

Belgian Presidency
of the Council of the
European Union



Background Note

Non-paper on Evidence- Informed Education

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PREFACE

Education in many European countries faces important challenges. The latest PISA results teach us that student performance in literacy, mathematics and sciences is deteriorating in most EU Member States. An increasing number of students are no longer achieving the minimum literacy levels we could expect from 15-year-olds, and the agreed benchmark of no more than 15% low-achievers seems further away than ever. In addition to this declining student performance, many EU Member States are also struggling to attract sufficient, well-trained and motivated teachers and school leaders. This further compromises the quality of education. Thus education is under pressure, while it should be the driver of progress and growth.

Education in the EU is pre-eminently a Member States' competence. Education systems are often historically deeply rooted in local, regional or national structures, and solutions to the challenges at hand are therefore largely context-specific. A one-size-fits-all approach at a European level is not the way forward for education. Yet despite our differences, the education systems within the EU often face the same or similar challenges and seek likewise solutions. Without departing from the principle of subsidiarity, we can move forward at a higher pace if we learn from each other's successes and failures. We can do this by sharing information, thinking together about the challenges we face, building networks across borders and agreeing on ambitions together. That is what we set up the European Education Area for.

In addition to better and more intensive cooperation between educational systems, we are convinced that we can also strengthen our education to a significant degree if we inspire educational policy, as well as practice in schools and classrooms, more strongly on scientifically based evidence. After all, education is too important to leave it solely to what our gut feeling tells us, what is traditionally passed down, or unsubstantiated hypes. A more evidence-informed approach where decisions are based on a mix of expertise, beliefs and scientific knowledge will ensure that our policy and classroom interventions will be more effective and efficient. That the efforts we make to provide quality education for all learners also pay off more, and that we thus see the achievement and wellbeing of all learners, as well as the attractiveness of the teaching profession, move back in the right direction.

During the Belgian presidency of the Council of the European Union, we want to bring together those two policy lines: a more intense education cooperation among EU member states and a more evidence-informed approach to policy and practice. We want to strengthen the ambitions we made in the context of the European Education Area by making stronger use of knowledge from research and data. We also want to work towards better cooperation between EU Member States on knowledge creation and use, and strengthen the knowledge structures and initiatives that already exist.

This non-paper presents the framework within which we intend to do that. It sets out a vision on evidence informed policy and practice, identifies the conditions for making knowledge contribute more to the quality of policy making and educational practice, and what its contribution might be to address the challenges regarding education in the EU. It is the basis

that forms the foundation for the council conclusion on evidence-informed policy and practice that we will propose to the Education Committee.

This text was written by the Strategy and Knowledge Division of the Flemish Education and Training Department in cooperation with the Education Ministry of the French speaking Community of Belgium. The text also received extensive feedback from international experts on evidence-informed policy and practice. We sincerely thank all those who have made constructive contributions. I hope you enjoy reading this non-paper.

Jeroen Backs

Head of unit of the Strategy and Knowledge Division
Education and Training Department of the Flemish Community of Belgium

PART 1: INTRODUCTION

Education, like other social fields, can be a demanding field. Societal challenges like inequality, digitalisation and changing demographics affect education. Additionally, a lot of education systems face their own particular problems, such as teacher shortages or a downward trend in learning outcomes, as measured in international learning assessments.

More fundamentally, the complexity of education makes these challenges hard to tackle. A complex problem has no easy or one-size-fits-all solutions.¹ People working in education, either practitioners or policy makers, are therefore constantly facing the fundamental question: how does one make decisions and what does one take into account when making these decisions? Decisions are informed and influenced by many sources. Evidence from research and data should be one of these sources.

There are of course other sources that qualify as evidence. Three types of knowledge affect decisions: lay knowledge (i.e. common sense and educated opinions), professional knowledge (e.g. contextual and experiential knowledge) and scientific knowledge.² Lay knowledge and professional knowledge are valuable and even necessary, yet for the purposes of this non-paper the focus is on scientific knowledge. Evidence-informed decision making thus refers to an approach in which deliberation is informed by the best available evidence from research and/or data.

Using evidence in the decision-making process is important because of the social and economic impact of education. Ineffective decision-making comes with great costs, both financial and human.³ Furthermore, drawing on the common comparison with fields such as health, the use of evidence in education could create a cycle of constant innovation and improvement.⁴

This does, however, not imply that the use of evidence is a guarantee for success, precisely because of the complexity of education and of societal changes affecting education. Problems in education are 'wicked' problems, which lack a definitive solution.⁵ Decision-making is characterized by a level of uncertainty and policy makers and practitioners sometimes have to make decisions without knowing all the facts or the long-term impact of their decisions.⁶ Furthermore, the data and facts that are available might not be reflective of all contexts and groups involved. Van Damme (2022) argues that both the quantity and the quality of education research do not currently suffice to meet the ever-growing and ever-changing knowledge needs of those working in education.⁷ Additionally, education is less advanced than e.g. medicine in continuously creating and improving a generally accepted body of knowledge.⁸ A complex reality sometimes limits possibilities to draw causal conclusions.

Furthermore, choices in policy and practice have an ideological dimension next to a scientific dimension.⁹ Policy makers, practitioners and researchers all have values and beliefs that may

¹ Burns, T. & Köster, F. (eds.) (2016), *Governing Education in a Complex World*, Paris: OECD Publishing, 21

² Van Damme, D. (2022), *The Power of Proofs: (Much) Beyond RCTs*, Center for Curriculum Redesign, 10

³ European Commission (2007), *Towards more knowledge-based policy and practice in education and training*, Commission Staff Working Document, 4

⁴ Slavin, R. E. (2020), How evidence-based reform will transform research and practice in education. *Educational Psychologist*, 55(1), 21-31

⁵ Rittel, H. W. & Webber, M. M. (1973), Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169

⁶ European Commission (2022), *ibid*, 30

⁷ Van Damme, D. (2022), *ibid*, 30-31

⁸ Burns, T. (2023), *The evolution of evidence-informed policy and practice: An international perspective*, Victoria: Centre for Strategic Education, 11

⁹ Sienkiewicz, M. & Mair, D. (2020), Against the science-policy binary separation: science for policy 1.0. *Science for Policy Handbook*, 2-13

impact their work.¹⁰ Nonetheless, even if an evidence-informed approach does not necessarily ensure success, it is likely to be the best available option given the complexity of education.¹¹ Quality evidence, even in a complex system, can provide a level of certainty that a particular decision will lead to the desired result.

To address the aforementioned uncertainty, the term 'evidence-informed' is preferred in this non-paper over 'evidence-based'. The choice for this term recognizes first of all that there is no absolute certainty in a complex and strongly context-dependent system like education when making decisions. Secondly, it acknowledges that decision-making, especially in the context of education, does and should not rely solely on evidence, but is in fact a complex interplay of facts, personal experiences, values, beliefs, practical reasoning, contextual elements and different types of knowledge. Educational practitioners (teachers, school leaders, but also inspectors, teacher educators and educational counsellors) and policy makers use evidence and mix it with their lay knowledge and professional knowledge, values and dispositions.¹² In this complex interplay, the evidence *informs* the policymaker or the practitioner rather than directly *instructing* them.

Evidence-*based* **policy** in a democracy could be troublesome, at least in the context of education. To put it bluntly, this could imply a technocracy where decisions are not up for debate, as they are based on 'absolute truths'. Even if these absolute truths would exist (which they, as mentioned earlier, do not), this remains undesirable: in a democracy, decisions are made by 'the people', represented by their elected representatives. The aforementioned interplay influences these decisions. Evidence-*informed* policy, however, is vital because our democratic system expects policymaking to be fair and rational, at least to a substantial extent.¹³ It supports the democratic process by underpinning the democratic debate with evidence and by increasing trust in policy and therefore in government.¹⁴ To acknowledge that evidence only informs decisions and that other considerations play a role as well, transparency about how choices were made and which evidence was used (and which was not) is essential.¹⁵

Evidence-*based* **practice** would not work because of the contextual variance in education practice. Every interaction is unique and applying the same logic to every situation would not yield success.¹⁶ The evidence-*informed* approach recognizes this and acknowledges the importance of professional judgement. Ultimately, evidence should not be a substitute for professional judgement, but form an inherent part of the decision-making process. By enhancing teaching and learning approaches, evidence-informed practice positively impacts the outcomes of education.¹⁷ This does not imply teachers to be mere executioners of what evidence tells. Indeed, this calls upon the professionalism of practitioners: their challenging job requires them taking complex decisions, which in turn requires them to combine different sorts of knowledge, evidence being one of them. They are the experienced professionals who take the final decision.¹⁸

This important distinction between evidence-based and evidence-informed does not render the use of evidence non-committal in an evidence-informed approach. Other sources of

¹⁰ Capano, G. & Malandrino, A. (2022), Mapping the use of knowledge in policymaking: barriers and facilitators from a subjectivist perspective (1990–2020). *Policy Sci* 55: 399–428

¹¹ Sienkiewicz, M. & Mair, D. (2020), *ibid*, 8

¹² OECD (2023), Who Really Cares about Using Education Research in Policy and Practice?: Developing a Culture of Research Engagement, Paris: OECD Publishing, 30

¹³ Sienkiewicz, M. & Mair, D. (2020), *ibid*, 7

¹⁴ European Commission (2022), *ibid*, 7

¹⁵ European Commission (2022), *ibid*, 30

¹⁶ OECD (2017), Systems Approaches to Public Sector Challenges: Working with Change, Paris: OECD Publishing, 20

¹⁷ See e.g. Bell, M. et al. (2010), Report of Professional Practitioner Use of Research Review: Practitioner Engagement in and/or With Research, Coventry: CUREE, GTCE, LSIS & NTRP

¹⁸ Sharples, J. (2013), Evidence for the Frontline: A Report for the Alliance for Useful Evidence, Nesta, 7

knowledge, however valuable, do not have the same standards of accuracy as scientifically founded evidence from research or data.¹⁹ Professionalism includes a responsibility towards using evidence because, as mentioned above, ineffective decision-making may come with great costs. A guiding question when making a decision should be: what is at stake if one does *not* consider the evidence?

Evidence-informed decision-making in both policy and practice can therefore be more accurately defined as collating and evaluating multiple reliable sources of information, including the best available and most relevant evidence from research and/or data, before making a decision to improve policy and/or practice. What is understood under 'best available and most relevant' is discussed further on in this text.

The complexity of education calls for a system model for evidence-informed decision-making, like the model developed by Best and Holmes (2010).²⁰ Such a model strengthens and connects all actors on multiple levels of the system and across levels. This model is being used by multiple scholars and organisations. The Centre for Educational Research and Innovation (CERI) of the OECD, for example, further develops this system model specifically for education in their 'Strengthening the Impact of Education Research'-project. This is why their publications are an important source for this paper. Furthermore, many countries are already investing in strengthening evidence-informed education. Yet there is a general recognition that there are still several barriers to overcome in the production, mediation and use of evidence.²¹ These include the quality, relevance, accessibility and applicability of education research, an insufficient translation of research into educational practice and policy and limited resources and incentives to use or produce relevant research

During the Belgian Presidency of the Council of the European Union, evidence-informed education is an important policy line. The intention of this policy line is to connect and strengthen, on the one hand, the initiatives that already exist within the Member States and, on the other hand, the various EU and member state actors working on evidence-informed education.

While the non-paper starts from the conviction that a Union-wide approach can provide an added value, it wants to serve as a discussion starter about how this can be facilitated with full respect for subsidiarity as well as national and regional circumstances.

Therefore, over the course of the Presidency, informed debate is organized both by means of this non-paper and by the organization of the following events: High-Level Group (with a focus on evidence-informed policy), Directorate General (DG) Schools (with a focus on evidence-informed practice) and this Conference on Evidence-informed Education: Policy and Practice. The aim of our event is to identify challenges and opportunities surrounding the theme to ultimately strengthen the European Education Area (EEA). The conference will explore how these challenges and opportunities are currently met in the EEA, including by showcasing good practices. This will be done by focusing on the following four key areas:

1. **Installing a culture** of evidence-informed policy and practice and developing the corresponding competences;
2. The **brokerage function** and the translation of research into education practice;

¹⁹ OECD (2022), Who Cares about Using Education Research in Policy and Practice?: Strengthening Research Engagement, Paris: OECD Publishing, 203

²⁰ Best, A. & Holmes, B. (2010), Systems thinking, knowledge and action: towards better models and methods. *Evidence & Policy*, 6(2), 145-159

²¹ Boaz, A. & Davies, H. (eds.) (2019), What works now?: evidence-informed policy and practice, Policy Press ; OECD (2022), *ibid*

3. The **use of evidence** in education;
4. The **production, use and valorization** of practice research.

PART 2: STATE OF PLAY OF EVIDENCE-INFORMED EDUCATION

Evidence-informed education in the European Union

Despite every member state being responsible for its own education system, the EU can play an important role in promoting and supporting evidence-informed education.²² When calling for a Union-wide approach, it is essential to provide a brief and non-exhaustive description of the current state of play on a European level regarding this subject.

For the evidence-informed agenda in general, the following initiatives are relevant at the EU-level. First, the **Joint Research Centre (JRC)** supports EU policy with independent, evidence-based science and knowledge.²³ This includes the **Knowledge4Policy (K4P)** platform that supports evidence-based policymaking.²⁴ Second, the **Science Advice Mechanism (SAM)** of the European Commission consists of the Commission's research and innovation department (DG RTD), the Group of Chief Scientific Advisors, and the Scientific Advice for Policy by European Academies (SAPEA) consortium. The Group of Chief Scientific Advisors provides independent scientific advice to the European Commission to inform policy making.²⁵ Third, the **European Science Advisors Forum (ESAF)** is an independent forum of science-based strategic advisors. It promotes and aids the use of science and builds capacity across multiple national science advisory systems in Europe.²⁶

Pellegrini and Vivanet (2021) examined the state of progress of evidence-informed education in Europe. The first documents addressing the importance of evidence were the 2006 European Council conclusions "Implementing the Renewed Lisbon Strategy for Growth and Jobs" and the subsequent "Efficiency and Equity in European Education and Training Systems", both of them emphasizing the importance of monitoring and evaluation.

A year later, in 2007, the European Commission published the Staff Working Document "Towards More Knowledge-Based Policy and Practice in Education and Training". This document advocated for reform in education and training to be evidence-based. It contained an overview of what was already done to improve the creation, application and mediation of knowledge and identified the main challenges.

The 2009 Council conclusions on Education and Training 2020 called for policymaking in education to be evidence-based. This call was repeated in the 2015 Joint Report, re-stating the importance of strong analytical evidence and progress monitoring for the effectiveness of the ET 2020 framework. A call to develop network of brokerage initiatives ("Evidence Based-Policy and Practice: Call for Proposals to Develop Networks of Knowledge Brokerage Initiatives") was launched in 2009. The winning project, the Evidence-informed Policy and Practice in Education

²² Pellegrini, M., & Vivanet, G. (2021), *ibid*

²³ https://joint-research-centre.ec.europa.eu/index_en

²⁴ https://knowledge4policy.ec.europa.eu/about-knowledge4policy_en

²⁵ https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/how-scientific-advice-mechanism-works_en

²⁶ https://www.s4d4c.eu/knowledge_resource/european-science-advisors-forum/

in Europe (EIPPEE), ran from 2010 to 2013 and used a survey to examine how European countries tried to connect research and policy. In that regard, the EIPPEE network published a paper on knowledge partnerships between schools and universities in 2017.²⁷ The same year, a Eurydice report looked at the Eurydice network's support mechanisms for evidence-based policy and offered recommendations for a better connection between research, practice and policy.²⁸

In recent years, both recommendations and conclusions on education endorsed by the Council of the European Union have increasingly underscored the significance of evidence. Over the past seven years, nearly every Council document has advocated, in varying degrees, for the incorporation of evidence. However, inconsistencies have existed in the terminology used, with interchangeable references to evidence base, evidence-based policymaking, and evidence-informed policymaking. These inconsistencies present challenges in interpreting their intended meanings or implications. While the term "evidence-informed" has somewhat prevailed over "evidence-based" in recent years, the current state of Council references does not allow a definitive argument for the EU endorsing either an evidence-based or an evidence-informed approach to education.

Upon closer examination of Council documents, notable insights into how evidence is addressed can be identified. Some references in the text explicitly highlight the production of evidence, emphasizing the importance of enhancing the evidence base.²⁹ The 2021 "Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)" is a case in point. This resolution underscores the importance of evidence through systematic monitoring, the use of indicators, and the collection of internationally comparable data. These measures are intended to inform policy decisions and assess progress in European cooperation in education and training. The focus on evidence underscores a commitment to a data-driven approach in shaping and evaluating education and training policies.³⁰

Other texts refer to the use of evidence as well. For example, the 2017 "Council Conclusions on school development and excellent teaching" invited Member States to shift towards more effective, equitable and efficient governance by supporting evidence-informed policies and making balanced and appropriate use of data, including from international comparative studies and from the Education and Training Monitor.³¹

The 2021 Council Recommendation on blended learning approaches for high-quality and inclusive primary and secondary education called upon the European Commission, in cooperation with the Member States, to support the development of resources to be used on a voluntary basis. These resources include evidence-informed guidance material on learning design and school organizational practice within blended learning approaches, including on

²⁷ Sigurðardóttir, A. K., Morris, A. Skoglund, P. and Tudjman, T., "Knowledge partnerships between schools and universities: modelling the process of connection and relations", Evidence and Policy, vol. 14 (04), 683-705.

²⁸ Pellegrini, M. & Vivianet, G. (2021), *ibid*

²⁹ The call for improving the evidence base in education is among others addressed in: Council Recommendation of 20 November 2017 on tracking graduates; Council Recommendation of 26 November 2018 on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad; Recommendation on promoting common values, inclusive education, and the European dimension of teaching; Council Recommendation of 22 May 2018 on key competences for lifelong learning; Council Resolution on education and training in the European Semester: ensuring informed debates on reforms and investments;

³⁰ Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)

³¹ Council Conclusions on school development and excellent teaching

possible digital tools, approaches to the assessment and validation of learning, and data protection, privacy and online safety.³²

The 2022 "Council conclusions on enhancing teachers' and trainers' mobility, in particular European mobility, during their initial and in-service education and training" is equally interesting, as it encourages Member States to promote in-service professional development opportunities for teachers and trainers that are informed by evidence.³³

In 2021, a Commission Expert Group on Quality Investment in education and training was installed and was assigned to identify policy options that could improve education outcomes and inclusiveness, with special attention to cost-effectiveness of public spending. Their 2022 report "Investing in our future: quality investment in education and training" focuses on four areas of education, i.e. teachers and trainers, education infrastructure, digital learning, and equity and inclusion.³⁴ Their conclusions identified, among others, the need for development of expertise for the monitoring, evaluation and dissemination of findings at EU level, which could support the design of effective education policies in each Member State. In 2022, the Commission launched a Learning Lab on Investing in Quality Education and Training to promote the use of education policy evaluation.³⁵ Lastly, the annual Education and Training Monitor analyses how education and training systems evolve across the EU. Its first edition was published in 2012.³⁶

Pellegrini and Vivanet (2020) further pointed out that the diversity of education and of languages can form a challenge when establishing a European system of evidence-informed education. 'What works' can be highly context-dependent, as was also mentioned above. This is especially relevant for the EU, with its 43 different education systems, each of them having, amongst others, different organizational models, curricula, and levels of centralization. Additionally, the language diversity among EU Member States can hinder exchanging proven programs.³⁷

Dimensions in a system of evidence-informed education

In what follows, the term **evidence-informed education** refers to both evidence-informed education policy and practice. While there are important differences between educational policy and practice, the dimensions of evidence-informed decision-making appear, to a large extent, to be similar for both. This is not an obvious viewpoint: when it comes to using evidence, discussions often concentrate on either policy (macro-level) or practice (micro-level). A too strict distinction between these two domains, however, is rather artificial as there tends to be an overlap. The 'meso-level' (e.g. school organisation) deals both with policy and practice. Moreover, a large number of key actors are identical in the two domains.³⁸ Both policy makers and practitioners engage with pedagogical questions, albeit on a different level.³⁹

³² Council Recommendation on blended learning approaches for high-quality and inclusive primary and secondary education

³³ Council conclusions on enhancing teachers' and trainers' mobility, in particular European mobility, during their initial and in-service education and training

³⁴ Investing in our future (2022), Quality investment in education and training: Final report of the Commission expert group

³⁵ <https://education.ec.europa.eu/focus-topics/improving-quality/learning-lab>

³⁶ <https://education.ec.europa.eu/about-eea/education-and-training-monitor>

³⁷ Pellegrini, M. & Vivanet, G. (2021), *ibid*

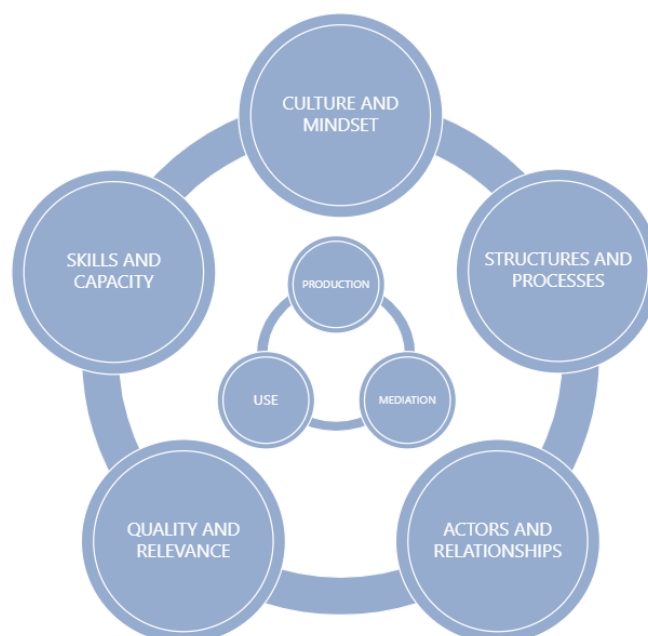
³⁸ Boaz, A. & Davies, H. (eds.) (2019), *ibid*

³⁹ OECD (2022), *ibid*, 23

We describe five dimensions when it comes to strengthening the impact of education research, as proposed by the OECD and inspired by the Quality Use of Research Evidence (QUIRE) framework. These dimensions are: culture and mindset, structures and processes, actors and relationships, quality and relevance, and skills and capacity.⁴⁰

These five dimensions should be established on a **system level**. A system-level model is one of the three models of knowledge mobilization, as presented by Best and Holmes (2010). Education is an example of a complex system, meaning it has the following characteristics: it is dynamic, non-linear with feedback loops, often unpredictable; multiple, interdependent systems with their own specifics are embedded in one another, and their interactions not only shape but are also shaped by the system as a whole. Its multiple actors come with different "worldviews, priorities, languages, means of communication and expectations".⁴¹ Such a complex system requires a system model that builds on both the linear model (which considers evidence-informed working rather as a one-way process of researchers disseminating their research to policy makers or practitioners) and the relationship model (which puts the emphasis on the interactions between those involved). At the same time it also recognizes the system's complexity, activates it as a whole and co-ordinates its multiple elements.⁴²

This non-paper draws on Levin's (2004) model of research impact to identify three key elements of a system model: research production, mediation and use.⁴³ What follows is a discussion of a system model through the five dimensions mentioned above. These dimensions need to be activated on each level of the system and should involve the three key elements (production, mediation and use). It should also be noted that, precisely because of the complexity of the education system and its dynamism, there is no hard line between the dimensions, levels and elements; they tend to overlap and interact.



⁴⁰ OECD (2022), *ibid*, 24

⁴¹ Best, A. & Holmes, B. (2010), *ibid*, 148; Burns, T. & Köster, F. (Eds.) (2016), *ibid*

⁴² Best, A. & Holmes, B. (2010), *ibid*, 148

⁴³ Levin, B. (2004), Making research matter more, *Education policy analysis archives*, 12(56), n56, 8

Culture and mindset

Evidence-informed education is highly dependent on individual and collective decision processes and therefore requires a **culture** of research engagement. This culture needs to exist both at an organizational and at a system level. Organizational culture is defined by what is shared in an organisation, for instance the values, beliefs, attitudes and norms.⁴⁴ It is formed by the individuals in an organization and their interactions, and by organizational factors, such as structure and leadership. An organizational culture of research engagement encourages research use and advances evidence-informed working. Systemic factors such as regulation and incentives equally play a role in shaping an organizational culture, meaning organizational culture and system culture are closely interwoven (which, as mentioned above, is characteristic for a complex system). Therefore, a system-level culture that finds the production of quality evidence important and promotes its use is necessary.⁴⁵

In their exploration of a system model, Best and Holmes (2010) highlighted **leadership** as one of the aspects of such a model. This leadership should be presented in and across organisations, on the research, the policy and the practice side, and at the system level.⁴⁶ In a complex system, leadership should be focused on "facilitation and empowerment, self-organising structures, participatory action and continuous evaluation (...). Leaders model the openness, risk taking and reflection necessary for learning, and communicate a compelling vision of the required organisational change, providing the support and personal advocacy needed to lead others towards it".⁴⁷ Leaders thus function as a role model to demonstrate and hence advocate research engagement.⁴⁸ Furthermore, leaders can shape and structure organizational practices and can influence how resources and time are distributed, in favour of a culture of research engagement. Lastly, as mentioned earlier, relationships are vital in a system model and leaders play an important role in building relationships. Leadership itself should also be connected in relationships between different levels of the system. This calls for a system leadership, which is by definition a leadership that transcends the own organization or even sector.⁴⁹

A culture of research engagement further relies on a positive **mindset** and the intrinsic motivation of its members, complementary to their skills (see further). They need to be ready for change and recognize the value and importance of evidence.⁵⁰ A positive mindset towards the use of evidence is characterized by an inquiring mind, motivation, self-awareness and the belief that use of evidence can improve the quality of work. It requires a willingness to critically examine one's own biases and preconceived notions, e.g. about what policy and practice should look like.⁵¹ Furthermore, it is argued that a sense of **ownership**, for example through discussion or co-production of evidence, can stimulate engagement with evidence.⁵²

Complementary to intrinsic motivation, a culture of research engagement might also require **incentives** (i.e. extrinsic motivators) for those involved, such as allotted time, additional pay and formal recognition, e.g. through prizes or promotion opportunities.⁵³ Another important incentive is the opportunity for professional growth. Specifically for researchers, traditional

⁴⁴ Davies, H. T., Nutley, S. M., & Mannion, R. (2000), Organisational culture and quality of health care, *BMJ Quality & Safety*, 9(2), 111-119, 112

⁴⁵ OECD (2023), *ibid*, 22

⁴⁶ Best, A. & Holmes, B. (2010), *ibid*, 151

⁴⁷ Best, A. & Holmes, B. (2010), *ibid*, 151

⁴⁸ Rickinson, M., Cirkony, C., Walsh, L., Gleeson, J., Cutler, B. & Salisbury, M. (2022), A framework for understanding the quality of evidence use in education, *Educational Research*, 64(2), 133-158, 144

⁴⁹ Fullan, M. (2002), Principals as leaders in a culture of change, *Educational Leadership*, 10

⁵⁰ Vanlommel, K., van den Boom-Muilenburg, S.N. (submitted), How Can we Understand and Stimulate Evidence-Informed Educational Change? A Scoping Review from a Systems Perspective, *Journal of Educational Change*.

⁵¹ Rickinson, M., Cirkony, C., Walsh, L., Gleeson, J., Cutler, B., & Salisbury, M. (2022), *ibid*, 143

⁵² Sharples, J. (2013), *ibid*, 18; OECD (2022), *ibid*, 90

⁵³ OECD (2022), *ibid*, 240

academic incentives that focus on publishing in high-impact journals do not encourage researchers to engage in policy- and practice-oriented research. Research impact goes beyond academic impact; it also includes societal impact. Recognizing and incentivizing this might require looking not only at outcomes, but also at processes, such as knowledge exchange or engaging with broader audiences.⁵⁴

Structures and processes

Evidence-informed education requires multiple structures and processes to **build bridges** between research and data, policy and practitioners. Structured and quality interactions among actors contribute to their professional development and facilitate research production, mediation and use in organisations and systems. Structures and processes are essential for the development of a robust knowledge base in education. This needs to be facilitated by a long-term research strategy for education research and dialogue platforms for stakeholder engagement.⁵⁵

Access to research and data is important and relies on a strong **infrastructure**. A robust data infrastructure for example is crucial because evidence research and data play a complementary role throughout the whole decision-making cycle in policy and practice. Monitoring and administrative data can be used to diagnose needs and research can be used to propose actions to address the needs. Data allow to monitor the implementation of actions and both research and data to evaluate an action's impact. The structural collection and provision of administrative data can lower the cost of conducting robust experimental research by reducing data collection costs for researchers. Administrative data also allow researchers to study a variety of topics and to conduct longitudinal to inform on the long-term effects of a given action.

Stability of structures and processes at organizational and system level can form a challenge. Creating or adopting a culture of research engagement requires long-term mechanisms that are resistant to organisational changes and political shifts that commonly occur in policy and practice organisations. At the same time, these structures and processes need to be flexible enough to adapt to changing circumstances.⁵⁶

Lastly, structures and processes are needed to evaluate research use and the impact of education research. A meta-level in education research is required to **evaluate 'what works in what works'**, in other words to assess the effectiveness of evidence-informed education.⁵⁷

Actors and relationships

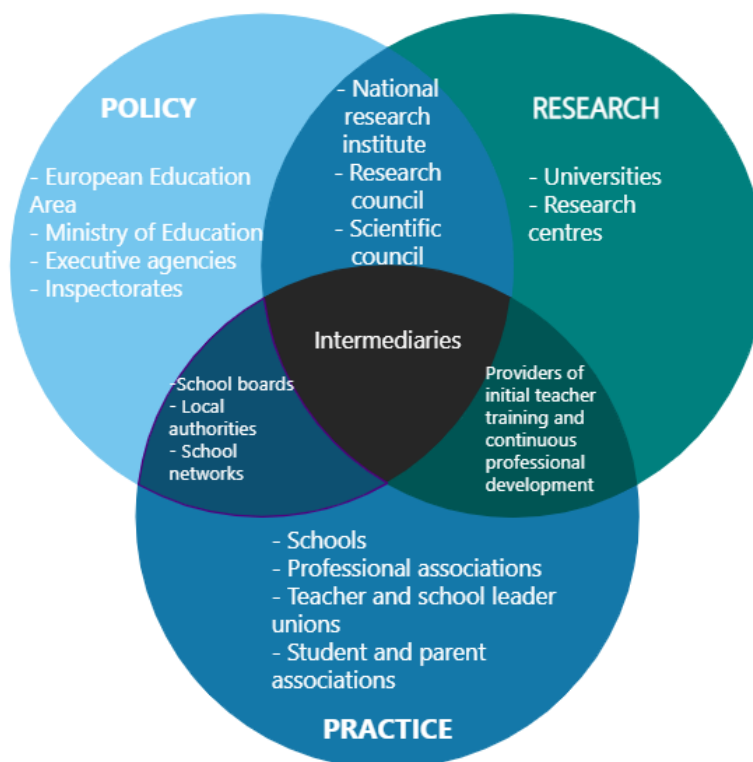
Evidence-informed is a social and interactive process. A system model therefore requires insight in the interactions that govern the production, mediation and use of knowledge between the actors involved. The visual underneath shows which stakeholders are potentially relevant in a system of evidence-informed education. The group of actors and their roles vary across systems.

⁵⁴ Boswell, C., K. Smith and C. Davies (2022), Promoting Ethical and Effective Policy Engagement in the Higher Education Sector, Edinburgh: The Royal Society of Edinburgh, 3-4

⁵⁵ OECD (2023), *ibid.*, 25-26

⁵⁶ OECD (2023), *ibid.*, 25

⁵⁷ Gough, D., Maidment, C. & Sharples, J. (2018), UK What Works Centres: Aims, methods and contexts, London: EPPI Centre, Social Science Research Unit, UCL Institute of Education, University College London



Based on OECD (2023), ibid

Systemic mechanisms are needed to build and promote **interpersonal relationships**, either formal or informal, as they enable trust and mutual understanding among the different actors involved.⁵⁸ An example could be policy inquiry commissions of stakeholders, experts, researchers and practitioners to co-create policy advice informed by evidence. This emphasizes relevance and interaction of different perspectives and acknowledges their specific professional knowledge.

One of the challenges in a system model is the lack of one shared culture of evidence-informed (see earlier). Different actors come with different understandings of evidence itself, its relevance and use. The motivation for research production and use can vary and the time frames might not always coincide (see earlier). Strategies to bridge this gap include the creation of intermediaries and collaborative research.

Intermediaries mediate between 'producers' and 'users' of research. These terms are a simplification: research producers and research users are not a homogenous group, with different actors with their own specific characteristics taking on these roles (e.g. 'users' can include policy makers, teachers, school leaders, inspectors, teacher educators, training providers, ...). Furthermore, boundaries between the two are often blurred, with several actors having more than one single function. An intermediary is therefore not necessarily one single actor, but can be better defined as a role with mediation as its most important function. Mediation activities include creating, translating and disseminating knowledge, facilitating

⁵⁸ OECD (2022), ibid, 75 ; OECD (2023), ibid, 76

relationships, and building skills and capacities.⁵⁹ **Knowledge brokers** are an example of intermediaries. Examples of knowledge brokerage institutions are the Education Endowment Foundation (UK), Nederlands Regieorgaan voor Onderwijsonderzoek (Netherlands), Kunnskapsenter for utdanning (Norway), J-Pal (Europe), DIPF Leibniz Institute for Research and Information in Education (Germany) and the recently founded Leerpunt (Flanders, Belgium), each of them different in nature, foci and activities. Brokers can be installed on a local level, a system level or even a cross-system level. Their role can differ according to their context, position in the knowledge infrastructure and funding.

Collaborative research is a form of stakeholder involvement in research production, for example in the form of engaging practitioners or policy makers in setting the research agenda, data collection and analysis. Potential benefits include that it can make research more relevant, improve mutual understanding between the different actors and raise trust in research. It can also contribute to professional development of all actors involved. Critics argue, however, that it can weaken methodological rigour of research because stakeholder involvement might allow ideology or bias to enter the research. It should also be noted that the current evidence on the impact of collaborative research is inconclusive.⁶⁰

Quality and relevance

There is an ongoing debate in the field of evidence-informed education about what counts as evidence and if and how the quality of evidence should be hierarchised. The increased access to information with less quality control makes this debate even more relevant.⁶¹ Van Damme (2022) ranks the three aforementioned types of knowledge that affect decisions according to increasing quality: lay knowledge, professional knowledge and scientific knowledge. Despite the hierarchy, lay knowledge and professional knowledge are valuable and even necessary.⁶² Further research into the relation and interaction between the different types of knowledges is needed.

The question of quality hierarchy also applies to the different types of scientific evidence. Different pyramids illustrating this hierarchy have been created, with systematic reviews, meta-analyses and randomized control trials (RCTs) often being placed at the top, and case studies at the bottom of the hierarchy.⁶³

Such hierarchies focus on scientific quality and often disregard the relevance of evidence. Nutley, Powell and Davies (2013) argue that which type and quality of evidence is needed should depend on the question. They suggest to focus on mapping what kind of evidence can answer what kind of question, rather than defining a hierarchy of evidence types. Quality is therefore also about "what we want to know, why we want to know it and how we envisage that evidence being used".⁶⁴ This transcends the mere question of 'what works'; it is also about why, when and for whom something works, what the costs and the risks are, and what the public perception about the proposed intervention could be. In short, evidence-informed policy and practice requires policy- and practice-informed evidence.⁶⁵

⁵⁹ Torres, J. & Steponavičius, M. (2022), More than just a go-between: The role of intermediaries in knowledge mobilisation, *OECD Education Working Papers*, 285, 8-11

⁶⁰ OECD (2023), *ibid.*, 45-51

⁶¹ Burns, T. (2023), *ibid.*, 5

⁶² Van Damme, D. (2022), *ibid.*, 30-31

⁶³ See e.g. https://en.wikipedia.org/wiki/Hierarchy_of_evidence for different examples of hierarchies and see Van Damme (2022), p. 10 for a pyramid that includes the other two types of knowledge.

⁶⁴ Nutley, S., Powell, A. & Davies, H. (2013), *ibid.*, 6

⁶⁵ Best, A. & Holmes, B. (2010), *ibid.*, 145

Similarly, Van Damme (2022) proposes a two-dimensional framework to assess the value of research, combining power of proof with relevance. He puts forward six criteria to evaluate the scientific power of proof: hypotheses should be conceptualizable, testable, modellable and experimentable, and results should be replicable and generalizable. The relevance for policy and practice is evaluated on two criteria: the research findings balance depth and breadth (i.e. they are not too specific that they lose relevance, but they are also not too broad that they lose meaning) and the research findings actually contribute to the knowledge base of practitioners and policy makers.⁶⁶

When assessing scientific quality, important **concerns** regarding education research and social sciences in general can be raised. These concerns need to be taken into account, both in the production and the use of evidence. The so-called 'replication crisis', the phenomenon that the results of many scientific studies are difficult or unable to be reproduced, affects education research particularly hard. Research suffers from a number of biases, namely conservatism bias, confirmation bias and publication bias. Additionally, education research in particular is vulnerable to insider bias (actors designing an intervention are also the ones evaluating its effect) and ideological and political bias. Lastly, publication pressure heightens the risk of research fraud.⁶⁷

Lastly, Rickinson et al (2022) advocate for special attention not only to quality of evidence, but also to **quality of use** (or using research well), which is why the other dimensions of our system model are as important.⁶⁸ The following characteristics are key for quality of use in practice: it is purposeful; embedded in culture and structure; connected to professionalism; collective; time and effort dependent; and curiosity-driven.⁶⁹ Evidence can also be used poorly, for instance when cherry picking evidence to underpin pre-existing assumptions.

Skills and capacity

A system-level model requires reinforcing each stakeholder individually and the system as a whole. This means building **capacity**. First of all, all actors need certain **skills and competences**, allowing them to engage with research in a meaningful and structural way. Policy makers and practitioners, on the one hand, need **research literacy**. They should be able to access and understand research, to assess its quality and usefulness as well as to recognize its limitations. Practitioners and policy makers also need to be able to apply research to the needs or the context in which they operate, thereby relying on their understanding of these particular contexts.⁷⁰ The European Commission's Joint Research Centre (JRC) includes working with evidence in its competence framework for innovative policymaking.⁷¹

Researchers, on the other hand, need to develop **policy and practice literacy**. The JRC distinguishes five clusters in its competence framework for researchers: understanding policy, participation in policymaking, communication, engaging with stakeholders and collaboration.⁷² To fully connect research, policy and practice, **intermediaries** need the skills to select and implement activities to close the gap between these different communities (see earlier).

⁶⁶ Van Damme, D. (2022), *ibid*, 16-19

⁶⁷ Van Damme, D. (2022), *ibid*, 5-7

⁶⁸ Rickinson, M., Cirkony, C., Walsh, L., Gleeson, J., Cutler, B., & Salisbury, M. (2022), *ibid*, 146

⁶⁹ OECD (2022), *ibid*, 193

⁷⁰ Burns, T. (2023), *ibid*, 9; Rickinson, M., Cirkony, C., Walsh, L., Gleeson, J., Cutler, B., & Salisbury, M. (2022), *ibid*, 143

⁷¹ Schwendinger, F., Topp, L. & Kovacs, V. (2022), *Competences for Policymaking*, Luxembourg: Publications Office of the European Union

⁷² Schwendinger, F., Topp, L. & Kovacs, V. (2022), *ibid*

An important challenge here is the **lack of alignment** between the actors, as well as between the timing of studies and the policy cycle or needs of educational practice. There is often a discrepancy between the timeframe of the decision-making process – design, implementation, monitoring and evaluation of education policies – and the timeframe required for scientific research. Building research evidence requires in most cases a longer period of time, whereas policy-makers want advice and evidence quickly in order to design and/or adjust policies.

Lastly, capacity (as well as the other dimensions) is also a question of **resources**. This includes human resources (having enough staff and staff that is skilled), financial resources and (access to) knowledge.⁷³ Another important resource, as mentioned above, is time and the adequate allocation of it. Furthermore, capacity building touches on other elements mentioned earlier, such as leadership, incentives, and organizational measures. Specifically for researchers, good human resources benefit the quality of research. Senior researchers need ample time to adequately supervise junior researchers to ensure quality research outputs.

Interconnectedness of the five dimensions

The previous paragraph is just one example of how the five dimensions are tightly connected and cannot be viewed separately. Resources are of course necessary across all dimensions and capacity entails organisational capacity as well and is also about structures and culture, among others. This interconnectedness is typical for a system model. The following examples further illustrate this. Culture and structures and processes go hand in hand and a culture is made by (individual) actors and their relationships. The quality of evidence (i.e. research and data) depends on structures and processes that enable the production of quality evidence and on skills and capacity. The relevance of evidence is also a question of skills as well as of relationships and culture. The lines of the five dimensions blur into one another; any sharp distinction would be artificial. Lastly, this interconnectedness not only applies to the five dimensions, but also to the aforementioned fluid relationship between policy and practice.

⁷³ Bowen, S. & Zwi, A. B. (2005), Pathways to "evidence-informed" policy and practice: a framework for action, *PLoS medicine*, 2(7), e166

PART 3: POLICY RECOMMENDATIONS: CHALLENGES, OPPORTUNITIES AND POSSIBILITIES

In this section, the incoming Belgian presidency puts forth several policy recommendations, opportunities, and challenges at the European, national, and school levels. We are confident that these will ultimately enhance the overall quality of education within the European Education Area.

When referring to evidence in education, the term 'evidence-informed education' is preferred over 'evidence-based education'. This distinction is an important one in the context of education. While both terms emphasize the role of evidence in shaping decisions, they imply different approaches and philosophies. An evidence-informed approach recognizes that decision-making, especially in the context of education, can and should not rely solely on evidence. Instead, it is a complex interplay of personal experiences, values, norms, practical reasoning, technical expertise, and contextual knowledge. Evidence informs policy makers and practitioners, but it does not dictate their decision.

While evidence is crucial, it should complement, not replace, professional judgement. It is vital to recognize that policy makers and educational staff bear the responsibility of utilizing evidence effectively. Poor decisions can lead to significant human and financial consequences. To ensure accountability, transparency is key. This means clearly stating which evidence was or was not considered and explaining how it influenced the ultimate policy decision, along with acknowledging other factors that played a role.

Decisions in education should be informed by the mentioned open and balanced interplay. In addition, it should be acknowledged that the use of evidence might differ between policy and practice as they use distinct approaches and perspectives. In contrast, policy and practice use similar processes to reach their goal, albeit with different effects. Through evidence, based on high quality educational research and/or data about "what works for whom in what context and for what objectives", decisions can have a better rationale for policymaking. Specifically, as it:

- Increases trust in and between policy makers, researchers and practitioners and maximizes the impact of policy choices;
- Evaluates the effectiveness and efficiency of implemented policy measures and investments;
- Helps in preparing and planning
- Informs future policy decisions;
- Enhances the quality of education as it supports the teaching practice, classroom and or school management of education professionals;
- Contributes to the professional development of policy makers and educational staff.

Actions at Member State level

Concretely, we argue for an approach to evidence-informed education that recognizes the complexity of education as a whole, of the different national and regional education systems, and of the use of evidence within these different contexts. Contextualized evidence is tailored to the specific needs, culture and circumstances of the specific governance level in the field of education. Evidence should be tailored to the specific needs, experiences, cultures, and circumstances of the respective governance level, the learning and teaching environment, within the field of education and training. What works in one context, may not work in another. In addition, it should be acknowledged that the European Union, its Member States, and other international organizations have already undertaken a lot of initiatives within the field of education of using and investing in evidence to support effective policy development, decision-making and investments, and to improve practice within education.

Teaching in an evidence-informed way has several advantages, both to students and educational staff. On the one hand, evidence-informed practice improves student learning outcomes and teachers become more equipped to engage their students, while addressing the diverse learning needs and adapting to changing educational environments. On the other hand, using evidence-informed practices helps educational staff to stay in touch with the latest developments in education. In turn, this assists educational staff in their professional growth and helps them to stay motivated in their careers. To facilitate these advantages, we thus require:

- Attention to the development of the skills and competence needed, including research literacy, to work in an evidence-informed way in initial teacher training;
- The provision of ongoing professional development opportunities for educational staff and fostering a culture of continuous learning within the school environment;
- Intrinsic and extrinsic motivators for educational staff to implement evidence-informed teaching and participate in peer learning communities to discuss and share effective teaching strategies informed by evidence.

However, at the same time, we recognize that there are numerous challenges to overcome in education research production, mediation and use in the educational field. These include, among others, the relevance, accessibility and applicability of education research, the amount of translation of research into educational practice and policy, the resources and incentives, the alignment between timeframe for research and the policy cycle or needs of educational practice, and the use of research evidence on education.

In order to further strengthen evidence-informed education within the Member States and the European Education Area, we require:

- A strong research ecosystem in all Member States and on Union level that ensures relevant, accessible and high quality research in the field of education;
- An interactive relationship between researchers, brokers and policy makers and practitioners, rather than a top-down model. Research results need to be translated in practice and tangible and implementable policy recommendations. The needs and experiences of all stakeholders involved - including, but not limited to - policy makers, schools and educational staff, need to be shared with the research community. This

approach can provide a holistic understanding of the many different perspectives within the field of education;

- A positive mindset of all stakeholders involved to interpret and use evidence effectively.

In that regard, we need to encourage peer learning through a better exchange of practices and experiences between the Member States. We thus call upon Member States to share practices, seek synergies, and translate knowledge to their specific contexts. Moreover, we call on the Member States and the European Commission to draw upon the existing expertise of international organizations and to explore collaborations, exchanges, and partnerships.

Furthermore, to enhance the effectiveness and relevance of evidence for policy and practice, we need to foster a positive mindset towards educational research and stimulate its usage by:

- Promoting active engagement of researchers with education policy and practice through dedicated time, compensation, and recognition;
- Raising awareness and disseminate information about the importance of research engagement and valuable findings;
- Analyzing successful practices to identify key factors for effectiveness, informing future initiatives and resource allocation. In addition, we require a promotion of a culture of research, monitoring and evaluation within the national and/or regional education systems. Considering encouraging education authorities, schools and educational institutions to assess the impact of their practices and adapt based on evidence;
- Advocating for system leadership that transcends individual organizations, ensuring collective success in research engagement efforts;
- Incentivizing a broad spectrum of contributions beyond traditional academic metrics, including knowledge exchange, engagement with diverse audiences, and public impact;
- Exploring the potential of research in collaboration between researchers, policy makers and practitioners.

In addition, we recognize that effective evidence-informed education depends both on the quality of the evidence itself as how well it is used. Further understanding and support can enhance the use of evidence. Member states should therefore be encouraged to explore possibilities for schools, educational staff, policy makers, researchers and brokers to experiment with evidence within their own contexts and, if possible, also across education and training systems.

Moreover, we acknowledge that a difficulty lies in developing the skills and abilities of all actors involved so they can effectively use evidence. Thus, we urge Member States to enhance the capacity building of all actors involved, while focusing on developing skills and competences necessary for meaningful engagement with research. In particular, by:

- Promoting research literacy among policy makers and educational staff, enabling them to access, understand, and apply research effectively, tailored to their specific contexts;
- Promoting participation of educational staff in ongoing professional development opportunities that focus on evidence-informed teaching strategies and pedagogical techniques. Promoting, among educational staff, the use of evidence-informed strategies for instruction when tailoring teaching methods to meet the diverse needs of students;

- Encouraging researchers to cultivate 'policy and practice literacy', engaging policy makers and or educational throughout the research process and adopting clear communication strategies for relevant audiences;
- Encouraging the adaptability of policy makers to adapt or revise policies and practices based on new evidence and changing circumstances;
- Supporting intermediaries in their role of bridging the gap between education research, policy, and practice;
- Considering ethical and moral dimensions of evidence when making decisions, ensuring that policies are just and fair. Considering prioritizing the need for evidence that reduces disparities and improves opportunities for all students.

Actions at EU level

We highlight the importance to further promote the actions taken at EU level to progress evidence-informed policymaking and practice. In particular, we promote the activities of:

- The Joint Research Centre;
- The Knowledge4Policy platform;
- The Science Advice mechanism;
- CEDEFOP;
- The European Training Foundation;
- The European Science Advisors Forum;
- The scientific Advice Mechanism
- The Learning Lab. As a policy evaluation tool the Learning Lab is indispensable in the evidence-informed-cycle of production, implementation and evaluation. We urge, in cooperation with the Member States, to further develop the Learning Lab on Investing in Quality Education and Training and its community of practice into a true EU tool for policy learning in the wider field of evidence-informed education. Moreover, we recommend producing new evidence and make existing technical evidence more accessible to EU education and training policy makers. This could be facilitated by the creation of an information repository.

Lastly, we encourage taking stock of and learning from past initiatives to progress evidence-informed policymaking in the EU. These insights can prove useful for the creation of future networks to connect policy makers, brokers, researchers and practitioners in and across Member States.

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As we move forward, we acknowledge that the impact of this non-paper extends beyond its pages. It serves as a non-exhaustive and non-academic testament to the collaborative spirit and shared commitment of experts in the field. The insights presented in this non-paper have not only informed the Draft Council Conclusions on evidence-informed education, but also inspired the structure of the conference on evidence-informed education.

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COLOPHON

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