance or makes accusations. “Must change,” “not changed enough” or “need to be disrupted” are all examples of terms

whose use is likely to do more harm than good.

Instead, few are opposed to the idea that the best education system in the world must be developed determinedly and in the long term.

When we look at the development of the Finnish education system from the point of view of innovations, it is easy to see that as great a job as Finland is doing, many things could be done even better.

Let’s start by accepting the need for change. When you follow public debate, it often seems that even the need for development is questioned, as is the change in the world outside the school. Probably the criticism is at least partly targeted at something else than calling the need for development into question –it is frustration targeted rather at the erratic nature of development activities. Too many new things are introduced, and their high-quality implementation has not been invested in sufficiently.

It may also be that there is a lack of opinion leaders, cross-cutting at all levels, with a deep understanding of school development in the debate relating to the development of schools in Finland, opinion leaders who would be capable of justifying the need for development to the vast majority, including outside the school, in an inspiring and respectful way for all parties concerned. There is know-how, but the message does not come through.



In the current debate, the negative gets more visibility than the positive, and it is clear, that this will adversely affect the preconditions for developing an innovation-friendly education system. Even so much so that the number of young people participating in teacher education has started to fall.

Negativity makes change especially tricky, when remembering, for example, Michael Fullan's list of factors that cause opposition to change. These include, but are not limited to, the change taking place outside the comfort zone, its complexity and unclarity, and the difficulty of assessing benefits and lack of support.

However, the Finnish school is constantly evolving. Regardless of the occasional budget cuts, attempts have been made to develop the Finnish school in recent years and decades, even with relative courage.

In many respects, there is relatively unanimous agreement on the objectives of development. However, it is worth considering whether the change has been implemented with sufficiently high quality in all respects. It may be that attempts have been made to bring about change too quickly in relation to its dimensions and that not all parties feel they have been heard. The implementation may not have been given enough attention and resources and expertise have not always been sufficient.



As the OECD states in its study, “Effective government-level governance includes capacity building, open dialogue and stakeholder involvement.”<sup>134</sup>

Creating an innovation-friendly education system requires at least the following:

- **An inspirational vision:** As many as possible need to understand in depth why change is necessary and regard the change not only as necessary, but also as inspiring and realistic. This requires not only clear and profound thinking but also high-quality leadership. Creating and writing a vision is not enough. It is essential that it is accepted and internalised by the target group.
- **Recognising realities:** Change is a long and demanding process, which requires determined action and the ability to accept criticism.
- **A large amount of implementation expertise:** defining how change is managed at field level from day to day.
- **Success stories:** A sufficient number of simple, effective innovations are needed to demonstrate that innovations can deliver good results. No single innovation can solve everything, but it does help in getting the things going in the right direction.

As stated above, there is room for improvement in all areas. Not everyone has experienced the vision as inspiring enough, the change has been implemented with great haste, and even justified criticism is too often responded to with criticism rather than genuine listening. Change management skills are uneven, as are implementation skills, and consequently, there are relatively few success stories and no long-term investment has been made in the few there are.

# Key recommen- dations

An innovation-friendly education system generates innovations that take the school in the right direction, implement quickly enough and allow high quality implementation. This requires simultaneous action on many fronts.

This report divides innovation success into three key areas. In order for the innovation to meet users' needs, it must be constantly developed. Innovation very rarely implements without work. Therefore, it must also be implemented. And in order to have the resources for all of the above, finances for it must be secured.

The following is a summary of the key findings based on the review and results of this report.

## Develop

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1. An experimental culture makes it possible to distinguish innovations from ideas. Innovation development work must identify the difference between an idea and an innovation – an idea is something new, whose functionality must be verified. Experimenting is important because most ideas do not work. Innovation, however, is an idea that works. Instead of implementing ideas, the focus must be on innovations – the ones which work in the target group's opinion.
2. One core individual or group must take overall responsibility for the innovation development efforts. Development work often takes years and very often it should be done more or less on a full-time and long-term basis. Too often, the first version is perceived as the final product or service, to which at most minor improvements are added. In the worst-case scenario, there are dozens of versions of one idea, some of which work, and some do not. Although case-by-case application is often important, it is also important in development work that the 'core' of the idea is defined so that the idea does not begin to be watered down along the way or develop in the 'wrong' direction.
3. Development concerns all areas of action, from pedagogy to comprehensibility, from induction to leadership, from an operating model to financing, and often requires continuous and creative problem-solving on all fronts.

## Implement

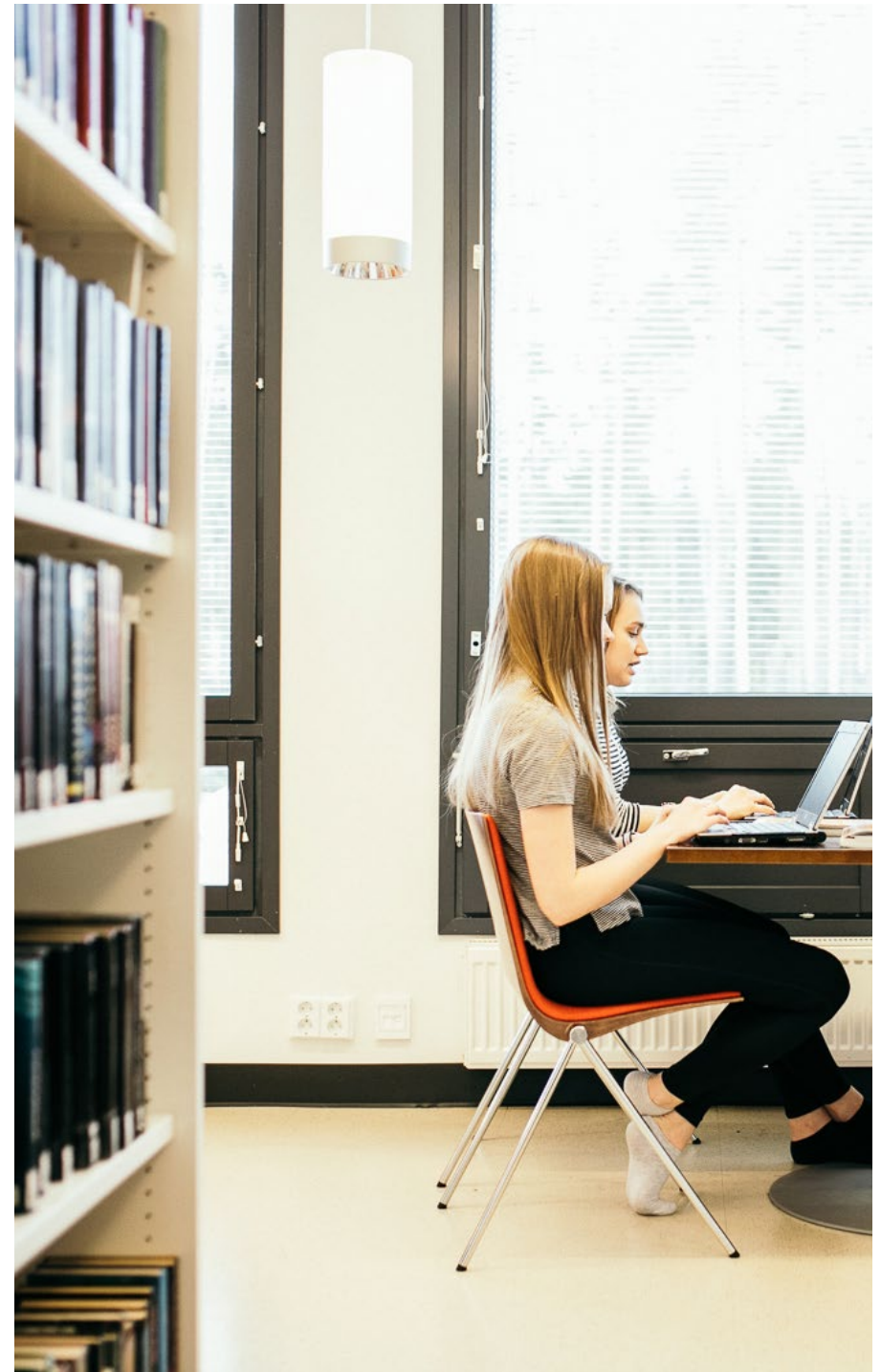
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1. Innovation does not implement automatically. This happens extremely rarely, and even then, the preconditions for organic growth must have been developed as part of the innovation. Innovations need to be implemented consciously and that requires an immense amount of work.
2. A top-down command to introduce an innovation almost invariably fails, especially in a democratic system based on open dialogue. For innovation to implement, it must have a genuine need recognised by the target group itself and the decision to introduce it must be made within the community. To achieve this, time and a genuine desire to listen are required.
3. In order for innovations to start implementing, an enthusiastic atmosphere is needed. That is why innovation-related success stories should be shared with others – of course, before that, success stories must exist.

# Finance

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1. It is important to understand in depth that every innovation requires a sustainable financing model in order to work, and this applies to non-profit innovations as well. In the long term, financing must be based on the benefit gained from the innovation and it must enable the innovation to be fully sustained and developed. The financial basis must also be as wide-ranging as possible.
2. Funding is not a stand-alone function but a key element in developing and implementing the innovation. For the activity to remain sustainable, finances must increase as innovation implements. All innovation activities must have a responsible person (or a few key people) responsible for arranging the funding.
3. As the development and diffusion of innovations always happen over the long term, funding must be long-term as well. Innovations that can justify their success not only by user experience but also by data and research results, are the ones that succeed best when it comes to funding.





In developing an innovation-friendly education system, it is important to concentrate resources between all three sectors – development, implementing and finance. For this to be possible, bold decisions and leadership that supports development are needed. If we distribute resources to too many destinations in the short term, activities will be ineffective. The activity becomes erratic and the attitude towards innovations becomes sceptical or negative, rather than enthusiastic.

Experimentation plays an important role in improving efficiency. It can be used to distinguish the best-functioning ideas from the others and refine them into an innovation that is easy to introduce. After that, it is necessary to be able to commit to these best practices in the long term, so that the direction of development remains consistent and clear.

Because of the cyclical nature of innovation-related development activities, no innovation works perfectly in all areas, but there is always room for improvement. In the case of commercially operating innovations, the responsibility for driving operations forward is always clearly limited to those who carry the business risk associated with the operation. Naturally, these entrepreneurs have a high motivation to make the innovation meet buyers' expectations, because their own livelihood depends on the success of the activities. Their top priority is to obtain financing, because without it, both the development and implementing of the innovation will end up in the business going bankrupt.

In comparison with commercial innovations, the weakness of public innovations lies in development being less systematic and often the lack of a designated person in charge of promoting the activity. The development and diffusion of innovation is often done on the side, not full-time, and there are often uncertainties in the continuity of funding models that are beyond the control of those involved in the activity. When funding, and thus resourcing, is inadequate, even the smallest implement of innovation will lead to an increased workload, with the same resources, as demand increases. If the resources of the activity are not scalable according to the increase in usage, as in the case of commercial innovations, there is a real risk of persons involved in the activity becoming exhausted.

It is important to focus long-term support on the innovations that have the best potential for implementing and whose desired multiplier effects are as high as possible. In the case of public innovations, this support is often expected in the form of public funding, but the responsibility for maintaining operations should not be shifted to the top level alone. Education providers should treat investing in public innovations in the same way as commercial innovations – if the activity clearly benefits the provision of education, it must be possible to target core funding at

it as well. This puts the role of the innovator in focus, which, in the case of public innovations, is often unclear – who at municipal or city level is responsible for 'selling' a public innovation to decision-makers and successfully arranging funding, if there is no clearly designated or appointed person in charge?

An often-presented counterargument is that innovations can also implement completely organically, without funding, through networks and, above all, without anyone being responsible for the action. If the goal is to bring about change at the education system level, resources are needed to make a coordinated change – otherwise there is a risk of growing inequalities in education, where some schools develop due to their active approach while others decline. Even a small amount of systematic approach in development, implementing and funding may multiply the effectiveness of an innovation. At the same time, a community-driven circle of positive change can be created to implement new practices across the education system.

AS CONCLUSION TO THIS REPORT, WE LIST 10 THINGS WE BELIEVE TO BE HELPFUL IN THE DEVELOPMENT OF AN INNOVATION-FRIENDLY EDUCATION SYSTEM.

1. **Everything begins with recognising the need for improvement and becoming inspired by it.** We need a credible story that brings people together and inspires, on what makes the Finnish education system great right now, and a vision of how it will be even better for example in 2030.
2. **When coming up with and creating a story, one must truly listen to the concerns and wishes of all parties involved.** It cannot come from the top down. The story and visions must not be regarded as a superficial and superimposed activity. It takes an extremely long-term effort to create and communicate them. We need both visionary leadership and world-class storytelling.
3. **Without a culture of experimentation, innovation does not exist.** We need a profound understanding of the difference between an idea and an innovation at all levels of the system. Innovation is born out of ideas, many of which do not work. A culture of experimentation plays an important role in screening, testing and further development of workable ideas. An innovation-friendly education system needs the best ideas which will grow into great innovations.
4. **In the worst-case scenario, a poorly chosen innovation can lead the school in the wrong direction.** Therefore, the desired direction must be identified and only then, innovations that promote the desired development can be recognised. Verifying the impact of innovation requires time and expertise; it is essential to follow the experiences of early adopters and collect systematic feedback from them, on the basis of which the innovation can be developed further.
5. **Without drive, innovations cannot be implemented.** They cannot be force-fed, and they do not implement unless they are truly inspirational. It is therefore important to focus first and foremost on innovations that take the school in the right direction and that have a real appeal. This can be perceived by monitoring the results of innovations and listening to the users.
6. **Innovations are not equal in terms of effectiveness or potential for diffusion.** We need to identify exceptionally potential innovations and commit to developing, implementing and financing them on a long-term basis. This requires prioritisation.
7. **It is a demanding task to develop and implement innovations.** It requires both expertise and resources. This cannot be done in the evenings and on weekends or as a side job, at least not for long. In Finland, relatively little effort is made with purposeful development and there is not enough development or implementing expertise.
8. **Finland is overly dependent on project funding, which is a double-edged sword.** Even though not many innovations would exist without it, in too many cases the project ends when project funding expires. This makes development activities non-motivational. In order to survive and develop, an innovation requires a sustainable and sufficiently broad financial base. Maintaining it almost invariably requires a responsible person or team to take care of arranging resources from basic education funding.
9. **Building an innovation-friendly education system is a long process.** It often takes years, even decades, of determined work. Therefore, the horizon of expectations must be properly defined.
10. **High-quality activities exist outside Finland as well.** We need to be significantly more open and curious about what is happening in the world and increase international cooperation.



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# Annexes

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## ANNEX 1. INTERVIEW QUESTIONS FOR FINNISH INNOVATIONS

### 1. Key structural factors

- What are the key issues that have facilitated the implementation of the operating model?
- What are the key issues that have made it difficult to implement the operating model?

### 2. The solutions

- What kind of solutions have implemented the action? / How have the activities been developed?
- What solutions have been put in place to disseminate the activity?

### 3. Cooperation

- Have you cooperated with other regions / municipalities and in what way?

### 4. Key factors in operating models

- What aspects of the operating model have contributed to its success?
- What kind of things in the operating model have made it difficult to succeed?
- Has something surprised you in the operating model? If so, what?

### 5. Attitude

- Do you like implementing the operating model? Why?
- Do you think it is important to implement this approach? Why?

### 6. Future

- What is your vision of the operating model in the future? Why?
- Would you like to add something else related to the topic?

## ANNEX 2. INTERNATIONAL INNOVATION INTERVIEW QUESTIONS

### 1. Background / your story

- Key facts :
  - When was the innovation founded? (who was the founder?)
  - Can you explain your innovation and its mission? / What problem is your innovation trying to solve?
  - How many people are in the organisation?
  - Can you tell about your story? Why and how did you get involved with the innovation?
  - What have been the successes as an innovator?
  - What have been the challenges as an innovator?
  - What has this required from you (your organisation)?

### 2. Framework:

- Developing :
  - Explain how your innovation has evolved? How do you improve? Ensure high-quality?
  - Who is in charge of developing the innovation?
  - How does your team develop?
  - Do you do co-development with the users?
- Spreading :
  - How do you spread the innovation?
  - Who is in charge of spreading the innovation? How many people are spreading the innovation?
  - How do you implement the innovation in a different context? Who is responsible?
  - How do you educate the people implementing the innovation?
  - Can users change the innovation and if so, how much?
- Funding :
  - How do you fund your work?
  - Who is responsible for raising funds?
  - What are your challenges raising funding?
  - What are the key enablers?
  - Would you like to add anything else related to the topic of this research?

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