EIPSI
Evidence Informed Practice

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Training on Evidence-Informed Practices for School Inclusion

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MODULE 0

Introduction and presentation of the training program on the "Use of scientific evidence for school inclusion"

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PRESENTATION

The following material and complementary resources are part of the 'Evidence-Informed Practice for School Inclusion [EIPSI] (2020-1-ES01-KA201-082328) Project funded under the Erasmus+ Strategic Partnerships Program.

EIPSI aims to contribute to the improvement of student academic outcomes, minimizing the gap between advantaged and disadvantaged students, through the promotion of the evidence-informed practice approach.

The goal will be achieved through a comprehensive training program that includes the design, prototype, and test of innovative solutions for teachers and stakeholders (such as educational counselors, inspectors, public administrators, delegates) to improve students' equity and inclusion using evidence-informed practices. One of the main actions of the project is the co-design of a "360º Intervention Plan", which addresses the needs of different actors involved in teaching and research and other agents involved in educational management. The intervention plan is co-created with the beneficiaries themselves and contains the following:

1) *Open Digital Platform (ODP) prototype hosting valid and grounded evidence-informed resources that address inclusion in classrooms.* In a digitalized environment, online resources provide a valuable context to provide easy and quick access to information (https://evidenceforteaching.org.)International research has demonstrated that teachers and school leaders experiment difficulties of access to quality information, so through the platform, teachers will have access to resources that include effective good practices, games, podcasts, questionnaires, scientific articles, etc. to address classroom diversity and specific learning problems.

2) *Training Plan for teachers, school leaders and public authorities on the use of evidence for inclusion.* This plan will provide specific continuous training to ensure that teachers have the necessary skills and knowledge to facilitate work in schools, which have a significant number of disadvantaged students.

3) *Coaching Plan and school development for the use of evidence for inclusion.* To improve learning and attention to the diversity of students in the classroom, schools need to ensure supportive working conditions to improve teacher effectiveness to make use of evidence in their teaching practice. Through the coaching plan, effective tools and a coaching program will be provided to school leaders and politicians to guarantee inclusion using the most recent scientific evidence in their practice.

The project addresses a series of actions with the objectives of making it easier for schools to use evidence in their educational practices and to develop a professional community between researchers and teachers to improve educational inclusion. Within this framework, we have developed a resource platform where one of the key actions is the training of teachers, management teams and people interested in educational improvement at the European level. This guide and the resources included can be used for training in basic Evidence informed

practice content and represent the theoretical and practical basis for the implementation of face-to-face training actions in national contexts.

Why a training course on the use of scientific evidence in educational practice?

In recent years, educational systems and teaching practices have seen an increasing interest in innovative and transformative education movements. At the level of each school, a multitude of teaching and organizational practices are being implemented at the same time to improve student learning and to provide a better response to the diverse needs of students, especially those who need it most. However, to ensure that these changes we intend to make have the expected effect and have a significant impact on the improvement of educational processes, it is necessary to systematize this implementation through tools that contribute to their verification, contrast from educational research on the subject in question. In short, it is a matter of analyzing, reflecting and transforming our educational practice both in the classroom and outside it.

To ensure that educational innovation processes are based on a solid and credible process, scientific evidence is one of the relevant sources of information when consulting, interpreting or generating.

Using scientific evidence in teaching practice involves:

- Provide evidence-based justification for new and ongoing institutional activities and interventions at the school level;
- Incorporate the assessment of clearly defined objectives in all activities/interventions when designing new activities;
- Provide resources and plan all the research and assessment activities that we carry out at school or classroom level adequately;
- Ensure that the dissemination channels of results are clear, so that contextual learning of "what works" is a result and can influence change.

This guide aims to be a dynamic and facilitating element when it comes to introducing, making visible and developing the framework of scientific evidence at the school and classroom levels a) to contribute to the improvement of student achievement, b) to better address diversity and c) to increase the level of inclusion of students. It aims to build trust with methodologies and approaches derived from and applied specifically to the social sciences and education.

The resources and materials in each chapter will guide educators and school leaders to autonomously and successfully implement an evidence-based approach to their practice. This approach is justified by the need to base our professional decisions on the best educational research, on results derived from the processes of rigorous and systematic assessment of our practice. The idea is to consider a variety of available sources, analyse them critically,

understand their meaning, and be able to generate our processes of an individual and collective inquiry for the final objective of improving the teaching processes.

Why is a training program needed on the use of evidence for inclusion?

Teachers share a significant social responsibility to prepare children and young people to be responsible and active citizens in society. Training and lifelong professional development are therefore needed to ensure the quality and effectiveness of actions given the impact on student performance and teacher professional development[1]. Throughout their professional career, teachers go through different stages of development during which they improve their teaching practice and the quality of their teaching inside and outside the classroom, significantly influencing the performance of students and also their future life decisions.

Teachers must be able to base their teaching decisions on the best scientific evidence, being able to access different sources of knowledge, understand their meaning for their practice, make use of them, and generate evidence themselves derived from their expert knowledge.

One of the competencies associated with the effectiveness of teaching in 21st-century schools[2] is to be able to make efficient use of scientific evidence, intending to contribute to the improvement of students' academic performance and the improvement of attention to the different types of diversity that can occur in the classroom.

Competence in the use of scientific evidence provides a conceptual, attitudinal and procedural framework necessary for the exercise of the teaching profession. It allows teachers the opportunity to align their teaching practice with educational research and educational policy decisions, in addition to establishing a framework that allows them to assess the success of their classroom activities and to base their self-reflection and self-assessment processes in this way.

For whom and for what purpose is this guide?

This guide, with its modules, is addressed to teachers in primary and secondary schools, management teams, members of school leadership teams or education administrators interested in improving attention to diversity and student achievement through the use of scientific evidence.

The use of evidence in educational processes aims to improve or make more efficient issues such as:

[1] Hattie, J. (2003) *Teachers make a difference: what is the research evidence?*. Paper presented to Australian Council for Educational Research Annual Conference, Melbourne, 19–21 October 2003.

[2] Organisation for Economic Co-operation and Development (OECD) (2005), Teachers matter: Attracting, developing and retaining effective teachers, 6th edn, Paris, OECD Publishing.

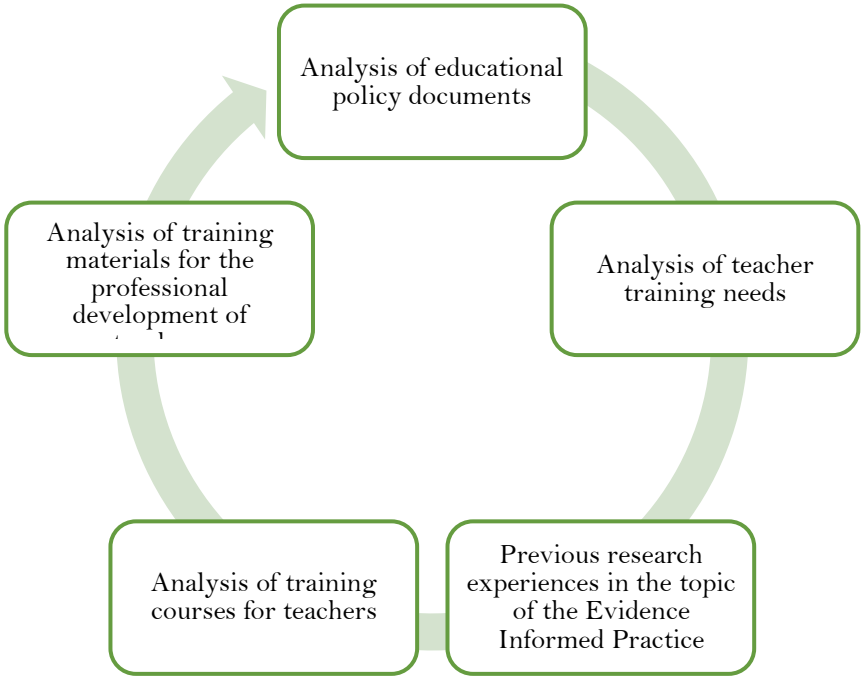
a) Strategic analysis of student data (for example, academic results during the course, the progress of students over several courses, targets linked to retention of students and reduction of inequalities or drop-out);
b) Obtaining evidence on the impact of an activity;
c) Obtaining information on the content and scope of quality improvement processes (for example, review of strategic processes, improvement of the school education project), leading to improved teaching and student satisfaction;
d) Improving individual teaching and institutional quality processes (for example, linked to the scope of school quality indicators) leading to better recognition of teaching quality;
e) Introducing the evidence-based approach helps to recognize the heterogeneous nature of students and the organizational culture of the school;
f) Achieving greater professional performance, as well as improved social recognition at the individual and social levels.

How was the training course designed?

In the design of this course and the corresponding modules an international and interdisciplinary team of experts has collaborated: researchers from universities of Spain, Romania, Slovenia, United Kingdom, educational administration (the educational inspectorate and training centres for educational advisers from Catalonia and Romania).

In the first phase, a systematic analysis of documents and resources on the scope and meaning of EBP and in the improvement of educational practice was carried out (See Figure 1).

Figure 1: Document and resource analysis process



Once this analysis phase was completed, results were triangulated through consultation sessions with experts outside the project. It should be noted that among the most significant results it is highlighted that competence in the use of evidence in teaching practice is a key competence of teachers linked to their research capacity understood as the ability to identify, read, understand, apply the results of scientific research and generate knowledge derived either from the collection of evidence on its practices or through reflection on it.

What skills will be developed at the end of the course?

At the end of the training programme, teachers are expected to be able to make informed decisions about their educational practice, through the integration of their experiential knowledge with the most rigorous scientific knowledge to improve student learning and their professional development.

The evidence-informed practice understands teachers as reflective and literate professionals with different types of knowledge derived from research (including systematic reviews, qualitative and quantitative research) and able to integrate it into their practice.

With the completion of the course, teachers are expected to develop competencies and skills focused on:

1) To acquire solid knowledge on how to access, judge and use research-based information;
2) To develop an attitude aimed at improving educational practice in which research plays an important role;
3) To have rigorous knowledge about the inclusion of students, attention to diversity and what are the best strategies and resources to promote equity and the best learning opportunities for their students, based on the latest scientific evidence;
4) To be able to carry out individual and collaborative reflection processes on their educational practice and to introduce improvements in teaching processes;
5) To be familiar with strategies for transferring educational practices that operate in a broader institutional or external context.

Together with these competences and in line with the most recent contributions to sustainable education, it is intended that several key competences[3] will be developed throughout the course: systems thinking, the ability to understand and evaluate complex and future scenarios, the ability to develop and implement innovative strategies, the ability to collaborate by learning from others and with empathy, the development of critical thinking, reflection and problem-solving.

How is the training guide organised and how are the materials used?

[3] UNESCO (2017). Educación para los Objetivos de Desarrollo Sostenible. Objetivos de aprendizaje. París, p. 10.

The guide is designed in a series of seven modules that can be used individually or as a whole depending on previous knowledge on the topic. Likewise, resources and materials are used for self-training.

The structure of each module is organized based on clearly differentiated sections: presentation of the competences to be acquired and/or developed; basic theoretical content for a first approach to key concepts; resources, references, and other materials as a complement to the topic under study; a self-assessment tool for learning that is designed to help the development of learning and motivate participants to think critically about the content and its application.

The modules, organized from specific contents (See Table 1), are sequenced in such a way that both the individual work (in a first phase) is possible such as collaborative work through workshops for the application of the content studied and for comparison with the training team of the project.

Table 1: Structure of the guide

Chapters	Contents
Module 0	Introduction and presentation of the training program on the "Use of scientific evidence for school inclusion"
Module 1	What is Evidenced-Informed Practice, what are its benefits and how can we make it happen?
Module 2	Educational inclusion
Module 3	Conditions for the use of evidence in educational practice
Module 4	Accessing research from a variety of sources
Module 5	Use of evidence to recognize and evaluate issues related to educational inclusion and equity
Module 6	Strategies for knowledge mobilization
Module 7	Evaluation of the capacity to use evidence in educational practice

MODULE 1

What is Evidenced-Informed Practice, what are its benefits and how can we make it happen?

Authors Chris Brown & Jane Flood

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AIM

To gain a better understanding of evidence informed practice, why it is important for teachers, leaders across schools and wider systems and explore some of the ways it might be achieved.

COMPETENCES/ SKILLS DEVELOPED

- Clarity of understanding about EIP
- Communicate the benefits of EIP
- Encourage critical thinking
- Develop a vision, purpose and goal for evidence use

TARGET GROUP

Teachers/School leaders…

DURATION

2 hours to complete the module

CONTENT

Evidence informed practice – its improvement purpose

With this chapter, we consider the engagement by teachers and school leaders in educational practices that are 'evidence-informed' - across school systems and world-wide. There is a growing consensus that effective teaching and leadership is based on evidence-informed practice (or EIP), and that EIP results in improving student learning and achievement.

To provide a rough and ready definition, we suggest EIP can be thought of as *the engagement in research and data by educators.* Of course, there has to be purpose to this engagement and, in our experience, *EIP is most effective when it is directed at improving aspects of educators' teaching, decision-making, leadership or ongoing professional learning.* In giving a more specific definition, we can say that EIP is what occurs in situations in which teaching and leadership practice is consciously informed by knowledge such as:

- formal research produced by researchers;
- evidence derived from practitioner inquiry; and/or
- evidence derived from routinely collected school or system-level data (for example, student assessment data).

Why EIP?

In recent years there has emerged numerous imperatives, stretching across education systems from Chile to Australia, which seek to promote EIP. But why? Well, to begin with an emerging evidence base indicates that, if educators engage with research-evidence to make or change decisions, embark on new courses of action, or develop new practices, then this can have a positive impact for both teaching and learning outcomes. There are also myriad of social and moral imperatives which, together, present the case that educators 'should' engage with research-evidence if it is possible for them to do so. This argument is nicely encapsulated by Anne Oakey, who some 20 years ago argued that: 'those who intervene in other people's lives [should] do so with the utmost benefit and least harm'. Oakley thus contends that there exists a moral imperative for practitioners to only make decisions, or to take action, when armed with the best available evidence. Naturally this engagement should be critical in nature and the research in question should be of recognisably high quality, and for a comprehensive overview of both critical engagement and how to assess the quality of research-evidence we point readers in the direction of the work of David Gough.

It is also useful to contrast EIP against its alternative - the situation these imperatives are hoping to avoid. At its extreme, the position that is diametrically opposite to EIP is one of 'repetition' led practice: of teachers, once having finished their training, subsequently relying predominantly on their individual experiences of past classroom activity to guide how they engage with future cohorts of students.

We might expect teachers to work for some 35 to 40 years. Economic system that rewards a small few at the detriment of the many. Over this time the relevance of the formal knowledge they learnt at the beginning of their career will fade. At the same time, social, political and economic change, sometimes quite radical in nature, will occur. Just considering the last decade, and not even counting the recent Covid-19 pandemic, society has witnessed massive seismic shifts. These include the incursion of artificial intelligence and automation into the job market, migration crises, and a shift towards an increasingly inequitable economic system that rewards a small few at the detriment of the many. Safe to say, therefore, that society, as Bauman famously observed, is now increasingly *liquid*: constant change is '*the only* permanence, and uncertainty *the only* certainty'.

So, as society constantly changes, then so too must teachers. We need educators to be continuously updating their skills and knowledge if they are to adapt to fast changing social and economic-related educational imperatives of the modern age. In other words, relying solely on limited experiential understanding will, over time, only ever result in less effective decision making as: 1) situations emerge that educators have not been previously encountered; and 2) educators fail to turn to the huge well-spring of contemporary knowledge (such as research findings) that they might employ to help them better understand and tackle such situations. So, without embracing EIP, it seems unlikely that future educators will be able to ensure that all children can realise their potential or enter society as competent, responsible citizens, regardless of background and situation. Similarly, teachers will be ill-equipped to prepare the students of today to be the workforce of tomorrow, when the nature of the work they will be doing and the skills required to do it are uncertain.

Achieving EIP

But just because EIP is now increasingly viewed as a 'good thing', that doesn't mean educators have begun engaging with research and evidence *en masse*. Despite the dedicated efforts of a range of organisations, teacher-led movements and researchers, hoping to promote better teacher and school leader engagement with research and data, EIP is far from becoming a reality. So, what can be done to remedy this situation?

Recently Professor Chris Brown and Dr. Joel Malin had the privileged of convening over 30 researchers from more than 25 countries, states and districts, world-wide, to explore the current 'state of the nation' of EIP. As you might expect they found that educators' engagement with EIP could often be driven by context. For instance, the regulatory and accountability system in place within a given country (i.e. the international equivalents to organisations such as Ofsted) can have a huge impact on encouraging or discouraging evidence-use. They also found that norms around collaboration and professional identity mattered. While this provided a useful way to look at different jurisdictions individually, what Brown and Malin's data also helps us do is establish common principles for EIP that emerge across the piece. In other words, we can use Brown and Malin's data to understand what needs to be attended to - whatever the context and whatever the school - if we are to establish EIP as part of the day-to-day business of teaching and school leadership.

So, what are these principles? In short, they centre on:

- the vision of school and system leaders;
- the capability of teachers; and
- enabling educators to collaborate effectively.

Let's now explore each, in more detail.

Principle 1: It starts with buy-in to a shared vision on how EIP can strengthen the quality of teaching and learning

First there needs to be a shared vision for promoting the importance of EIP and its role in improving teaching and learning. Without a common vision that is recognized and shared by all relevant stakeholders, the occurrence of EIP will be dependent on happenstance and serendipity; meaning it will only ever be temporary and unstable. Such a vision must be consistent and compatible with other initiatives, both horizontally and vertically. Vertically, because it must stretch from national policy initiatives to the beliefs of teachers. Horizontally, because the social interaction between teachers and networks of schools needs to galvanise this vision and embed its operation in practice (e.g. in terms of norms and practices, as well as the belief in EIP as a 'better' way of working than not using evidence). Such interaction and the 'on the ground' application of EIP should also generate knowledge and insight that can make its way back up to national policy-makers, ensuring they continue to be supportive of, and foster, EIP. Looking across Brown and Malin's 25 case studies and we can see that the idea of a shared vision is perhaps best exemplified in Catalonia, where the Catalan Education Act (Decret 274/ 2018) sets out a systemic and formal commitment to the promotion and use of educational evidence by teachers. But other examples abound. In California, for instance, the CORE districts (a network of eight districts comprising Los Angeles, Fresno, Garden Grove, Long Beach, Oakland, Sacramento City, San Francisco, and Santa Ana) have been

noted for their success in improving student outcomes through their shared and agreed vision for evidence-informed collective learning. In Ireland, meanwhile, national educational reforms and internal school evaluation practices coalesce around the need to embed key elements of EIP (such as data-based decision-making and research-informed practice). Finally, the Ontario Ministry of Education has long been committed to working collaboratively with educators, researchers and other key partners to engage each of these groups in connecting evidence to policy, programs and practice.

Principle 2: Then teachers need to feel capable and confident to use evidence for teaching and learning

It seems unrealistic to expect teachers to become evidence informed if they do not feel that they have the skills to engage in this way of working. Emmett Rogers famously argued that change is most likely to occur when people can see that to do something new won't be challenging in an overwhelming sense, and that it builds on existing practice, rather than require learning a whole new way of operating. Of course, engaging in EIP won't necessarily be straightforward. To do so, teachers need to be research and data literate, and this requires them to:

- know where to find evidence,
- know how to understand and critique evidence, and
- know how to use evidence to inform their practice.

But an important aspect of evidence literacy is teachers' belief that they can successfully use data to improve teaching and learning. Achieving evidence literacy thus requires teachers to be supported: we need to build their capacity to engage with research and data effectively, until they feel confident and competent in their ability to do so.

Again, examining the case studies convened by Brown and Malin reveals the multitude of ways in which teacher capacity for EIP can be built. In California, for example, capacity building within the CORE districts is undertaken through research-practice partnerships with universities and foundations. In Ireland, initial teacher education programmes have been designed to ensure that – on entering the teaching profession – teachers will have the necessary skills to engage in EIP-type activities, such as data-informed and research-based practices. In New Zealand, various national educational initiatives include components that are designed to support teachers in being able to engage with and learn from research. Likewise, professional development programmes in the United Arab Emirates now have a strong focus on building teachers' abilities to become evidence-informed. For a final example here, we can turn to Denmark, where one billion DKK was recently allocated to training programmes for increasing teachers' ability to use evidence-based knowledge in their teaching practice.

Principle 3: EIP needs to be embedded as part of collaborative Professional Learning Communities and Professional Learning Networks

Effective collaboration involves situations in which teachers actively learn as a result of engaging with others, enabling teaching and decision-making to improve as a result.

Typically, effective collaboration occurs within a 'culture of mutual trust, respect and enthusiasm in which communication is open and honest'.

Similarly, it involves the inducement of mutual obligation, the fostering of interdependence and should expose the practice of teachers to the scrutiny of others. This means that, while informal collaboration can be beneficial, to ensure that learning occurs systemically, rather than sporadically, formal and intentional systems for collaboration need to be put in place. Such systems are best typified by Professional Learning Communities (PLCs) and Professional Learning Networks (PLNs). A growing body of evidence suggests that when PLCs and PLNs are directed towards achieving EIP, they provide a 'collaboration plus' model of working. In other words, they ensure that teachers also learn from engaging with 'external' information (data or research) which can serve to expand, deepen or even challenge existing beliefs.

Examples of the successful use of evidence-centred PLNs and PLCs include the Catalonian education system, where there is a clear commitment to the use of collaborative networks between schools and educational organisations in order to promote evidence use by teachers. In England, meanwhile, Research Learning Communities (RLCs) have been used to foster research use through bringing together groups of practitioners from a variety of schools. Such practitioners are supported to develop evidence-informed practices and then share these with colleagues back in their 'home schools', so ensuring EIPs are widely disseminated. Another, similar, approach originating from the Netherlands, are 'data teams'. Here, supported by an external coach, teams of teachers and school leaders (with each team comprising six to eight people) work on solving specific educational problems, using a structured and cyclic eight-step approach (see Brown et al., 2017 for more on both RLCs and data teams). In Ontario, the Knowledge Network for Applied Education Research is an initiative to strengthen relationships between research producers. One final example of the use of PLNs to foster EIP is the *Developing Potential – Empowering schools* project. The aim of the project was to aid secondary schools serving disadvantaged students in the Ruhr metropolis, Germany. Participating schools were set up in school-to-school networks and, using a data-driven approach and assisted by a school development coach, supported to engage in a comprehensive and successful school development process.

Moving forward

There is now a strong evidence base to indicate that EIP leads to both better teaching and learning. There is also a moral imperative suggesting that teachers should only make decisions, or take action, when armed with the best available evidence. Nonetheless, despite these things (to say nothing of the dedicated efforts of a range of organisations, movements and academics, world-wide, to foster evidence-informed practices) EIP – as a 'business as usual' way of working – is yet to take hold in in any school system anywhere in the world. Having studied how EIP is helped and hindered across 25 countries, however, we think we have found a way forward. And what is needed now, we argue, is a more joined up and strategic effort, and one that focuses on the three core areas outlined above: **vision, capability and collaboration.** So policy makers and system leaders, school leaders and teachers – it's

now over to you! The follow section is intended as a stimulus for the kind of action that might be taken, founded on these core principles.

What needs to be done – three challenges for the system and the school

- **Developing a culture that encourages research use:** Leadership support is key to fostering a culture of research-use. Such support can be witnessed in a number of the initiatives detailed above. In Ontario, for example, research use has been explicitly promoted as a goal and the Ontario Ministry of Education has previously attempted to 'normalize' decision-making informed by research evidence. The ministry also appointed a high-ranking civil servant (the Chief Research Officer) with responsibility for leading research and knowledge mobilisation efforts across schools.
- **Giving educators hand-on experience of EIP:** First-hand experience is vital and teachers- also need to feel *able to experiment* if they are to fully engage in EIP type activity. Key to increasing EIP, therefore, is that system and school leaders ensure teachers are able to access, engage with and apply research when attempting to improve their practice. Approaches such as Ontario's Knowledge Network for Applied Education Research and Teacher Learning and Leadership Program, as well as similar initiatives in New Zealand, and Catalonia all reflect efforts underway to make evidence much more available and as well as help teachers and policy makers 'learn' in relation to evidence, so as to support improved student outcomes.
- **Ensuring networked collaboration:** evidence use by educators is optimal when undertaken in a networked and collaborative way. For collaborative EIP to take root and flourish it must have high level support. In particular, however, school leaders and policy makers should promote the idea of 'community' while also ensuring staff are both encouraged and supported to engage in evidence-use in a networked way. Examples include those efforts in California and England (such as Research Practice Partnerships, Research Schools and Research Learning Networks) which facilitate networks of educators and researchers to work collaboratively in order to apply evidence to practice.

RESOURCES

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MODULE 2

School Inclusion

Authors Kyra Kronenberg & Asia Trzeciak

Reviewers Chris Brown

AIM

The aim of this module is to reflect on what school inclusion is and how the situation is in your classroom and school.

COMPETENCES/ SKILLS DEVELOPED

- Clarity in the definition of school inclusion
- Understand the inclusion situation in your school/classroom
- Understand how the situation in your school/classroom could be improved

TARGET GROUP

Teachers, school leaders and other stakeholders interested in school inclusion.

DURATION

5.5 hours of work, including self-study

CONTENT

In this module, the question 'what is school inclusion?' will be answered. By working through this module with the help of guiding texts and videos, several topics will be addressed related to school inclusion. By the end of this module, you will have reflected on and learned about:

- What school inclusion is
- How the situation regarding inclusion is in your classroom/school
- If there are goals that have not been met on the topic inclusion
- How the situation in your classroom/school could be improved

To start, this video summarizes how inclusion and education are related and provides a preview on the topics discussed in more detail during this module: https://youtu.be/kEyjlqixq9c

Inclusion

To answer the question on what school inclusion is, the first important topic to depict is what inclusion is. When we look at the definitions of inclusion all of them relate back to the same

wording and meaning: *"the act or practice of including"* (Merriam-Webster, n.d.). Specifically, when we look into what inclusion means in the educational sphere, it is stated that students with disabilities, special needs or other difficulties should be included with the general student population (Unicef, n.d.). However, with just a definition it is unclear to what including students is and how to achieve that.

To include all students, no matter their background or needs, can be a difficult task and it can be hard to identify if a classroom or school is inclusive. Being inclusive relates to creating equal opportunities to develop the skills of the student and opportunities should not be changed according to the background of the student. Inclusion in the classroom is about addressing the diversity of students and drawing attention to the need to enhance inclusion and equity in the school system. Ultimately, this can lead to an inclusive school system and classroom where students' outcomes will improve. Specifically, the European Commission focuses on the importance of school inclusion as a responsibility to achieve social and cultural integration and to ensure equity and social justice for all.

Inclusion in school can be divided into three pillars according to Sven Nilsen (2018) and Sardes, a research and advisory company based in the Netherlands that specializes in education, care and nurture. These three pillars are:

1. *Organizational* inclusion where students can go to schools nearby their home due to a network of sufficient services for the student
2. *Social* inclusion where students can meet each other and get opportunities to learn together and from each other; this can be created in the classroom, at school or in the neighborhood
3. *Didactic* inclusion where differences in the classroom are acknowledged and acted upon so the needs of the students are fulfilled, and different interests and talents can be developed

Those three pillars show that not only the organizational structure can create an inclusive environment, but other factors like actively involving students play a role as well. To read more about inclusive education, the article of Sven Nilsen can be found in the references.

However, as we have been talking about inclusion and inclusive education one topic has been the center of attention: the students. All students should be included no matter their backgrounds or needs, but what could those be and how could this affect their development in school?

Students

Inclusion in school allows students of all backgrounds to learn and grow, to benefit all students. However, some students might be disadvantaged or need special practices to start with. These students are more prone to be excluded from the classroom and result in more segregation. It is important to reflect on what those needs, and disadvantages are so that they can be act upon them.

When special needs are addressed in the educational realm, the focus is specifically on Special Educational Needs (SEN). SEN, according to Bryant et al. (2016), refer to students with disabilities, disorders or deficiencies. Students can experience a learning disability where studying is more difficult, a physical disability like for example a visual impairment or a developmental disability which affects daily life. An example of a developmental disability can be autism or ADHD.

Special Educational Needs also relate to disorders. These disorders can influence the way a student behaves in the class and this can affect their personal progress in a classroom. Specifically, disorders related to the behavioral, emotional and communicational circumstances are connected to SEN. An example of behavior related to such disorder could be the inability to build or maintain an interpersonal relationship. This can be with peers, teachers or caregivers and characterizes an emotional disorder.

Finally, learning deficiencies can be part of the SEN spectrum. These deficiencies are directly related to learning in the classroom and the progress of the students during their learning journey. Examples of learning deficiencies are dyslexia and dyscalculia where the student have a difficult time with either words or numbers and how to distinguish or utilize them.

To read more about how these needs affect the classroom and how teachers can act accordingly to those challenges, the article of Bryant et al. named 'Teaching Students with Special Needs in Inclusive Classrooms' can be found in the references.

Not only disorders, disabilities or deficiencies can affect inclusion in the classroom, also students with disadvantages can be excluded. These disadvantages are mainly related to their background and outside school situation. Disadvantaged students are those whose family, social, economic or past circumstances hinder their ability to learn at school.

The following list is a small glimpse of all the difficulties and differences students might have to deal with:

- Cultural differences
- Refugees
- Educational difficulties
- Geographical obstacles
- Social obstacles
- Economic obstacles
- Health problems
- Language barrier

Migrant students who are not skilled in the language and experience a barrier are part of this group. Another example is students whose family does not have enough money to pay for school tuition or whose family cannot be actively involved in the student's (school) life. These factors all create disadvantages that prevent the student from optimally participating in the classroom.

To acknowledge and attend to those needs of all sorts of students, a classroom should be inclusive where all students can participate and develop the skills and talents that they require. For this to happen, the topic of inclusive education needs to be introduced.

Inclusive education

This final topic combines the concept of inclusion with the students in a classroom that might have special needs or prior disadvantages. Inclusive education allows students of all backgrounds a fair chance to go to school, gain skills and develop their talents and interests. It means that all children are in the same classrooms, located in the same schools. All students are urged to work together, play together and learn from each other. This inclusive environment means real learning opportunities for groups who previously have been excluded.

These inclusive classrooms are not only beneficiary for the students with disadvantages or disabilities. By bringing together all students from different backgrounds and different experiences, contribution of the students is highly valuable, and the diverse groups can grow side by side, rather than individually. Therefore, it is very important to understand the concept of inclusive education as it answers the previously raised question: 'what is school inclusion?'. To reflect and understand more about the topic, the following video is recommended: https://youtu.be/ZIPsPRaZP6M. This video highlights what inclusive education is and why it is beneficial for all students.

RESOURCES

For more information and material about inclusion in education, the following videos and articles are recommended:

- https://youtu.be/yHE3Lklix3I
- https://www.tandfonline.com/doi/pdf/10.1080/136031199285039?needAccess=true
- How are teachers' attitudes toward inclusion related to the social-emotional school experiences of students with and without special educational needs? - ScienceDirect
- https://www.cambridge.org/core/journals/australasian-journal-of-special-and-inclusive-education/article/abs/leadership-inclusion-and-quality-education-for-all/9DD35846E7F61A9593A6F57546922615
- https://www.tandfonline.com/doi/full/10.1080/08856257.2014.891336
- https://inclusiveschools.org/category/resources/inclusion-basics/

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Merriam-Webster. (n.d.). Inclusion. In Merriam-Webster.com dictionary. https://www.merriam-webster.com/dictionary/inclusion

Nilsen, S. (2020). Inside but still on the outside? Teachers' experiences with the inclusion of pupils with special educational needs in general education. International Journal of Inclusive Education, 24(9), 980–996. https://doi.org/10.1080/13603116.2018.1503348

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Sardes. (n.d.-b). Inclusieladders bieden een gezamenlijke taal voor het gesprek over inclusief onderwijs. https://sardes.nl/portfolio/Inclusieladders-een-gezamenlijke-taal-voor-het-gesprek-over-inclusief-onderwijs

TEDx Talks. (n.d.). The power of inclusive education | Ilene Schwartz | TEDxEastsidePrep. https://www.youtube.com/watch?app=desktop&v=ZIPsPRaZP6M&feature=youtu.be

Unicef. (n.d.). Inclusive education. https://www.unicef.org/education/inclusive-education

MODULE 3

Conditions for the use of evidence in educational practice

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Reviewers Anna Díaz-Vicario & Simona Iftimescu

AIM

- To develop a positive attitude towards research and evidence.
- To develop self-regulation to uptake the Evidence Informed Practice approach.
- To know the most important factors that positively or negatively condition the effectiveness of an Evidence Informed Practice approach.

COMPETENCES/ SKILLS DEVELOPED

- Clarity in understanding the Evidence-Based Practice approach.
- Self-regulation in the adoption of the EIP approach.
- Understanding the factors that positively or negatively condition the adoption of the EIP approach.

CONTENT

The implementation of educational practices based on evidence is the result of the confluence of numerous factors that positively or negatively condition the effectiveness of this approach. Even considering the great difficulty of grading the impact of these conditioning factors due to their interconnected nature, we can easily understand their existence, and the importance of taking them into account when putting this approach into practice in the educational field.

Thus, the literature brings us closer to this issue, looking at four factors that significantly affect, in a different but interconnected way, the implementation of an educational approach informed by research. These four factors would be the following: teacher capacities, school cultures, learning environments that promote research, and the existence of structures and systems that enable the use of research (Brown & Greany, 2018). In this way, the improvement of teaching practice guided by evidence-based practices is based on a holistic approach, which includes personal experience, research evidence and information about the school context (Brown, Schildkamp & Hubers, 2017).

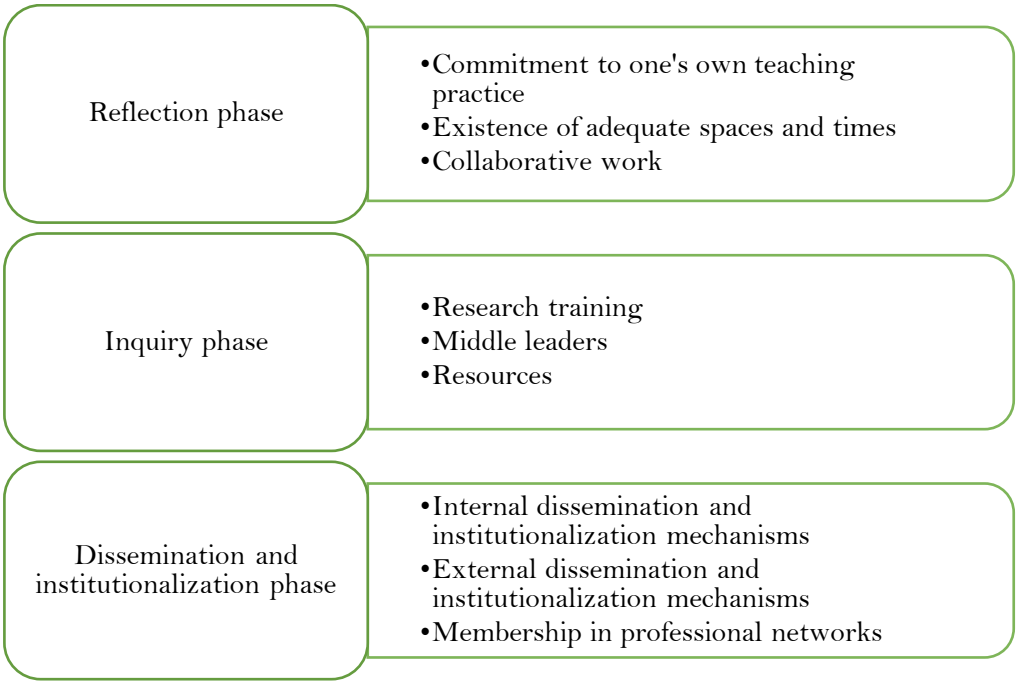
Being immeasurable to delve into each and every one of the conditions that could be grouped around these four broader categories, we will study, through this module, some of them that have a special relevance and are usually within the reach of professionals who work in their day to day in an educational center. Bearing this in mind, it is important to note that any educational professional can carry out informed practices from research, even if it has many conditioning factors that limit its possibilities to be applied at the school. Therefore, throughout this module we will study partial conditions of the implementation of educational practices based on evidence and we will not refer to total conditions that would make any attempt to use them by professionals impossible. It will always be possible, to a greater or lesser degree, to use an evidence-based educational practice approach.

Broadly speaking, the process of implementing educational practices based on evidence usually follows three steps that will help us to contextualize the most important conditions to be taken into account by any educational professional. These steps are as follows: reflection phase, inquiry phase, and dissemination and institutionalization phase.

Figure 1. Phases of the evidence-based educational practices implementation process

In each of the phases we have chosen a series of conditioning factors that, as anticipated, can favour or hinder the process of implementation of evidence-based educational practices and that, on the other hand, we consider that they are susceptible to being modified by the direct action of teachers.

Figure 2. Conditioning factors of evidence-based educational practices



In the following sections, and for each of the three phases, we analyse these conditioning factors, noting their influence on the implementation of evidence-based practices and suggesting some possibilities of action for their approach.

Conditioning factors during the reflection phase

First, there is a reflection phase, in which education professionals must think about their own educational practices, their theoretical foundations, innovation or the context in which they work.

In this first phase, we highlight three conditioning factors that can define or promote informed practices within the educational center.

From a personal and professional point of view, there must be a commitment to one's own educational practice. For this, it is important that education professionals are open to substantial changes in their teaching practices. Phrases like "I've always done it this way" or "who are you to get involved in what I do in class" do not help to improve the professional development of teachers. However, a more open, humble and committed approach to your work, in which phrases such as "I would like to improve as a teacher", "How do you do it?", Or "My class is always open" are heard, makes the breeding ground for an evidence-based educational practice establishment is much more suitable. Someone committed to his/her work is critical of its own practices, is open to changes that promote improvements and to train what is necessary to achieve that progress. As we can understand, this conditioning factor is closely related to certain personal characteristics of individuals that, in this case, are closely connected with fundamental aspects of the educational professional field such as professional ethics.

From an external point of view, in the reflection stage, the condition of the existence of adequate spaces and times for personal reflection and for sharing thoughts and experiences in a group way with other professionals in the educational field also emerges. If adequate spaces and times are not given for this, the foundations for the implementation of an evidence-based approach will not be solid. On the other hand, if these types of resources are available, motivation, involvement and group feeling will be strengthened, essential factors in the implementation and maintenance of an atmosphere of informed practices. It is important to point out that the most appropriate thing would be for this type of space and time to be provided by the schools themselves, ideally, within the established professional hours, as a fundamental part of the training and professional development of teachers of the professionals who work in the school institution. By favouring this type of space and time for reflection, we will be promoting a fundamental aspect in the implementation of educational practices based on evidence. Spaces for exchange between the management team and teachers are essential to support the evidence implementation process, and can occur both formally and informally (Ion, Díaz-Vicario & Suárez, 2021).

In addition, another conditioning factor to take into account at this stage is the fostering of collaborative reflection, since it increases the effectiveness of the work process at this stage due to the mutual help involved in sharing thoughts about the various realities and factors that come together in the day-to-day running of an educational center and that must be taken into account to create an atmosphere of evidence-based practices.

Thus, the reflections that sustain the next two phases and that are the starting point that makes us see where we are in order to be able to adequately direct ourselves to where we want to go, improve if they are carried out in small groups and in a collaborative way. It is important that all the members of the group feel with the necessary confidence to contribute their perspectives and reflections in the group, as a way of contributing to the collective enrichment, without fear of, perhaps, making any criticism of their own educational center that may derive in a process of improvement. For this reason, the ideal thing is for the institution to foster a climate of trust in

which the various professionals who work in it feel comfortable to contribute ideas from their experience and professional position. This climate of trust and openness is essential not only to raise the positive aspects but also to establish the bases that allow, in later phases, to collaboratively address the difficulties that may arise during the process. We must not forget that the implementation of a new or different approach in the educational center and in the teaching practice itself always generates uncertainty and doubts, which are better addressed if there are collaborative spaces where they can be shared.

Conditioning factors during the inquiry phase

Second, after a reflection phase, the implementation of an evidence-based approach usually establishes a period of inquiry, in which, after determining key aspects such as what we want to evidence or what is the best way to do so, investigations are carried out to small or large scale with specific objectives. In this phase of inquiry, we will then highlight three other conditioning factors that directly affect the effectiveness of informed practices.

A very significant determining factor is the level of research training that teachers have (Campbell, 2016). Various studies show the lack of instruction by this type of professionals in this field (Perinés, 2018). We cannot forget that many higher education programs in education do not offer adequate initial training in research to their students, so it must be something that is valued and evaluated in educational centers, detecting certain deficiencies in this regard, to be able to offer a continuous and complementary quality training for the various professionals who need it. If we intend to implement an evidence-based practice approach, the professionals who are going to develop such implementations must have at least basic notions of elements inherent to the investigations that are usually carried out in the educational field such as *evidence*, *hypotheses*, or *data collection instruments*. It is important to point out that your main role is to be teachers, not researchers, and, therefore, it is not necessary that the training in research is of a high level, but, rather, that you have the basic notions and tools to be able to propose, carry out and evaluate a practice through a little research. Ideally, the entire teaching staff could be trained in research over time, being able to be helped by professionals from the research field at any point in the process of establishing an approach to evidence-based educational practices.

The most appropriate thing would be that this continuous training could be carried out within the school itself, which would contribute to a better compatibility of learning with their professional tasks and to a greater contextualization with concrete examples that may be taking place in the institution itself. In this way, continuous training mediated by quality research staff would promote the resolution of specific problems that arise in the educational center as this research stage is carried out, and, therefore, would motivate professionals to continue working with this approach and it would prevent them from giving up due to obstacles or problems that may arise. The continuous exchange between teachers and researchers is also a central point for educational improvement, considering the synergies between these two areas.

On the other hand, we must not forget that in the teaching task it is not only desirable to carry out research but also to learn to understand and integrate, in the teaching practice itself, the results of research developed by others.

In addition, taking into account that the most conducive training for teachers, considering the large workload they usually have, would be a basic level training, another conditioning factor that stands out in this phase is the work of intermediate leaders, who coordinate the different education professionals from a specific educational center and who must also be open to cooperative work with other schools or networks (Brown & Zhang, 2017; LaPointe-McEwan et al., 2017). For the implementation of an evidence-based approach to be suitable, these intermediate leaders must have a specific training, and, in this case, a higher level, in research. In this way, they become promoters and motivators of an atmosphere of informed practices in the center through personalized and direct help to the teachers who are in the classrooms (Pattier & Sobrino-Callejo, 2021). For this, it is important to have the guarantee that these leaders are the right people for their role, and that they denote a clear commitment and defense of the research (Brown et al., 2019). In contrast, the existence of middle leaders who are untrained or no committed to establishing an overall atmosphere of evidence-based educational practices in the school would limit its effectiveness and the necessary interconnections between the various educational professionals in the institution that promote a collaborative and broader process of using evidence-informed practices.

Likewise, the inquiry phase will be conditioned by the resources available to teachers and / or the educational institution. The resources available will directly affect the depth, quality, or scope of the investigation. This does not mean that the lack of resources makes it impossible to carry out small-scale research, but rather that, as we can understand, it conditions it. In this sense, it is important to highlight the role that the Administration or educational institutions play as sources or managers of resources that can be dedicated to direct research in the classroom (Pattier & Olmos-Rueda, 2021).

Conditionings during the dissemination and institutionalisation phase

Thirdly, after the reflection and research phase, comes the dissemination and institutionalisation phase. This stage is dedicated to improving the quality of education not only for our own school, but also for the rest of the schools and institutions in our context, from a broader perspective. Once we have noted that, for example, the innovation we have implemented in our school has produced good results among our students, it is our duty to share this evidence with others to grow as a team that seeks the same goal: the improvement of education at a global level. Below, we highlight three more conditioning factors at this stage.

From an internal perspective of the school, the school's own dissemination and institutionalisation mechanisms stand out. If these mechanisms are well established in the school, it will be easy to disseminate and share the evidence of our research and generate informed institutionalisation projects. However, even if this is not the case, we can also disseminate our

results internally to the management team, to other teachers in our school, to students or to families, for example. Sharing evidence from contextualised research in our school greatly promotes the creation of an atmosphere of evidence-based educational practices in which all the agents involved in the day-to-day life of a school participate, directly or indirectly. Moreover, it promotes a spirit of confidence in the educational process that is taking place in the institution, as there is objective evidence and not only subjective assessments or perceptions that may be very different from one agent to another.

Therefore, a teacher who has evidence that what he/she is doing in the classroom is being done well will generate, through the dissemination of these results, a spirit of trust among the management team or among students and families towards his/her teaching practice for example.

In addition, dissemination, and institutionalisation mechanisms external to the centre stand out as one of the key conditioning factors in this phase of establishing an evidence-based educational practices approach. As this is done externally to the school, there is autonomy and a wide range of possibilities. We can disseminate the evidence from our research through websites, blogs, by participating in educational conferences, or even through social media in a simple and practical way. If we want to reach a considerable number of people, we must know and know how to use the mechanisms inherent to dissemination through, for example, social networks, where the use of different functions can significantly increase the level of impact of the publication. These include: the use of hashtags, the use of @ to name people of special influence in the network, the use of key languages, the use of accessible language, the number of followers of the profiles, the time and day of the publication, etc. It is important to highlight in this space the need to keep the anonymity of the participants and sensible data, such as all those that have to do with minors. In this sense, the dissemination should be done from a general point of view and without going into particular cases in order to safeguard ethics throughout the process. This external dissemination can promote the interest of other institutions or educational centres towards possible institutionalisation of the practices reported to a broader level and thus reaching a larger number of education professionals. It also allows for strengthened communication and exchange that can be oriented towards the creation of joint inter-institutional projects in relation to evidence-based practices.

In addition, a key factor in this phase is membership of professional networks that allow both dissemination and possible institutionalisation at local, territorial, national, and even international levels (Bathgate et al., 2019). These professional networks can be of a physical nature, such as membership of educational associations or different professional collectives. However, they can also be digital in nature, mediated by platform or social network that brings together education professionals, such as Twitter, Facebook, and/or Telegram. These types of professional networks, which are usually marked by a voluntary nature on the part of the members, can be a very suitable dissemination mechanism in which other education professionals are open and ready to listen to the evidence that we present through the different possible methods, increasing the impact of our work. Undoubtedly, the best way to foster an atmosphere of evidence-based educational practices is to tell our own experience, so that it can lead others to

embark on a path with the aim of basing their educational practices on research. Reflection on one's own teaching practice and the possibility of sharing it with colleagues is an element that enriches our professional practice by provoking new questions to continue thinking and improving our classroom practice.

For further thinking...

Throughout this Module we have analysed a total of 9 conditioning factors distributed in the three phases of the process of implementing evidence-based practices. This analysis aims not only to identify them, but also to suggest possible courses of action to strengthen the positive effect they may have and always oriented towards the improvement of teaching practice.

There are other conditioning factors, as we have explained above, which influence to a greater or lesser extent the implementation of evidence-based educational practices in schools, and which have to do with the context in which the institution itself or the educational professional is located. Therefore, this Module is open to the reflection of everyone to establish and add any further conditioning factors that are relevant to their specific situation and that should be considered as a primary consideration in order to be able to develop more effectively informed practices in the day-to-day life of schools.

RESOURCES

Essential resources

Teaching and Learning Toolkit: https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/implementation

Promoting Teacher Engagement with Research Evidence: https://www.wcpp.org.uk/wp-content/uploads/2018/11/WCPP-Promoting-Teacher-Engagement-with-Research-Evidence-October-2018.pdf

Recommended resources

Mincu, M. (2015). Teacher quality and school improvement: what is the role of research? *Oxford Review of Education*, 41:2, 253-269, DOI:10.1080/030549852015.1023013 https://www.tandfonline.com/doi/abs/10.1080/03054985.2015.1023013

Five challenges in moving towards evidence-informed practice: https://impact.chartered.college/article/stoll-five-challenges-evidence-informed-practice/

How Can Schools Use Evidence To Improve Teaching? https://www.teachingtimes.com/how-can-schools-use-evidence-to-improve-teaching/

Addressing the challenges of using evidence in education
https://impact.chartered.college/article/addressing-the-challenges-using-evidence-education/

ASSESSMENT

To apply and evaluate the contents of this module, we propose to carry out an exercise to diagnose the conditioning factors for the use and adoption of evidence-based practices.
As a first step, we propose to carry out a self-assessment at personal and institutional level. To facilitate this task, we propose to use the "Self-assessment tool for teachers and management teams" developed in the PBETools Project.

As a second step, we propose to identify the conditioning factors at two levels: your school and your teaching practice, based on the following self-reflection questions:

1. Is it possible to situate the school/your teaching practice in one of the three phases of the process of implementing the evidence? We suggest using Figure 1 of this Module as a guide.
2. What are the conditions that favour the implementation of evidence at school/teaching practice level? How can they be strengthened? We suggest using Figure 2 of this Module as a guide.
3. What are the conditions that hinder the implementation of evidence at school/teaching practice level? What actions can I take to overcome them? We suggest using Figure 2 of this Module as a guide.
4. Beyond the constraints raised in this Module, are there any emerging constraints that may help or hinder at school/teaching practice level?
5. Based on the constraints identified, we suggest you outline a proposed action plan to advance and/or strengthen the implementation of evidence-based practices in your school/ teaching practice. We suggest using the Analysis Tool detailed in Table 1 below.

As a third and final step, we suggest sharing your responses with your colleagues and management team, to continue the joint reflection and improvement of the process of implementing evidence-based practices.

The process of reflection on the conditioning factors can be developed from time to time to analyse progress and identify areas where we should continue to have an impact.

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Brown, C. & Greany, T. (2018). The evidence-informed school system in England: Where should school leaders be focusing their efforts? Leadership and Policy in Schools, 17(1), 115-137.

Brown, C., Malin, J. & Flood, J. (2019). Exploring the five key roles school leaders need to adopt if research-informed teaching practice is to become a reality. Translational Research Insights, 2, 1-4.

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Ion, G., Díaz-Vicario, A. & Suárez, C.I. (2021). Evidence-Informed Educational Practice in Catalan Education: From Public Agenda to Teachers' Practice. C·E·P·S Journal, *11*(2), 37-57.

LaPointe-McEwan, D., DeLuca, C. & Klinger, D. A. (2017). Supporting evidence use in networked professional learning: the role of the middle leader. Educational Research, 59(2), 136-153.

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Perinés, H. (2018). ¿Por qué la investigación educativa no impacta en la práctica docente? Estudios sobre Educación, 34, 9-27.

Table 1. Analysis instrument

The EBP Implementation Process	**Conditionings**	**Current situation Date:**				**Improvement measures**	
		School		**Teaching practice**		**School**	**Teaching practice**
		Enable	**Constrain**	**Enable**	**Constrain**		
Reflection phase	Commitment to one's own teaching practice						
	Adequate space and time						

	Collaborative work						
Enquiry phase	Research training						
	Intermediate leaders						
	Resources						
Dissemination and institutionalization phase	Internal dissemination and institutionalization mechanisms						
	External dissemination and institutionalization mechanisms						
	Membership of professional networks						
Additional Comments							

SELF-EVALUATION TOOL FOR TEACHERS AND MANAGEMENT TEAMS[1]

How to use the self-evaluation tool?

The evaluation process consists of three steps that will help us reflect on our activity as teachers.

First step: level table.

For each aspect, four different levels of development are offered, exemplified by an assumption. The levels are organized from level 1 (a situation where no need for change is felt) to 4 (a situation where evidence-based educational practices are effectively used).

We must reflect on each of the options presented to us and mark the one that best fits our current situation.

If the activity is carried out in a group or within the teaching staff, the reflection can be done individually and after sharing and agreeing on the chosen level among all.

Second step: evaluation targets.

We find a target corresponding to each area, divided into five sectors (one for each of the evaluated aspects) separated into four levels. The dynamic is to color the different levels until we reach the one in which we are placed.

The more levels we have colored in, the closer we are to evidence-based practice. In this way, we will obtain a graphical representation that shows our strengths and those aspects that need to be improved.

How do we interpret the results?

This instrument will place us at different levels in each of the evaluated aspects. Depending on the level at which we are, the final table will help us to think about what has brought us to that place and how to face the following actions to reach the maximum level.

Level tables

Put a check mark in the box of the level with which you most identify with.

[1] Translated and adapted from Cabañero, J. et al. (2020). *Guía para impulsar practicas educativas.* Proyecto Prácticas Educativas Basadas en la evidencia: diseño y validación de estrategias para la mejora de los centros educativos (EDU2017-88711-R). Grupo EDO, Universidad Complutense de Madrid. Financiado por Programa Estatal de I+D+i, orientado a los Retos de la Sociedad del Ministerio de Economía y Competitividad, España.

PERSONAL LEVEL

ATTITUDE TOWARDS INNOVATION			
I am satisfied with my educational practices. No feel the need to change.	I feel the need to change my educational practice, but I do not know how to implement new practices.	I am looking for information and training about different innovative practices, but I don't feel confident to implement them.	I can carry out processes of educational innovation in my educational practice reflexively and reflectively..
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

ATTITUDE TOWARDS RESEARCH			
I believe that educational research is disconnected from the teaching practice.	Educational research is necessary, but it is disconnected from the reality of the classroom.	I intend to apply the conclusions of the educational research to which I have access, but I do not find the time/space to do it appropriately.	I consider that educational research is a fundamental part of my work as a teacher. I organize my innovative practices as research processes.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

COLLABORATION BETWEEN TEACHERS			
I believe that coordination with colleagues is not necessary.	I collaborate with other teachers when management teams ask us to get involved in innovative practices.	I program, implement, and evaluate innovative practices with other teachers in my school.	I belong to networks of teachers (external to my school) with whom I share innovative educational practices and concerns.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

USE OF SCIENTIFIC SOURCES			
The main sources on which I base my educational practices are initial teacher training, my own experience as a teacher, and the practices that I experienced as a student in school.	The main sources on which I base my educational practices are, in addition to the above, observation of other teachers with whom I work and ongoing training.	The main sources on which I base my educational practices are, in addition to the above, teachers' blogs, books, books, social networks, magazines... with an eminently practical, but without a solid scientific basis.	The main sources on which I base my educational practices are, in addition to the above, resources with a solid scientific and theoretical foundation, and a practical basis.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

USE OF EVIDENCE IN TEACHING			
I tend to base my decisions on the tradition of the school without questioning what that tradition is based on. It has always been done in this way.	I understand the concept of "evidence" and I am aware of the benefits of its use in the educational world, but I find it very difficult to integrate them into my work.	I am looking for information and training about different innovative practices, but I don't feel confident putting them into practice.	I can find evidence (in publications or other scientific sources) of the actions that I carry out in the classroom to know whether they are valid or not work.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

INSTITUTIONAL LEVEL

ORGANIZATION OF THE EDUCATIONAL PRACTICES			
In my school, we do not have specific moments for exchanging ideas and/or debate about educational innovation.	In my school, we make available sources on educational innovation to the teachers, but we do not have time to discuss these sources.	At my school, we have moments for the exchange of ideas and access to sources about educational innovation, but we do not have access to scientifically based sources of information.	At my school, we have organized moments for discussion and implementation of evidence-based educational practices. As well as, we have access to sources of solid scientifically based.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

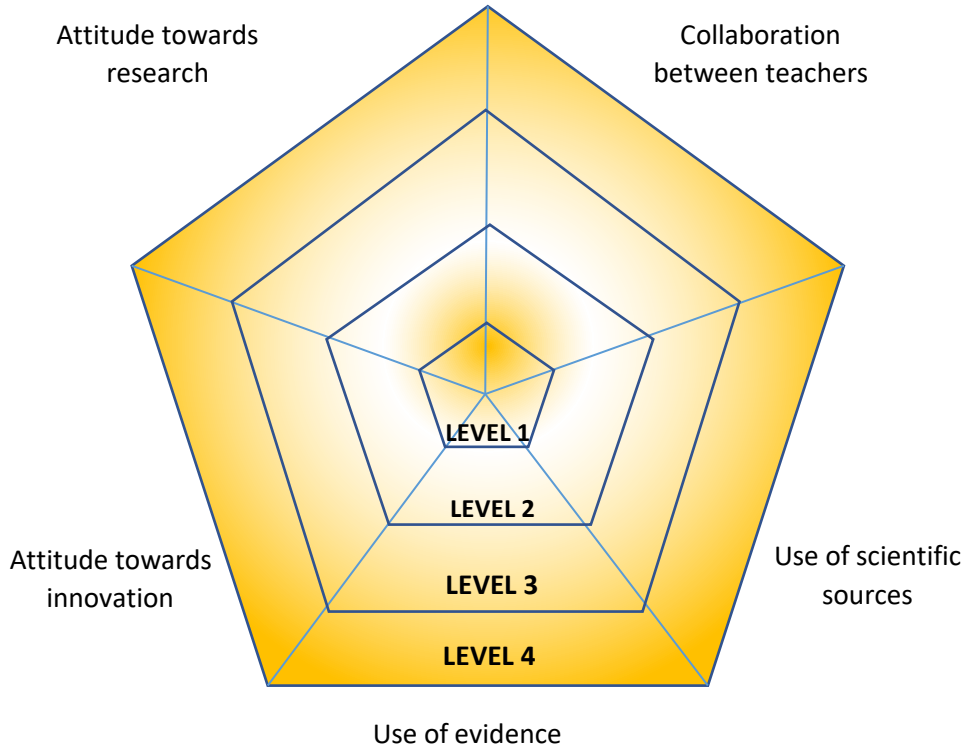
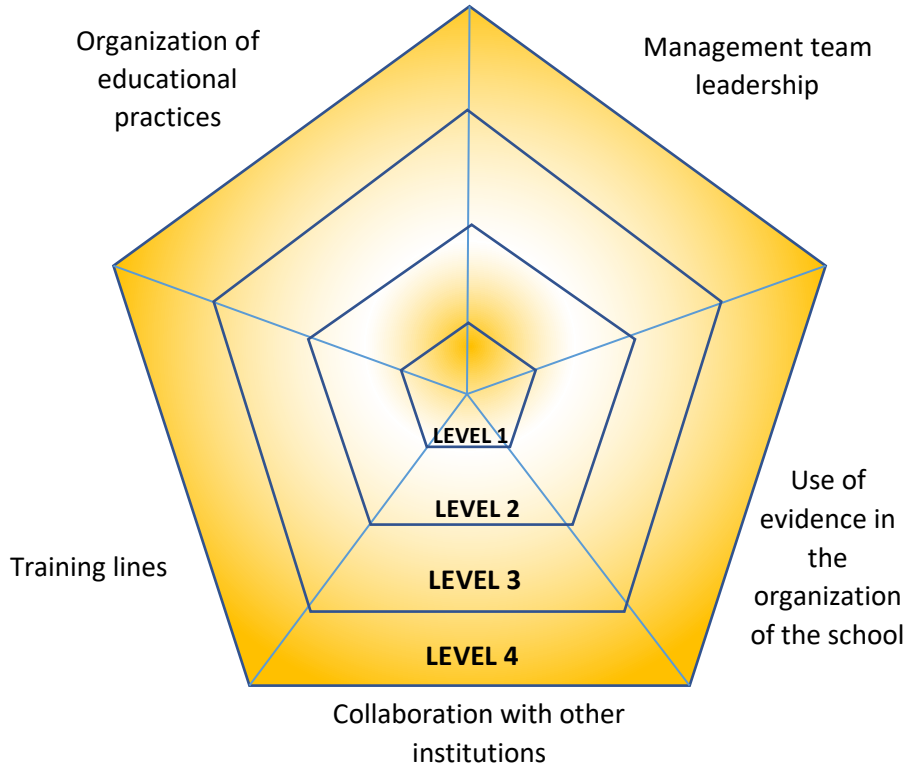
LEADERSHIP OF MANAGEMENT TEAMS			
They consider the research as something difficult to put into practice and, therefore, do not promote such practices.	They promote innovative practices when they are imposed by the educational administration.	They consider important the processes of educational innovation but find it difficult to organize their implementation.	They support and promote educational innovations by providing sources of information, organizing personal resources, enabling spaces and encouraging these practice
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

INSTITUTIONAL TRAINING LINES			
The school does not have a training plan to support the projects and educational goals proposed.	The school has a training plan that supports the proposed projects and educational goals. However, training in scientific evidence depends exclusively on the initiative of the teaching staff.	The school proposes different training programs and some of them include the use of evidence in educational practices.	The use of evidence in educational practices is integrated into the training program designed by the school.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

COLLABORATION WITH OTHER INSTITUTIONS			
The school considers that contacts with other educational institutions to share innovative experiences are unnecessary.	The school considers that contacts with other educational institutions are necessary to share innovative experiences but does not facilitate such exchanges.	The school encourages exchanges on innovative educational experiences by informally collaborating and supporting these practices.	The school encourages exchanges on innovative educational experiences by collaborating and institutionally supporting these practices.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

USE OF EVIDENCE IN THE ORGANIZATION OF THE INSTITUTION			
Decisions are made based on how they have been made before, without questioning their effectiveness or evaluating alternatives.	The concept of "evidence" as applied to the educational world is known and understood. However, it is difficult to implement evidence-based actions.	Evidence-based actions are organized and those already in place are reviewed for their effectiveness.	In addition to basing the educational and organizational practices on evidence, scientific sources are consulted to find new ones and disseminate their own in professional and scientific circles.
Level 1 ☐	Level 2 ☐	Level 3 ☐	Level 4 ☐

assessment dashboard

PERSONAL LEVEL	INSTITUTIONAL LEVEL
	

Shade each sector according to the level at which you have placed yourself in the tables above. The larger the portion of the colored pentagon, the higher your performance in that field.

MODULE 4

Accessing research from a variety of sources

Authors Neus Lorenzo & Francesca Burriel

Reviewers Marcela Claudia Câlineci

AIM

- Exploring reality through scientific approaches
- Acquiring emerging techniques to detect, identify, learn, and understand evidence systematically

COMPETENCES/ SKILLS DEVELOPED

- Direct observation: classifying complexity & patterns
- Active listening: interview strategies
- Reading: skimming & scanning multiple codes
- Transliteracy in transmedia spaces: transference

TARGET GROUP

- Policymakers / School Leaders
- Trainers / Educators
- Teachers / Researchers

DURATION

5h to complete the module

CONTENT

Direct observation

Classifying complexity & finding patterns in complex educational reality

Observing educational reality at school can offer a huge amount of quantitative data (number of students, number of daily reported conflicts, number of explicit aims in a document), or qualitative information (family languages or nationalities in a classroom, different educational needs, types of transformative purposes in a school plan). Mixed research methods – unifying quantitative and qualitative analysis – have been claimed to provide an enriched empirical approach to study social environments and human interactions, and are widely used in educational research. (Creswell & Creswell, 2018)

Finding patterns, taxonomies, and scientific classifications to be able to access meaningful data and information is essential for planning any rigorous research. Excess information can be worthless if there is not a clear aim that helps the researcher select and organize data. When using the scientific method simplicity is preferred, based on the *falsifiability criterion*, that lies under ancient and modern research and planning approaches (from *Occam's Razor* to

Lean Designs, *Visual Thinking*, *Mind Mapping*, etc.). Sequential order can also be useful to establish diachronic tendencies (from *Timeline* to *Design Thinking* or *Spirals of Inquiry*).

Classifying the right amount of data for obtaining useful information becomes a priority, in order to develop the whole evidence-based educational approach.

To discover the insights of direct observation processes, explore the following readings with useful concepts, strategies, and approaches:

1. Less is more: Occam's Razor
   - McFadden, J. (2021), *Life Is Simple: How Occam's Razor Set Science Free and Shapes the Universe*, New York, New York, Basic Books.
   - Sober, E. (2015), *Occam's Razors*, Cambridge, U.K., Cambridge University Press

2. Analyzing Quantitative Data
   - Hoy, W.K., and Adams, C.M. (2015), *Quantitative Research in Education: A Primer*, Thousand Oaks, California, Sage.
   - Bridgmon, K.D., and Martin, W.E. (2012), *Quantitative and Statistical Research Methods: From Hypothesis to Results*, San Francisco, California, Josey-Bass.

3. Analyzing Qualitative Information
   - Lune, H. and Berg, B. (2016), *Qualitative Research Methods for the Social Sciences*, Harlow, U.K., Pearson Education.
   - Tracy, S.J. (2019), *Qualitative Research Methods: Collecting Evidence, Crafting Analysis, Communicating Impact*, Hoboken, New Jersey, Wiley Blackwell.

4. The mixed method
   - Creswell, J.W. and Plano Clark, V.L. (2017), *Designing and Conducting Mixed Methods Research*, Thousand Oaks, California, Sage.
   - Bazeley, P. (2017), *Integrating Analyses in Mixed Methods Research*, Thousand Oaks, California, Sage

Activity 1. Think of an example of educational concern in your school or territory (e.g. dropout rate, bullying, etc.) and classify all the possible causes in these two charts. Compare the charts and decide what insights you can detect in each of them.

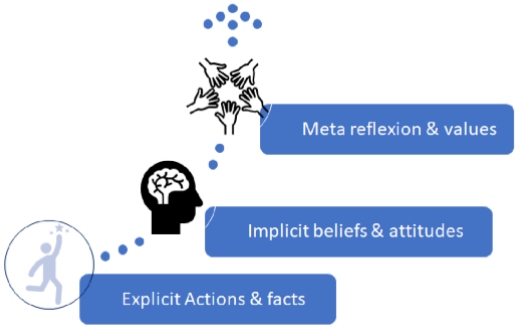
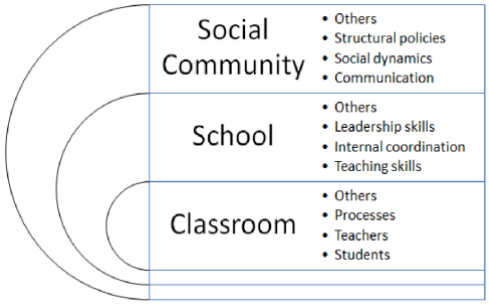
Cognitive Rationale	Holistic Educational Ecosystem
	

Figure 1. Activity 1

Activity 2. Review: Qualitative, quantitative and mixed information, organized in taxonomies. Summarize in your own words, using an example from your school area:

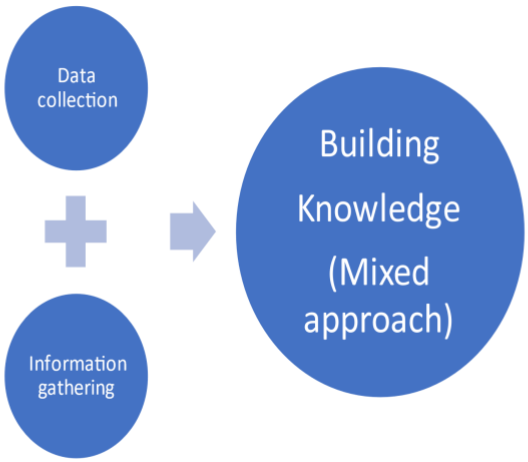
Explain with an example from reality

To learn more: Creswell, J.W., and Creswell, J.D. (2018), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches,* Thousand Oaks, California, Sage.

Figure 2. Activity 2

Active listening

Interview strategies and techniques

Asking questions is a research methodology. The interview can be a direct source of educational information if we choose the right protagonists and include the main actors of the teaching and learning process. Interviews with other members of the educational community can also help us understand and explain cause-and-effect, and correlated tendencies. To develop effective interviews, researchers may actively apply empathy, active listening, and inquiring minds, without losing their scientific distance.

It is essential to define research goals before selecting sources and informants. Identifying concepts are needed to access written information and to be able to formulate adequate questions for the actors involved. If the researcher is planning to organize collective interviews or cross-sectorial collaborative sessions, where teachers and families can participate (e.g. Delphi Method), then it is important, or even required, to negotiate meanings.

Interview techniques follow different conceptual taxonomies, depending on the information needed. For example, structuring the five "Wh-questions" in a sequence usually provides contextual information and specific facts (*who*, *what*, *when*, *where*, *why*). Adding questions on *how*, the interviewer can open a wide field for asking about real experiences to explore educational techniques.

Indirect sources may add contextual and complementary information, provided through automated sources (digital metadata, social media, automated gathering of statistics), with or without explicit awareness by the informers. This automatized process brings into consideration new privacy concerns, emerging identity protection needs, and other critical ethical issues. Bots and other conversation devices can be driven by Artificial Intelligence, raising ethical issues that demand social agreement and updated legislation.

To know more about the most efficient and systematic interview strategies, learn about the following:

1. Open and closed questions
   - Connor Desai, S., Reimers, S. Comparing the use of open and closed questions for Web-based measures of the continued-influence effect. *Behav Res* 51, 1426–1440 (2019). https://doi.org/10.3758/s13428-018-1066-z
   - Çakır, H. and Cengiz, Ö. (2016) The Use of Open Ended versus Closed Ended Questions in Turkish Classrooms. *Open Journal of Modern Linguistics*, **6**, 60-70. DOI: : 10.4236/ojml.2016.62006.

2. Structured information gathering: the Wh-questions
   - Bocci, G., Bianchi, V. & Cruschina, S. Focus in *wh*-questions. *Nat Lang Linguist Theory* 39, 405–455 (2021). https://doi.org/10.1007/s11049-020-09483-x

- Nguyen, A. D. & Legendre, G. (2022) The acquisition of *wh*-questions: Beyond structural economy and input frequency, *Language Acquisition*, 29:1, 79-104, DOI: 10.1080/10489223.2021.1968867

3. Developing high order thinking processes

- Elder, Linda and Richard Paul. *30 Days to Better Thinking and Better Living through Critical Thinking*. FT Press, 2012.
- Higgins, S. (2015). A Recent history of teaching. In R. Wegerif, L. Li, & J.C. Kaufman (Eds.), *The Routledge international handbook of research on teaching thinking* (pp. 19-28). Routledge.

4. Active listening: Developing empathy with scientific distance

- Bletscher, C.G. & Lee, S.Y. (2021) The Impact of Active Empathetic Listening on an Introductory Communication Course, *College Teaching*, 69:3, 161-168, DOI: 10.1080/87567555.2020.1841079
- Calzada, E. J., Huang, K., Hernandez, M., Soriano, E., Acra, C. F., Dawson-McClure, S., et al. (2015). Family and teacher characteristics as predictors of parent involvement in education during early childhood among Afro-Caribbean and Latino immigrant families. *Urban Education*, *50*, 870–896. https://doi.org/10.1177/0042085914534862.

5. Inquiring mind approaches

- Ebersole, C. R., Atherton, O. E., Belanger, A. L., Skulborstad, H. M., Allen, J. M., Banks, J. B., et al. (2016). Many labs 3: evaluating participant pool quality across the academic semester via replication. *J. Exp. Soc. Psychol.* 67, 68–82. doi: 10.1016/j.jesp.2015.10.012
- Klein, R. A., Vianello, M., Hasselman, F., Adams, B. G., Adams, R. B. Jr., Alper, S., et al. (2018). Many labs 2: investigating variation in replicability across samples and settings. *Adv. Methods Pract. Psychol. Sci.* 1, 443–490. doi: 10.1177/2515245918810225

Activity 3. Think of an educational aim in your school or territory connected to inclusion (e.g. equity, social cohesion, etc.) and write a list of different educational agents or informants (e.g. students) to learn about the present situation. For each one, write at least three questions you would ask to obtain the information you need to know.

Informants	Holistic Educational Ecosystem
1- Headteachers	a) b)
2 -...	a) b)
3 -...	a) b)

4 -...	a) b)

Figure 3. Activity 3

Activity 4. Review: Summarize the process of active listening to an interview, thinking about your own experience:

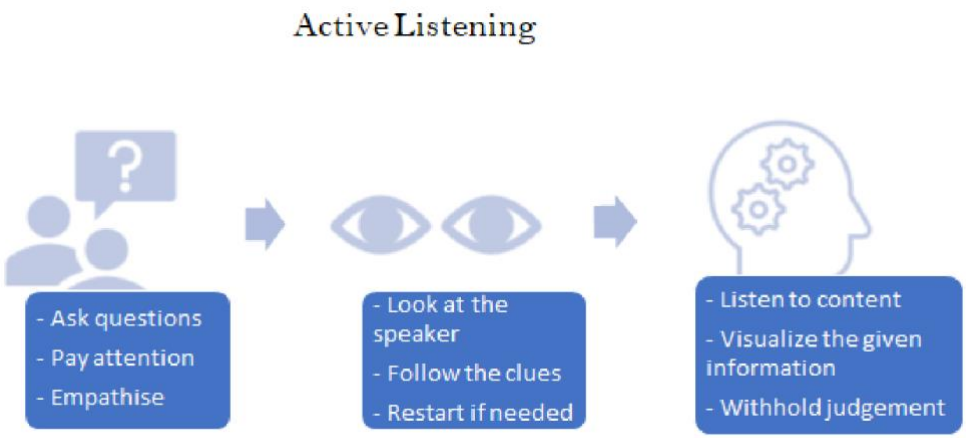
Explain with your own words

To learn more: Spataro, S.E, Bloch, J. (2017). "Can You Repeat That?" Teaching Active Listening in Management Education. *Journal of Management Education.* https://doi.org/10.1177/1052562917748696

Figure 4. Activity 4

Reading

Skimming & scanning multiple codes

School documents can provide important educational information. They allow the researcher to identify quantitative and qualitative components of the school (timetable, spaces, results, outcomes, communicative processes, teaching practices, etc.) and they show the implicit consensual values in the community.

Reading a school project or a unit plan can offer ideas about strengths and weaknesses, priorities, or goals, and it helps researchers learn about teachers' and students' roles, families' demands or administrations' priorities. By using specific reading techniques, such as "scan reading" the text, researchers can look for meaningful information (i.e. terms and concepts), and they can find elements to focus on. With "skim reading" techniques, they can appreciate the general sense of community, the school climate or the shared teaching and learning

approaches in a particular school. These searching techniques can now be automated and enriched with metadata analysis, and it can be used to generate priorities for further information-gathering, using a word or an expression that has a strong presence on the school's documents as a "research term" to find information with a search engine on the Internet, like Google, or with an Indexed Bibliography searcher such as SCOPUS.

Document analysis is a qualitative information-based procedure that can help researchers systematically review or evaluate documents – both printed and electronic material (computer-based and Internet-transmitted).

Identifying images, schemas or visual representations of the school community and the interaction that takes place at school can also offer information about educational values and beliefs. Representing school staff on a pyramid or on a circular diagram can present power and authority in very different ways; Using arrows or spirals when representing learning processes may suggest a very different learning concept; a chart that shows the school's families in or out of annual school planning will certainly indicate different ideas about educational decision making.

To learn more, explore the following concepts on the Internet, or access the suggested readings:

1. Reading, scanning and skimming
   - Aritonang, I.R., Lasmana, S., Kurnia, D. (2019), The Analysis of Skimming and Scanning Technique to Improve Students in Teaching Reading Comprehension. *Project [Professional Journal of English Education]*. 2019;1[2]:101-6. DOI: http://dx.doi.org/10.22460/project.v1i2.p101-106
   - Rakhman, A., Syatroh, L. (2015). The Analysis Students Team Achievement Division (STAD). Used in Learning Practice of Translating and Interpreting. *ELTIN journal*, Volume 3/III, October 2015.

2. Document analysis: Methods and techniques
   - Bowen, G.A. (2009), Document Analysis as a Qualitative Research Method, *Qualitative Research Journal*, Vol. 9 No. 2, pp. 27-40. https://doi.org/10.3316/QRJ0902027
   - Cardno, C. (2018). Policy document analysis: A practical educational leadership tool and a qualitative research method. *Kuram ve Uygulamada Eğitim Yönetimi*, 24(4), 623-640. doi: 10.14527/kuey.2018.016

3. Study of existing organizational documents, forms and reports
   - M&E (2022) Document Analysis. In The Monitoring and Evaluation Toolkit. Monitoring and Evaluation Grup. https://thetoolkit.me/123-method/theory-based-evaluation/step-3-data-checking/document-analysis/
   - Frey, B. (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation* (Vols. 1-4). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781506326139

4. Bibliometrics and Documents Analysis for social studies

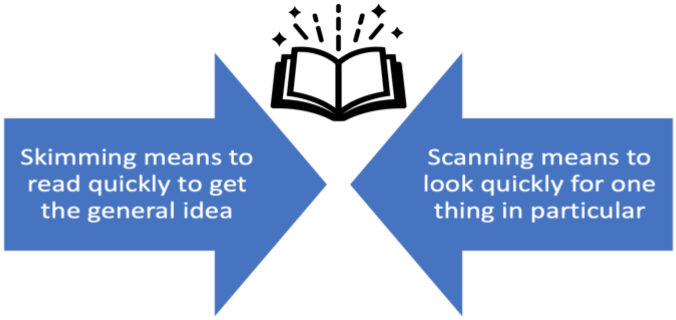
- Atkinson, P. A. & Coffey, A. (2004). Analysing documentary realities. In D. Silverman (Ed.), *Qualitative research: Theory, method and practice* (2nd ed.), London: Sage, 56–75.(3)
- Bowen, G. (2009), *Document Analysis as a Qualitative Research Method*. Available from: https://www.researchgate.net/publication/240807798_Document_Analysis_as_a_Qualitative_Research_Method
- Segura-Robles, A., Parra-González, M. E., & Gallardo-Vigil, M. (2020). Bibliometric and Collaborative Network Analysis on Active Methodologies in Education. *Journal of New Approaches in Educational Research*, 9(2), 259-274. doi: 10.7821/naer.2020.7.575

Activity 5. Think of three different documents you can access to obtain information through intensive reading, and three more through extensive reading. Use the definitions below to compare before answering.

Intensive reading	**Extensive reading**
Intensive reading is useful on shorter texts in order to extract specific information. It includes very close accurate reading for finding details. You can use intensive reading skills to grasp the detailed data of a specific situation.	Extensive reading is useful to obtain general insights of a subject and includes reading longer texts for understanding contextual information. You can use extensive reading techniques to improve your global understanding of educational procedures.
Three school documents: **a)** **b)** **c)**	**Three school documents:** **a)** **b)** **c)**

Figure 5. Activity 5

Activity 6. Review. Scan and skim as reading techniques. Use an example from your school daily activity, pr from your research process:

Write real documents to illustrate these concepts

To learn more: Tjora, A. (2018). *Qualitative Research as Stepwise-Deductive Induction* (1st ed.). Routledge. https://doi.org/10.4324/9780203730072
Figure 6. Activity 6

Transliteracy in transmedia spaces

Transference and knowledge building

Educational research should be shaped with scientific research methods and values, to guarantee objective and informed sources. Developing research processes may require crossing different sources of information, and merging data from different origins, using transliteracy skills.

Transliteracy is considered to be the ability to read, write and interact across a range of platforms, tools and media, from signing and orality, through handwriting, print, TV, Video, Social Media, Twitter, Facebook, Augmented Reality tools, or new emerging ones, using different languages, codes or input skills. This competence includes the ability to use diverse strategies to negotiate and collaborate across different social groups, and it is especially useful for those researchers interested in gathering direct information from different educational sectors at school: parents, students, teachers, or school principals.

Doing research on different media demands specific reading and listening skills, but it must be done in a systematic manner. It requires cross-communication skills that allow the researcher to pass information from one medium to another (e.g. oral text to written documents) or to gather and summarize information from different sources (e.g. joining the information from interviews and videos into a single meaningful table or graphic).

Using transliteracy to explore transmedia spaces is creating unexpected digital requirements connected to several emerging technologies. Now that schools are starting to use Augmented

Reality (AR) tools and virtual reality (VR) environments, students' products and learning evidence are going to be increasingly in the realm of the digital world. Teachers are also involved in virtual communities, digital networks, and social spaces where information can be accessed through participation in Personal Learning Networks (PLN). Doing research in the digital universe creates a vast field to be developed, going deep into immersive learning spaces and entering the newborn Metaverse.

To know more about searching through different media spaces:

1. Transliteracy skills and strategies

- Jensen, P.A., Rasmussen, H.L. and Chatzilazarou, S. (2019), Knowledge transfer between building operation and building projects, *Journal of Facilities Management*, Vol. 17 No. 2, pp. 208-219. https://doi.org/10.1108/JFM-05-2018-0030
- Gallon, R., Lorenzo Galés, M.N. & Josefowicz, M. (2020). A Nemetic Model for Transmedia Organizational Literacy, Chapter 22, In Mehdi Khosrow-Pour, M., and Mehdi Khosrow-Pour D.B.A. (2020) *Encyclopedia of Organizational Knowledge, Administration, and Technology*. IGI-Global. DOI: 10.4018/978-1-7998-3473-1.ch022

2. Multimedia, Transmedia, and digital spaces.

- Lorenzo-Galés, N (2019). From Media to Transmedia: Transforming Teaching and Learning Strategies in a Digital Culture, STEM *Journal* VOL.20 NO.4:147-161 (15 pàgs.). Ed Visual English Education Society, Korea. (PDF) From Media to Transmedia: Transforming Teaching and Learning Strategies in a Digital Culture. Available from:
- Marope, M., Griffin, P., and Gallagher, C. (2018). *Future competences and the future of curriculum – A global reference for curricula transformation.* International Bureau of Education – UNESCO. Retrieved 22 April 2019 from http://www.ibe.unesco.org/sites/default/files/resources/02_future_competences_and_the_future_of_curriculum_30oct.v2.pdf

3. Augmented reality, virtual reality and Metaverse in education.

- Soo Kyun, K., et al. (2017) Augmented-Reality Survey: from Concept to Application. (2017, February 28). KSII Transactions on Internet and Information Systems. Korean Society for Internet Information (KSII). https://doi.org/10.3837/tiis.2017.02.019
- Abraham, M., & Annunziata, M. (2017). Augmented reality is already improving worker performance. *Harvard Business Review*, 13, 1-5.

4. Social Media and Social Networks for digital research in Education

- LLytras, M. D., Visvizi, A., Daniela, L., Sarirete, A., & Ordonez De Pablos, P. (2018). Social networks research for sustainable smart education. *Sustainability*, 10(9), 2974.
- Chang, S., Gomes, C., Platt, M., Trumpour, S., McKay, D., & Alzougool, B. (2021). Mapping the contours of digital journeys: A study of international students' social networks in Australian higher education. *Higher Education Research & Development*, 1-17.

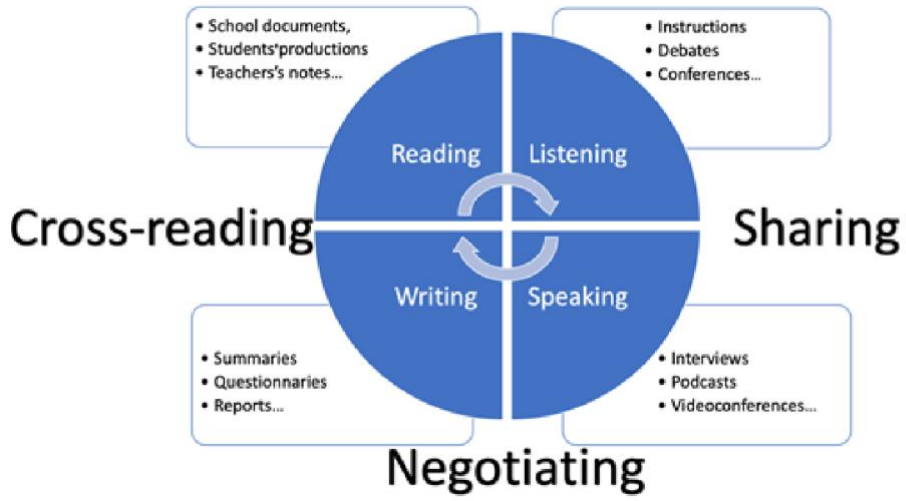
Activity 7. Thinking of your own experience as teacher or researcher, elaborate your own definitions of these concepts.

Transliteracy	Transmedia
I usually do it to /when…	**I usually work across different media to /when…**

Figure 7. Activity 7

Activity 8. Review. Transliteracy & Transmedia. Use an example from your school research to describe the image and the concept below:

What is transliteracy? Use your own words



To learn more: Lorenzo, N., Gallon, R., Palau, R. *et al.* (2021). New Objectives for Smart Classrooms from Industry 4.0. *Technology Knowledge and Learning* 26, 719–731 (2021). https://doi.org/10.1007/s10758-021-09527-0

Figure 8. Activity 8

Accessing existing research

Digital Bibliometrics in SCOPUS and others

When trying to identify the present situation and the state-of-the art, start with a review of existing research.

Reading existing academic literature and learning about previous study-cases can help the researcher define concepts and negotiate meaning in the local context, and compare environments, situations and tendencies in different spaces, moments or mindsets. Today, the scientific strategies for accessing and comparing research documents are mainly based on digital selection and information management, called *Bibliometrics*. The statistical methods for analyzing magazines, books, articles, webs, and other publications, are connected to *Scientometrics*, the analysis of scientific publications. Frequently used in the field of library and information science, these techniques usually use a search tool to find words, texts or expressions in a database. The result is a list of selected documents (books, articles, quotations) that allows the researcher to build a contextual scope of the research goal. The electronic search engine can also provide abstracts, citations and classified sources for accessing related content, as long as it is located in the database. The most recognized databases are those that are peer reviewed, or that guarantee external blind reviews.

SCOPUS, launched in 2004, is one of the most popular abstract and citation databases for educational research, and it grows as more publications from indexed magazines are added. SCOPUS was created by the Reed Elsevier Group, later integrated into the RELX Group, a Netherlands-based publishing company specializing in scientific, technical, and medical content. Their journal articles must be peer reviewed to validate the research methodology, procedures, participants' privacy, and scientific ethics.

Other databases and search engines include Google Scholar, The Web of Science, or ResearchGate, where researchers can also include their work.

To learn more about accessing existing research, explore the following concepts, and the suggested sources.

1. The research starting point and the State-of-the-Art

- Bibliometric Analysis of Publications in the Scopus Database: A Study at Diponegoro University during 2014-2018 Yos Johan Utama, Budi Setiyono, Jamari, Mohammad Tauviqirrahman and Heru Susanto E3S Web Conf., 125 (2019) 23001 DOI: https://doi.org/10.1051/e3sconf/201912523001
- Cortegiani, A., Ippolito, M., Ingoglia, G., Manca, A., Cugusi, L., Severin, A., Strinzel, M., Panzarella, V., Campisi, G., Manoj, L., Gregoretti, C., Einav, S., Moher, D., & Giarratano, A. (2020). Citations and metrics of journals discontinued from Scopus for publication concerns: the GhoS(t)copus Project. F1000Research, 9, 415. https://doi.org/10.12688/f1000research.23847.2

2. Peer-review technique

- Björk, Bo-Christer (2019). "Acceptance rates of scholarly peer-reviewed journals: a literature survey". *El profesional de la información*, v. 28, n. 4, e280407. *https://doi.org/10.3145/epi.2019.jul.07*
- Mulder, Raoul & Pearce, Jon & Baik, Chi. (2014). Peer review in higher education: Student perceptions before and after participation. Active Learning in Higher Education. 15. 157-171. 10.1177/1469787414527391.

3. Scientometrics, the analysis of scientific publications

- Grinëv, A. V., Bylieva, D. S., & Lobatyuk, V. V. (2021). Russian University Teachers' Perceptions of Scientometrics. *Publications*, *9*(2), 22. MDPI AG. Retrieved from http://dx.doi.org/10.3390/publications9020022
- N, SHAMILI, (2019) "Scientometrics study of the research publication on information literacy (2015-2019)" (2019). *Library Philosophy and Practice (e-journal)*. 2680. University of Nebraska - Lincoln DigitalCommons@University of Nebraska - Lincoln

Activity 9. Access SCOPUS searching platform, or any other you may be interested in, and find three articles with the information you need about "Inclusion at school" and "Evidence informed practice".

List of articles or abstracts on "Inclusion at school"	List of articles or abstracts on "Evidence informed practice"

Figure 9. Activity 9

Activity 10. Review. Peer- Reviewed processes: Explain with your own words

Write a short paragraph to describe this revision process

To learn more: SCOPUS (2020) *Scopus Roadmap: What's coming up in 2020 & 2021?*. Scopus web. Elsevere, submitted by Aileen on Wed, 09/16/2020. https://blog.scopus.com/posts/scopus-roadmap-whats-coming-up-in-2020-2021

Figure 10. Activity 10

RESOURCES

See suggested bibliography in every section.

ASSESSMENT

Check list

You need at least three of these indicators, to consider Module 4 successfully accomplished:

- Have you read the introductory text in every one of the five sections of this module?
- Have you access at least two articles to explore the suggested concepts and techniques in every section of this module?
- Have you read the introductory text in every one of the five sections of this module?
- Have you access at least two articles to explore the suggested concepts and techniques in every section of this module?
- Have you done at least one of the activities in every one of the five sections of this module?

MODULE 5

Using evidence in recognising and evaluating issues related to social inclusion

Authors	**Slavko Gaber, Živa Kos, Nika Šušterič & Veronika Tašner**
Reviewer	**Georgeta Ion**

AIM

The aim of this module is to gain a better understanding of the development of social inclusion as a social and educational issue while recognizing its complexity and the tensions involved in striving for social inclusion in education.

COMPETENCES/ SKILLS DEVELOPED

- Critical thinking
- Ability to recognize tensions arising from issues related to equity and inclusion in education
- Ability to recognize and address issues regarding equity and inclusion in education
- Encourage reviewing educational practices in light of both social inclusion and evidence-based practice

TARGET GROUP

Teachers, school leaders, counsellors …

DURATION

4 hours

CONTENT

Introduction

The educational field, as well as many others, is characterized by a certain tension, that manifests itself at all levels of education – a tension between scientific knowledge and practical knowledge, between theory and practice that is often framed as the question of the usefulness of knowledge. In 1996 David H. Hargreaves presented a lecture in which he stated that "Teaching is not at present a research-based profession" (p. 1). To this he added that he has »no doubt that if it were it would be more effective and satisfying" (ibid.). In line with his lecture, it has also been widely accepted that for teachers to be evidence supported practitioners, they should be trained to bring together practice and theory which remains a goal worth pursuing.

Evidence informed educational practice is fundamentally grounded in an effort to deal with this tension between theory and practice not by cancelling one side or the other, but by working with both forms of knowledge in addressing some of the crucial issues in education, including the one that is the focus of this chapter, namely, inclusion and its relation to equity and quality in education.

We will start by providing a brief outline of the notion of social inclusion, which will be followed by an overview of the development of the idea and practices of inclusion in education. Finally, we will focus on some of the ways in which we can use scientific, research evidence in order to achieve greater levels of social and educational inclusion.

What is social inclusion?

Social inclusion, inclusion in education and inclusive education are terms that we run into frequently today. In some ways they have become part of a broader social discourse through which we try to understand our world and have become major political goals of many nation states and international organizations.

The topic of inclusion, particularly social inclusion, however, gained increased attention only in the last few decades. We can trace the beginnings of the discussion on social inclusion and exclusion to the 1960s, when social exclusion was first identified as a »social problem« (Silver 1994, 532). Then in 1974 the term was given additional prominence by René Lenoir in his book on the excluded, *Les Exclus* (see. Peters & Besley, who at the time served as France's Secretary of State for Social Action. At the same time, the 60' and 70' were decades of a broader social turmoil and increased pressure on the state that came from the different segments of the civil society which "centred on the demands for greater autonomy from bureaucratic regimentation and recognition for the many and greatly varied status groups that were now called identity politics" (Walllerstein et al. 2013, 167). In this context the social and political problem of social exclusion gained recognition and importance through the 70' and 80', emphasizing the large numbers of people and social groups that were "left behind", marginalized and excluded from society, schools, state services, the labour market etc. But the increased emphasis on social exclusion did not remain limited to France and spread throughout the western countries by the 1980s.

With regards to education however, inclusion, in most western countries, primarily concerned not education and educational exclusion of pupils from various social groups, but specifically the education of pupils with special educational needs. The decades after WWII were characterized also by a great push towards making education available to all children, including those who are now categorised as children with special needs. We can, to some extent, explain these efforts as part of the broader process of educational massification that occured at that moment on a never before seen scale and brought forth a new commitment to equality and social justice and the broad affirmation and recognition of human rights.

Since World War II, formal equality and the opportunity for education for all have been regarded as signs of justice in the field of education. While equal educational opportunities derive from the more general principle of equality of opportunity, i.e. the cornerstone of Western modern societies characterized by liberal democracies, they are the result of the classical principle of justice (we treat like alike and unlike differently) (see. Kodelja 2006, 29-30) and were demanded as a requirement for achieving equality before the law and thus in fact meant equal accessibility. One of the most notable manifestations of these convictions is the Universal Declaration of Human Rights from 1948 that, among other, denounced discrimination on grounds of "age, colour, sex, language, religion, political or other opinion,

national or social origin, property, birth or other status" (UN 1948) which also includes ability and posed education for everyone as a right. The document thus offered an important framework for both political decisions and social pressures.

In this context the 60s and 70s are a period of increased efforts to create a comprehensive system of special educational provision and efforts to increase the *integration* of students with SEN into regular and specialized schools. This is the period where many old categorizations – educationally sub-normal ot mentally etc. – were abolished and replaced with less explicitly demeaning ones, while also introducing the general term *special educational needs*, as a name for a broad category of pupils who faced various issues in relation to their education. At the same time there was an increased number of critiques and reports on the state of education generally. There was a mounting dissatisfaction with schools' failure to reduce social inequality. Formal equality did not eliminate some essential social inequalities and did not sufficiently ensure justice, since children come to school from different social backgrounds, with different expectations and motivations, aspirations, values and norms. Giving them equal formal access to education thus did not eliminate the differences in starting points. The demand for equality therefore shifted more and more into the realm of real equality of opportunity, starting with the demand for equal starting conditions and ending with equal basic outcomes. Only then could schooling, as an institution of association (Durkheim 1922/1956), be equitable.

The criticism of special education and education generally thus mounted through the 1980s, and led to the notion of inclusive education. Critical disability studies and sociology of disability were at the forefront of the critique of special education. Both opposed the tendencies of special education "with its fixation on individual deficits and remedies" (Allan 2010, 604), and focused more on the social construction of categories and barriers to full participation in education and society. They both rejected the notion of *integration* of pupils with special educational needs, as it implied that children had to adapt to the norms of the school, while the latter remained unchanged. They instead started calling for an inclusive education as education that would adapt to the child and not vice versa. From this point on inclusive education only gained prominence in the debates on (special) education, so that by the end of 1990' the discourse on inclusion almost completely overshadowed the discourse on integration.

A major source of support to the cause of inclusion came in 1994 in the form of the Salamanca Statement, following a UNESCO conference on the provision of special education, which solidified a broad agreement on the direction of special education – the direction of inclusive education. The Salamanca statement proclaimed, among other, that "every child has a fundamental right to education, and must be given the opportunity to achieve and maintain an acceptable level of learning; every child has unique characteristics, interests, abilities and learning needs; education systems should be designed and educational programmes implemented to take into account the wide diversity of these characteristics and needs; those with special educational needs must have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs; regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of

children and improve the efficiency and ultimately the cost-effectiveness of the entire education system" (UNESCO 1994, viii).The statement also urged all governments to "give the highest policy and budgetary priority to improve their education systems to enable them to include all children regardless of individual differences or difficulties" (ibid., ix).

This Statement gave immense impetus to the inclusive education movement, which grew and also diversified significantly in the last two or so decades. One of the crucial changes however concerns the group of pupils, inclusive education is meant to serve.

While the notion of inclusive education was primarily related to the education of students with special educational needs, it today encompasses the education of *all* children. The critique of special education merged with other critiques of educational inequalities, pertaining to gender, race, ethnicity, social class, to name just a few social categories that are related to educational and social inequalities and injustices. In other words, inclusive education today is not concerned only with the education of pupils with special educational needs, but focuses more and more on the inclusion of other pupils, that for various reasons remain excluded either from regular schooling or from accessing the full scope of the curriculum and educational opportunities. In this sense, inclusive education today is increasingly conceived as a general approach to achieving equality, equity and quality in education. Inclusive education thus emphasizes the need for our awareness of the various ways in which pupils cannot access the full range of educational opportunities that are formally available to them, be it due to their special educational needs, socio-economic status, gender, ethnic or religious background, race or any other social category that significantly affects us as human beings.

Using evidence in addressing issues related to social inclusion/exclusion

As we have indicated social exclusion can arise from of a variety of social factors. The impact of these, however, often remains elusive to us, as we usually act on the basis of what we perceive as self-evident, natural and fixed. However, an important aspect of science is its effort to question the things that appear self-evident and, to echo Pierre Bourdieu, make the familiar strange which often reveals the social processes underlying what we believe to be the work of nature. The social processes that create social exclusion thus often remain unrecognized, and continue to shape our conceptions and misconceptions, including prejudice towards certain social groups which in term impact our attitudes and expectations towards certain groups of pupils. Despite the fact that we have many data and research on these topics, including large scale international assessments like PISA, PIRLS and TIMSS which could provide a solid starting point for achieving better, scientifically supported education policy, teaching and learning, we don't see real progress in grounding our efforts to social and educational equity in evidence. In the part that follows we will, in order to help bridge this gap between what we know and what we do, present some examples of using evidence in teaching practices that aim to foster social and educational exclusion.

Recognizing social exclusion

The very first step in tackling social and educational exclusion is recognizing it, and using scientific research and theories is an extremely powerful tool in doing so. Recognizing social

exclusion often demands questioning our preconceptions. Relying on science, its theories and research, can help us gain additional insight into our preconceptions, which often entails the need to adjust or transform them. In this way, relying on scientific theories and evidence can help rid us of the prejudicial attitudes or misconceptions concerning towards specific pupils which can have a significant impact on our teaching practices and expectations towards pupils.

Through gaining additional insights regarding our knowledge and beliefs related to diversity at the level of society, the school, classroom or at the level of individuals we are also better equipped to recognize and anticipate the issues, challenges that some pupils might face as a result of social relations and processes. For example, being aware that a pupil in our class comes from a single-parent family living in poverty, might serve as an important insight into his functioning and can help provide potential explanations for certain behaviour, for example, why they are frequently absent from school field trips or camps, which usually require some financial input from the family. Having knowledge on the connections between poverty and schooling, can thus enable us to see this behaviour not as laziness or as a lack of interest on the part of the child or family, but as a reaction to the necessities of everyday life in families with low incomes.

Exercise 1: Start by thinking about two pupils in your classroom, a boy and a girl, who has the lowest grades or biggest issues with education (e.g. due to their grades, behaviour etc.). How would you describe them? Write down the factors you believe contribute to the issues the above pupils face. After you do this, consider each listed student's social background: their gender, race, ethnicity, ability, religion, socio-economic status etc. and think about the possible impacts these have on his education. Find some academic papers on the issue you recognize as an important contributor to the pupil's issue (e.g. if your pupil has very low grades and comes from a low-income family, try searching for papers that discuss poverty and educational achievement).

Now, you can do the reverse. Think of your top two students, again a boy and a girl. How would you describe them? How do the descriptions differ? What do you think makes them excel so much educationally? What is their social background? Find some academic papers or books that consider the issue of privilege and educational achievement? Write down some perspectives that you had not considered before gaining additional insight into this topic?

At the end, try answering the question, how could you tackle these practices at the classroom level? How is your national educational system tackling it? What policies are in place for solving these issues and where do they fail, based on what you know now.

Consider how to pay attention to knowledge standards, and especially the danger that narrowing the gap between students from low-income and high-income families would lead to a narrowing of average knowledge.

Does your country have established mechanisms of differentiation? How do these mechanisms of external differentiation work for you? What about individualization for both those with less and those with more knowledge than the average pupil? Do you run extra activities for gifted students or those who are above average in individual areas?

Do you and how do you tackle gender differences (in reading, math, and science literacy)?

Using evidence in teaching practice to tackle exclusion

As seen above, an important aspect of evidence-informed practices is that it provides us with an increased ability to recognize the potential issues and barriers to full educational inclusion which enables all children to reach their potential.

Once we recognize the challenges different students are confronted with, we can implement evidence-based practices in order to effectively address them. Below are just a few examples of how to use evidence to address various issues related to educational exclusion.

For example, Quinn (2020) points out, that there a vast amount of research documents racial bias in grading. Acknowledging the findings of such research thus prompts the question – what can be done to reduce it? We could consider that the only answer lies in changing the implicit or explicit racist beliefs on the part of the teacher. However, changing attitudes, beliefs is a long and unpredictable process which poses the question, whether this change can be achieved soon enough so that it harms as little students as possible. Quinn's (ibid.) research however shows, that there are some things that teachers can do themselves when grading, regardless of their beliefs, that can rather successfully check their biases and can thus lead to fairer assessments. His research on teacher grading showed, that using a detailed set of evaluative criteria rather than a vague set of criteria greatly reduces the effect of racial bias: »In this study, I found evidence of racial bias in teachers' evaluations of student writing when scored using a vague relative grade-level rating scale. However, there was no evidence of bias when teachers scored the writing using a more descriptive rubric with absolute criteria. (…). Teachers' stereotypes may have more influence on their evaluations when they are not given clear, specific criteria on which to rate student work. In contrast, teachers may be less likely to draw on their stereotypes when they have less discretion over the criteria for evaluating students" (ibid., 12). Teachers can thus use this evidence for changing or complementing their evaluative practices, which can in turn greatly reduce bias in grading which most often penalizes marginalized groups and can thus contribute to increasing levels of pupil success and their inclusion in education.

Another example could be made with regards to the relationship between the school and the family, which has also been broadly researched. This is another topic that we frequently tend to simplify, for example by speaking of certain families as unsupportive, unconducive to matters concerning education etc. However, we can also turn to research in order to deepen our understanding of the relationship between the home and the school and the pedagogic practices used in both of these arenas. By having knowledge on the specific pedagogic practices that different families offer and the ways they differ from the school's pedagogic practice, we can identify the points of discontinuity between the practices of the home and the school that can contribute to lower academic achievements of certain pupils. The teacher can then, accordingly and based again on research, adapt their pedagogic practice, for example the way in which they emphasize the relevant knowledge when discussing a topic. Research done by Morais, Neves and Pires (2004), for example, has shown that specific aspects of pedagogic practice contribute significantly to overcoming the effect of a pupil's social background on their scientific knowledge acquisition. As a necessary condition for success they highlight both the knowledge competence of the teacher as well as "(1) weak boundaries between teachers' and children's spaces; (2) open communication relations between teacher–

children and child–child; (3) explicit evaluation criteria; (4) weak pacing of learning; (5) strong intra-disciplinary relations; (6) high level of conceptual demand; and (7) high level of investigative proficiency" (ibid., 86). Knowing this can help teachers assess their own pedagogic practice and identify and address potential areas that hinder students' inclusion.

Using evidence in making judgements on trend in educational practice – using evidence critically

We have already highlighted the importance of evidence informed practice in discovering and identifying our misconceptions about certain groups of pupils. But we can also use evidence to assess new or popular educational approaches and to dispel potential myths about them. For a time, for example, Brain Gym® was an immensely popular practice in classrooms in some countries. However, while the practice may just be an alright physical activity, research has shown that it fails to deliver on the promises it makes (see. Watson & Kelso 2014, Hyatt 2007).

A similar issue is currently occurring with the infamous theory of the learning styles, according to which each person has a distinct style in which their learning is at its most optimal. However, studies show, that there is little evidence to support the benefits of teaching practices aligned with the perceived learning styles (see. Pashler, McDaniels, Rohrer & Bjork 2009).

Using evidence-informed practice in teaching specific topics

Teachers can also use existing theories, research and evidence when teaching specific topics. Teachers can thus turn to this research in order to use practices that have been proven to achieve good results in these areas when used appropriately, for example when developing phonics, mathematical concepts or, for example, on how to use certain video games when teaching momentum in physics. This also requires an awareness to the diversity of pupils in the classroom, meaning that some approaches might be more successful with some students while doing little for others.

Using evidence to experiment with different approaches

And lastly, teachers as action researchers can use evidence and research in combination with their rich teaching experience and observation of pupils to gain new ideas and experiment with them. They can team up with colleagues and discuss the research materials, methodologies and concepts and devise their own practices that follow these guidelines and propositions, supplement them or simply put them to practice in order to address the most pressing needs of their students and themselves.

Exercise 2: Devise a lesson plan on a specific topic of your choosing and ask a colleague to do the same. After you have each made a lesson plan, discuss the plan and consider whether or how you integrated your awareness of potential mechanisms of social exclusion and their impact on the accessibility of the planned lesson for all students. After this discussion try to adapt your lesson in a way that would pay more attention to the diversity of your classroom. In order to do so, find the relevant research, theories and evidence on the topic at hand and the practices that address it successfully and change the lesson plan accordingly.

ASSESSMENT

Self-assessment tool – end of chapter short quiz

1. What is social inclusion? *A perspective on achieving justice in education.*
2. Which group of pupils was inclusion in education initially related to? *Pupils with SEN.*
3. How did the concerns of inclusion in education change in recent decades? *Inclusion in education concerns the educational achievements of all pupils.*
4. How can we use evidence to address issues related to social inclusion and exclusion? *Recognizing social exclusion; Using evidence in teaching practice to tackle exclusion; Using evidence in making judgements on trend in educational practice – using evidence critically; Using evidence-informed practice in teaching specific topics; Using evidence to experiment with different approaches.*

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MODULE 6

EIP and Knowledge mobilization

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Reviewer Anna Díaz-Vicario

AIM

Understand, analyse, critically evaluate and apply the process of knowledge mobilization within your educational practice and the educational system as a whole.

COMPETENCES/ SKILLS DEVELOPED

- Defining and understanding knowledge mobilization and its characteristics.
- Understanding models and strategies used for knowledge mobilization, disseminating evidence and implementing EIP.
- Developing and implementing knowledge mobilization strategies relevant to your school's/organization's objectives.
- Identifying challenges and opportunities to knowledge mobilization.
- Critically evaluating the ways in which knowledge is acquired, validated and shared by the current school/organization.

TARGET GROUP

School teachers, school counsellors, school coaches, school leaders.

DURATION

6-8 hours

CONTENT

Teachers who are students of their own impact are the teachers who are the most influential in raising students' achievement.

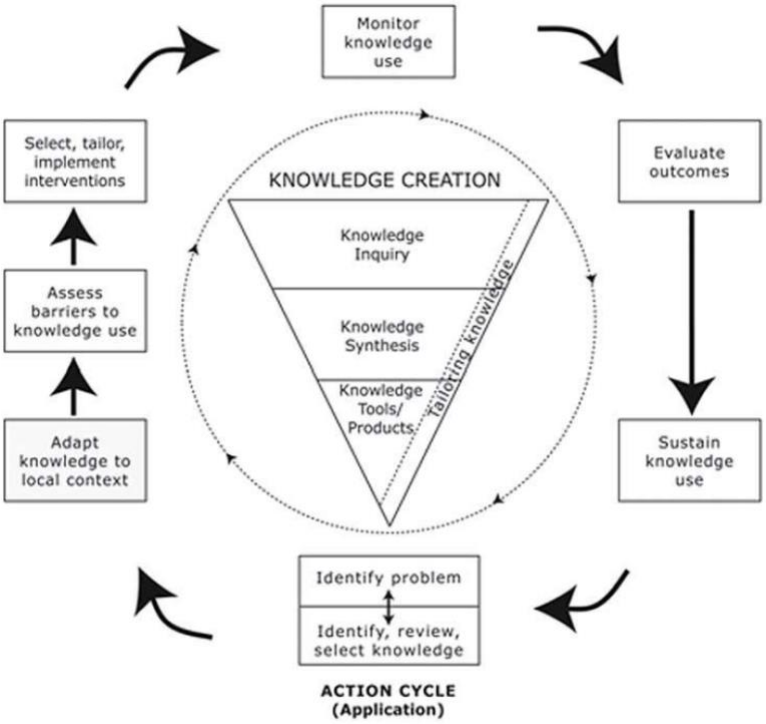
John Hattie

As seen in previous Modules, evidence-informed practice (EIP) could be defined as `the way in which educational professionals (principals, teachers) use data and/or research as part of their process to decide priorities and practices to apply in classrooms and schools` (Cooper et. al, 2017: 193). While concepts such as evidence-informed practice, research usage or knowledge mobilisation could appear overwhelming in theory, teachers already engage in some of these activities in more or less structured ways as part of their day-to-day practice.

Teachers identify a problem related to learning in their classroom practice. They gather relevant research and/or practice evidence and evaluate it based on different specific criteria, which leads to planning an intervention in learning, based on the available evidence and

adapted to their own context. Teachers further collect practice evidence regarding the effects of the intervention and evaluate its impact and value for future practice. Ideally, teachers share this process with each other and with the school leaders so as to improve classroom/school practice - and even policy.

This process could be summarised by looking at the Knowledge to Action Process developed by Graham et al. (2006) and referenced by Levin (2008).



But how do teachers/school leaders access the best research for their classroom practice/schools' needs? This is a complex and rather difficult process, which requires teachers to have, among other, access to relevant resources, specific research skills and, perhaps most importantly, time. However, teachers are not (or should not) be alone in this. School leaders, researchers, policymakers and teachers should meet, communicate, collaborate and connect practice and research/evidence in a way that benefits the learners and the educational system. This helps bridge the gap between research, policy and practice – a process that can be referred to as knowledge exchange, knowledge transfer, knowledge sharing, or knowledge translation - with their various meanings. These are distinct from knowledge diffusion, where `efforts are being passive and unplanned` (Qi & Levin, 2011, apud. Lomas, 1993), from dissemination, even though it is seen as a `more active process`, or from implementation, which entails `systematic efforts to encourage application and overcome barriers` (idem.). Throughout this Module, we will use the all-encompassing (as it includes dissemination, knowledge transfer and knowledge translation) concept of *knowledge mobilisation* – namely producing, mediating and applying knowledge. For more information on these concepts related to research mobilisation, please consult Cain (2015).

What is knowledge mobilisation?

In short, knowledge mobilisation is producing, sharing, using and applying existing knowledge, transforming it into action, thus supporting innovation and change. Knowledge mobilisation (KMb) allows for the exchange of information between interested parties and relevant stakeholders in a specific field. Its complexity derives not only from a lack of a commonly-agreed definition and understanding, but also from its multi-disciplinary character, as knowledge mobilisation covers a large variety of sectors.

More often than not, knowledge mobilisation is equated with disseminating information, seen as the responsibility of the knowledge creator – usually the researcher. This would reflect a so-called *linear model* (Campbell et al. 2017). However, KMb is a dynamic process, best defined by an exchange and engagement – both with the knowledge and between the interested parties. Also, KMb describes a two-way street: evidence-informed practice (from research to practice) and practice-informed evidence (from practice to research), which suggests a partnership and a shared responsibility in the process of mobilising knowledge. For this approach, *relationship* and *systems models* (idem.) appear to be more relevant, as they accentuate the relation and the idea of *co-creation.*

These are some definitions of knowledge mobilisation, for a better overview of the concept (as cited in Campbell et al. (2017)):

'the active and dynamic process whereby stakeholders (e.g. researchers, practitioners, policy makers and community members) share, create and use research evidence to inform programming, policy, decision-making and practice' (apud. Malik, 2016:11).

`Mobilisation implies social interaction and iterative processes of co-creating knowledge through collaboration between and among researchers, decision-makers and practitioners` (apud. Cooper, 2014; Phipps and Morton, 2013).

`This activity can take place individually, in groups, through networks and at a system level to inform decisions and practices with the ultimate goal of improving educational outcomes` (apud. Briscoe et al. 2016; Campbell et al. 2014).

Other relevant definitions illustrate knowledge mobilisation as:

`Moving knowledge into active service for the broadest possible common good. Here knowledge is understood to mean any or all of 1) findings from specific social sciences and humanities research, 2) the accumulated knowledge and experience of social sciences and humanities researchers, and 3) the accumulated knowledge and experience of stakeholders concerned with social, cultural, economic and related issues.` (Qi & Levin, 2011:4, apud. The Social Science & Humanities Research Council of Canada)

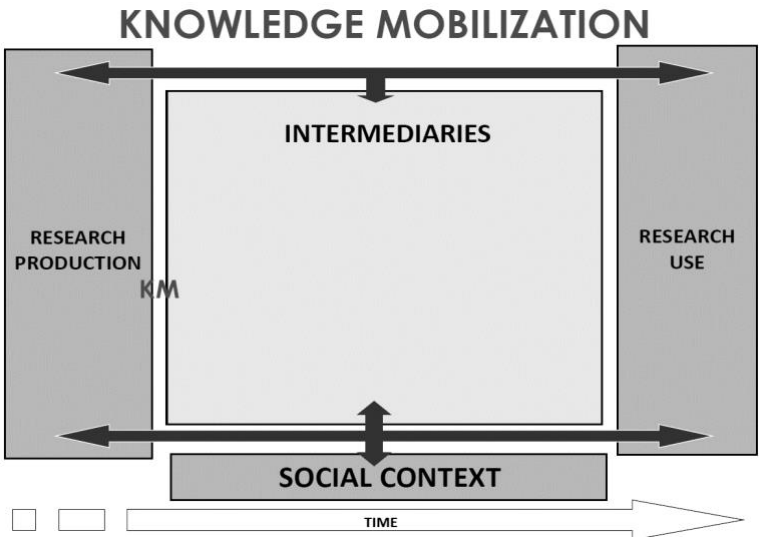
`*Knowledge mobilisation* refers to a range of processes that help move research results into society, as well as bring new ideas into the world of research. From knowledge-brokering and outreach, to more effective dissemination through new technologies, to the *co-creation* of

knowledge, these processes help ensure that public investments in social sciences and humanities research have the greatest possible impact—intellectually, socially and economically (Ng-A-Fook et al., 2015:12, apud. the Social Sciences and Humanities Research Council, 2010).

This variety of perspectives and definitions also led to the development of several models, which attempt to nuance the relationship between research and practice. Here we include only a few, in order to help create a wider perspective on the topic of knowledge mobilisation. Under each model, you can find some of their most relevant dimensions. More information about these models can be consulted in Landry et al. (2001), as well as in Iftimescu et al. (2020) – which is also the source for the following:

- The science-push model
    - Places the emphasis on the role of the researchers and research in the process focusing on aspects such as the quality and the type of research (basic/ applied, general/abstract, qualitative or qualitative, particular or concrete, etc.)
- The demand-pull model
    - It focuses on the role of the final users (policymakers and practitioners) in the research utilisation. In this model the users become the major source of ideas (Weiss, 1979, Rich, 1991, among others).
- The dissemination model
    - Promotes the need to develop dissemination mechanisms to identify useful knowledge and transfer it to users and stresses the importance of two determinants: the type of research results and the dissemination effort (Landry et al, 2001).
- The interaction model
    - Informal personal contacts
    - Participation in committees
    - Transmission of reports to non-academic organisations (Huberman and Thurler, 1991, Oh, 1997 among others).

Therefore, it could be inferred that KMb happens in the space between research production and research use, supported by intermediaries and influenced by the social context (Cooper, 2011, apud. Levin, 2004):



Strategies for knowledge mobilisation

In order to connect the research production to the research use and back, while developing EIP, both producers and users of research must `develop their capacity to communicate, connect and apply evidence and practice in new ways` (Cooper et al. 2017). Therefore, for the process of knowledge mobilisation to occur, there are several strategies which can be approached through products, events, networks (Cooper & Levin, 2010) and media (Cooper, 2011).

As such, researchers and users (practitioners or policy-makers), could look into the categories described by Cooper (2011):

- **Products:** Research reports, executive summaries, research snapshots, policy brief, success stories, multimedia resources, toolkits, models, journal publications
- **Events:** Panels and talks, conferences, workshops and training sessions, annual meetings
- **Networks:** Listserv, RSS feeds, e-bulletins, centres of policy studies, social media, forums
- **Media:** Press releases, newspaper articles, radio, TV, blogs

But how can you mobilise knowledge in your classroom/school?

- Research
  - Open-access journals
  - Google Scholar
  - ResearchGate
- Assessment
- Learning Science

- Continuous teacher training
- Participation to academic conferences in their field/area of teaching
- Networking
    - Relationship building
    - Dissemination of knowledge products
    - Network creation
    - Network expansion

Explore these initiatives

Education Endowment Foundation – United Kingdom
Here you can find resources supporting teachers and senior leaders to *raise attainment and close the disadvantage gap – which roots its response to this educational challenge in the best available evidence.*

Research Informing Policy, Practice & Leadership in Education - Canada

Here you can find resources on the *impact of research use from multiple perspectives, as well as on measuring and tracing knowledge mobilisation and research impact in complex systems.*

EIP and knowledge mobilisation from a teacher's/school leader's perspective

TIP! Learn more about this topic by consulting Module 3: *Conditions to Facilitate Research Evidence Uptake and Use*

Challenges

According to Cooper et al. (2017: 196-197), some of the challenges or barriers faced by teachers in attempting to engage in EIP or mobilise knowledge stem from:

- Lack of time
- Lack of training about data use and research
- Lack of access to research
- Misalignment between research topics and teachers' practice
- Schools' own demand for evidence (apud. Nelson and O'Beirne, 2014)
- The existence of `a weak and fragmented system, without defined intermediary organisations responsible for mediation, which lacks capacity to support evidence transformation` (idem.)

- ……..
- ……..
- ……..

Please fill in other challenges you identified!

Opportunities

- Developing a knowledge mobilisation infrastructure at a systemic level
- Creating an intermediary organisation to help broker research knowledge
- Developing initial and in-service training, including research methodology and critical assessment of evidence
- Developing and engaging in professional learning (Hogan et al., 2011, apud. Ball and Cohen, 1999; Elmore, 2004; Fullan 2007; Bransford, et al, 2005; Lewis, 1997; Hogan and Gopinathan, 2008; Hogan, et al, 2011)
    - *Seeing teachers as active learners*
    - *Engagement in concrete teaching, observation and reflection*
    - *Grounded in questions, inquiry and experimentation, research and practice*
    - *Focus on specific aspects of instruction*
    - *Iterative, extended in time, supported by follow-up activities*
    - *Collaborative, involving sharing of knowledge*
    - *Embedded in schools' functioning – communities of learners and of inquiry*
    - *Focused systematically to instructional innovation and cultural change at the school level*
    - *Attention to the implicit beliefs about the different components of the educational process*
    - *Focused on developing teacher expertise in content knowledge, pedagogical content knowledge, assessment literacy, classroom inquiry, curriculum knowledge, and pedagogical judgement*
- Co-creating knowledge (underlining the importance of collaboration between research-producers and research-users).
- ……..
- ……..
- ……..

Please fill in other opportunities you identified!

Schools and knowledge mobilisation

Building on Levin's (2008) recommendations, schools/school districts could play an important factor in promoting and developing knowledge mobilisation by:

- Sharing publicly their research interests and priorities.
- Allowing access to researchers working in these priority areas.
- Disseminate research relevant to the school/school district or carried out in the school/school district.
- Support teachers-researchers collaboration.

How can schools/school districts mobilise knowledge? How to do so while ensuring equity and inclusion? Let's take for example a case study presented by Reid (2015)***.

Location: York Region District School Board Newmarket, Canada (YRDSB)

Description: More than 150 schools with Kindergarten to grade two (K-2) classrooms in YRDSB

Context: Implementing a knowledge mobilisation strategy within the school district – The Early Years and First Nations, Métis, and Inuit (FNMI) Literacy through the Collaborative Inquiry Initiative (CII).

Stakeholders: Various departments within Student Services, Curriculum and Instructional Services, including expert staff from Early Years, FNMI, Leadership Development, Reading Recovery®, Special Education, and Speech-Language Pathology.

Objective: To mobilise FNMI teachings within Kindergarten to grade two (K-2) classrooms

Steps:

- Compare system needs with system resources
  - Needs were assessed based on data on educational attainment, indicating significant gaps between Aboriginal and non-Aboriginal students (elementary, secondary and post-secondary levels).
- Set goal: generate organisational change to realise a vision of equity
- Set timeline: a four to five years knowledge mobilisation strategy
- Set approach: professional learning
  - Leadership
  - Pedagogy (instruction)
  - Content knowledge
- Identify existence of knowledge and learning

- External (ministries, universities etc.) □ Partnerships
- District (learning opportunities, conferences etc.) □ Knowledge dissemination
- Cluster of specialists (special-ed teachers, content specialists etc.) □ Leadership development
- School □ Professional Learning Process

- Knowledge mobilisation process in the school
  - Create a core group □ knowledge creating group at school level
  - Identify and engage knowledge influencers (formal and non-formal leaders, those who regularly access knowledge creating groups throughout the various levels of the system including school and district levels (Reid, 2015: 161).
  - Create knowledge by using data and `consistently challenging current practices, knowledge and preconceptions` (Reid, 2015: 163).
  - Review relevant curriculum
  - Assess student work
  - Reflect on practices
  - Investigate student thinking
  - Modify instructional strategies (Reid, 2015 apud. Reid, 2014).
  - Participate in 4 Cs (Reid, 2015, apud. Belchetz & Witherow, 2014)
    - Co-planning
    - Co-teaching
    - Co-debriefing
    - Co-reflecting

Q1: How can you promote a culture of inquiry in your school?

Q2: Why are *knowledge influencers* important in mobilising knowledge?

****The full article is available here: https://journalofleadershiped.org/jole_articles/designing-a-knowledge-mobilization-strategy-leading-through-influence/*

Reflect and share!

1. Reflect on the impact of your teaching on students' learning outcomes. Share with your colleagues.
2. Are there differences in your practice when it comes to students who excel compared to students who encounter specific challenges? Share with your colleagues.
3. How can you adapt your teaching practices to meet your students' individual needs? Share with your colleagues.
4. What is one practice you have noticed to be very effective in your classroom? How about one practice you have come across in your teacher training which does not appear as effective in practice? Share with your colleagues.
5. Find research evidence relevant to your observations (from Question 4). Share with your colleagues.
6. What would be three topics you identified in your classroom practice that you are interested in exploring further through research? Share with your colleagues.
7. Explore some strategies that could help you initiate or strengthen your collaboration with educational researchers and policy-makers. Share with your colleagues.
8. What strategies can you employ for networking in your field of interest? What challenges do you experience in networking (i.e. time)? Share with your colleagues.

ASSESSMENT

Please select one topic from the following options!

1. Write a 1500-3000 word analysis regarding the way your organisation/school uses, shares and validates knowledge. Reflect on your role in the knowledge mobilisation process and identify at least three ways to improve it. Please make reference to relevant strategies and theory on the topic of knowledge mobilisation, using research evidence to support your argument. Please share your work on https://evidenceforteaching.org/

2. Select an article from a peer-reviewed journal of your choice, relevant to your practice (i.e. it addresses an issue or challenge you have identified in your classroom/ school). Analyse, evaluate and integrate the article's findings and recommendations into your lesson plan(s) or your classroom/school practice. Following the development and implementation of this particular EIP, write a 1500-3000 word essay describing and reflecting on your experience. Please share your work on https://evidenceforteaching.org/

3. Write a 1500-3000 word essay describing a strategy for mobilising knowledge on inclusion of children with learning difficulties or disabilities in your classroom/school (you can choose to focus on a particular context). Please share your work on https://evidenceforteaching.org/

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MODULE 7

Assessing evidence to inform practice

Authors	**Camelia Elena Ion, Claudia Simona Ştefan & Marcela Claudia Câlineci**
Reviewer	**Georgeta Ion**

AIM

Assess evidence informed practices (EIP).

COMPETENCES/ SKILLS DEVELOPED

- Explore the models of measurement of the EIP.
- Evaluate the modalities to select the best EIP adapted to the needs and specific conditions.
- Identify criteria used in assessing EIP.
- Calculate a score in order to choose among multiple evidences.

TARGET GROUP

- Primary and secondary Teachers
- School leaders (directors, inspectors)
- School counsellors
- Administrative Board of school

DURATION

3 hours

CONTENT

> "Evidence-based practice is not 'cook book' teaching or policing, nor should it be about prescribing what goes on from a position of unchallenged authority. It is about integrating professional expertise with the best external evidence from research to improve the quality of practice." (Sharples 2013, p.7)

The idea that research-use involves the dissemination of research publications and findings is not new (Weiss 1979). When it comes to advancing EIP, a main concern is related to the modality in which the evidence can be effectively transmitted. For example, in an article exploring EIP, Nathalie Carrier (Ontario Institute for Studies in Education, University of Toronto) investigated how popular educational innovations may be promoted and raise interest, irrespective of their relationship with the evidence-base. Her findings showed that strategies of persuasive communication can exert a very important influence. Other researchers investigated how teachers seek out information regarding effective classroom assessment (Cooper and colleagues).

These type of research and findings show that 'teachers acquire information mainly from others teachers.' This situation clearly shows the importance of practice, which is over research studies. In order to understand a wide range of evidence, educators are supposed to

develop an analytical stance and evaluative skills (Carrier). The importance of research and data literacy in bringing together evidence for professional inquiry and school improvement were emphasized by Brown and colleagues.

Definitions of EIP

Giving a precise definition of EIP can be a challenging job. First of all, there are certain questions that need to be answered to. For example: are "research" and "evidence" the same thing? (Nelson 2014); are 'evidence-based' and 'evidence-informed' practices fundamentally different? (McFarlane 2015); and, perhaps the most intensely debated, 'Whose evidence counts?' Evidence is just one of a number of factors that influence educational decisions as educators cannot be driven only by research evidence or data. The two terms, 'evidence-based' and 'evidence-informed' are sometimes used interchangeably.

EIP is not a one-dimensional concept. Danielle LaPointeMcEwan, Christopher DeLuca and Don Klinger (Queen's University, Ontario, Canada), and Chris Brown, Kim Schildkamp and Mireille Hubers (University College London, England and the University of Twente in The Netherlands) support the idea that EIP must be seen as the integration of professional judgement, system-level data, classroom data and research evidence.

Another important point to discuss refers to what constitutes 'research evidence'. From this point of view there is no consensus among researchers and educators. There is a lot of debate surrounding the solidity of the different academic research methodologies, and also about the value of research generated by educators. Certain researchers (Borg 2010; CUREE 2011; Enthoven and de Bruijn 2010; Wilkins 2012) consider the latter as anecdotal or nonreplicable, while others Bryk (2015) refers to 'practice-based evidence' (as opposed to evidence-based practice), and considers this type of knowledge generated by educators can be applied to support professional learning and student achievement.

The role of research evidence is a key factor for the quality of education. The different types of research evidence, such as 'teacher generated'; 'externally professionally generated'; 'academically generated'; and 'policy generated', have a wide influence. Schools have thus the opportunity to access and use externally-produced academic or professional research to support their practice. There can be interaction between teachers' use of external evidence and the conduct of their own research or enquiry, and also between teachers and researchers, for example (CUREE 2011; Nelson and O'Beirne, 2014; Nelson, 2015).

The definitions of evidence-based teaching are various, which indicates that teachers have a specific understanding and view of what constitutes 'evidence'.

Awareness of evidence, was defined as (Marita G. Titler, The Evidence for Evidence-Based Practice Implementation, 2008):

- Understanding what research evidence is.
- Knowing how to access research evidence.
- Being able to judge how robust research evidence is.
- Knowing that research evidence can help improve practice and how it does that.

- Knowing how to go about being 'evidence-informed'.

Conditions to the application of EIP

In order to understand how an evidence-based intervention or approach works in practice and if there is really a direct impact on pupil learning, the following constructs have been approached (Julie, Nelson, Palak Mehta, Jonathan Sharples, Calum Davey, 2017):

These constructs were:

- access and awareness – believing in the value of research evidence; knowing about research evidence; knowing how to locate it; and physically accessing research evidence
- understanding and persuasion – understanding what the research evidence says; knowing how to critique it; believing in the findings (if reliable); and understanding the implications for classroom practice
- translation and action – knowing how to apply research evidence in practical situations; changing behaviour or approach on the basis of research evidence; and using research evidence to make a difference in the school
- knowledge – knowing what the research evidence says on key topics related to effective teaching and learning and whole-school practice.

The outcomes resulted were:

Outcome 1 - Positive disposition to academic research in informing teaching practice.
Outcome 2 - Use of academic research to inform selection of teaching approaches.
Outcome 3 -Perception that academic research is not useful to teaching.
Outcome 4 - Perception that own school does not encourage use of academic research.
Outcome 5 - Active engagement with online evidence platforms.
Outcome 6 - Research knowledge.

These findings indicate that research engagement and knowledge are positively related to the degree of seniority of the teacher on average. Some important issues were raised, such as: finding ways to encourage and support research engagement in schools (senior leaders can support and encourage their leadership team to take an evidence-based approach and support their colleagues to do the same); how to actively engage classroom teachers in using research evidence, taking into account the potential challenges related to the cultural and practical issues and ways to overcome them.

Authors like Mark Rickinson, Kate de Bruin, Lucas Walsh and Matthew Hall (Monash University, Victoria, Australia and Ministry for the Environment, New Zealand), give an interesting perspective on EIP. According to these authors educational practice has much to learn from educational policy. They consider policymaking as a *form of practice* and establish a number of similarities in the types and variety of evidence utilised by policymakers and educators.

There is a growing interest in how EIP processes may be developed and implemented. In recent years the term of knowledge mobilisation (KMb) is gaining ground, especially in the field of education in countries such as Canada. According to Campbell and colleagues, 'Mobilisation implies social interaction and iterative processes of co-creating knowledge through collaboration between and among researchers, decision-makers and practitioners' to support the sharing, creating and using of evidence.' The authors focus on four main themes concerning KMb strategies, processes and outputs: communication and dissemination; capacity building; partnerships and networks; and systemic approaches.

1. What do we know about effective use of research evidence?
2. To what extent are schools and teachers aware of, engaged with and/or using evidence to improve practice, and in what ways?
3. What are the key influences on the awareness, engagement and use of research evidence by schools and teachers?
4. How consistent are the messages on evidence-informed teaching that come from government and wider influencers?

Visible learning

One important question is: "What works best for learning?" This question leads us to the notion of *Visible Learning*, which refers to an enhanced role for teachers as they become evaluators of their own teaching. As John Hattie stated, it is important for teachers to be able to see learning through the eyes of the students and help them become their own teachers. This is what defines Visible Learning and Teaching.

Challenging of measurement EIP

Depending on the purposes to be achieved, the contexts of practice, the availability of evidence, the individuals and/or organisations involved, multiple EIP strategies, processes and activities can be approached. One important issue related to EIP refers which combination of strategies, processes and activities have the biggest impact for the expected outcomes. Another one focuses on the EIP measurement. Measuring EIP is a challenging task to perform, due to the need to make decisions regarding the evidence that is needed to judge whether EIP has been achieved, and the with what results.

Recent research regarding the impact of EIP are various. Dagenais et al. (2012) for example, did not find ample evidence about the impact and respectively benefits of EIP. Although there is some research indicating that EIP can contribute to school improvement (see, for example, CUREE 2011; Greany 2015; and Schleicher 2011), there is still a need for more rigorous evaluation, both qualitative and quantitative. Other researchers are are devising strategies and instruments in order to better to understand a range of outcomes. For example:

- In the USA, the Center for Research Use in Education (CRUE)5 and the National Center for Research in Policy and Practice (NCRPP, Penuel, William R., 2014) are developing suites of survey instruments to measure research-use in schools and school districts at a variety of outcome levels. The National Center for Research in Policy and Practice developed measures and tools to document research use in schools,

described the conditions under which research is used and the factors that promote or inhibit research use in schools and school districts, and identified and examined researcher practices that were associated with greater use of research. In addition, the Center engaged in leadership and outreach activities that helped school and district leaders apply study findings, including interactive meetings and use of technology to foster meaningful exchange among researchers, practitioners, and other stakeholders on how research can best be used to support educational improvement and transformation.

- In Scotland, The Research Unit for Research Utilisation (RuRu) at the University of St Andrews is considering the issue of measurement from a cross-sector perspective, including education.
- In England, the Education Endowment Foundation has funded a number of collaborative projects that are working to improve the mobilisation of research information. These are being evaluated to assess the relative effectiveness of different strategies. The National Foundation for Educational Research (NFER) has developed the measurement survey that is being used by the various evaluation teams (see Nelson et al. 2017; Poet, Mehta, and Nelson in press)

'What constitutes a positive outcome in the context of EIP' and 'How can EIP be measured effectively?', are important questions with no easy answer. According to Wentworth and colleagues, outcomes are likely to be context-specific and to occur at different levels, according to the extent and depth of practice. It is important for researchers and educators to understand the quality of different knowledge mobilisation (KMb) strategies and to measure educational research and data; production of knowledge; and the impacts of these activities on professional learning and, ultimately, learner outcomes. This process can require multiple quantitative measures and descriptive data. From this perspective, EIP appears to be a complex and dynamic process.

An interesting project related to EIP is Q Project, a 5-year partnership between Monash University and the Paul Ramsay Foundation. This Project aims to improve the use of research evidence in Australian schools. Q Project gives an insight into how Australian educators find and use research and evidence:

- The types of research and evidence they value;
- How and why they source different kinds of evidence; and
- Whether and how they use research within their practice.

The school-based research phase of the Q Project starts with 3 key questions:

1. How are schools using research evidence?
2. What is involved in using research evidence well?
3. How can quality use of research evidence be developed?

The research activities are focused on understanding how Australian educators find and use research and evidence, and will probably provide valuable information regarding EIP.

Instruments/Tools of measurement EIP

These survey findings suggest that educators are sourcing and using research in practice far less when compared with other evidence types or educators' own knowledge and experience. However, despite lower relative utilization of research evidence, there is a positive aspect to be considered. Educators seem to demonstrate a positive attitude towards research and acknowledge the connection of research to an improved practice. Moreover, they perceive their schools support for research use in a positive manner. Targeted actions can be related to:

- Contextual relevance - This is an important aspect to be taken into consideration by educators, in the processes of sourcing, assessing, interpreting, adapting and applying research in practice. It is not enough to disseminate relevant research or evidence. Educators must become increasingly aware of credible research sources as well as their research-related interpretation and implementation skills.
- Collaboration – Building interactions and relationships with others are important ways in which educators, teachers in particular engage with and make sense of research and evidence. Relationships and interacting with others also represent important and valued ways in which educators, particularly teachers, engage with and make sense of research and evidence. Collaborations can happen within or beyond the school community. Understanding that different social and relational processes need to be leveraged for improved use of research in practice may inform leaders' action plans and improvement agendas. Social interactions, can come in the form of team meetings, discussions with other colleagues and collective reflection and represent simple but effective ways to introduce and/or strengthen research use in the school culture.

One aspect that needs to be considered is related to the differences between the educational actors engaged in the use of EIP. Teachers and school leaders can differ in the types of research and evidence that they value, how and why they source different kinds of evidence, and whether and how they use research within their practice. Teachers and school leaders do not always have the same needs, expectations and capacities regarding research-engagement. Therefore, tailoring professional learning, improvement interventions and support resources to the needs of different educator groups seem to be a practical and effective approach.

Another aspect to consider refers to different challenges related to research use, such as: time and access constraints, non-supportive school cultures, and low research-related confidence levels in educators' own skills and abilities. For example, deeper analysis, examining the relationships between educators' attitudes, beliefs and confidence in their research-related skills, and their sourcing and use behaviors in practice, indicate that lower confidence levels in particular appear associated not just with lower utilization of research in practice, but with lower utilization of other evidence types as well, including student data, policy documents and guidance from official bodies.

Q Project's QURE Framework can provide a navigational tool to help school and system leaders analyze and decide where the efforts should be focused, in order to improve the use of research in educational practice.

	Traditional evidence-informed practice	Evidence-based practice
1 Source of knowledge	• Accumulated subjective experience with individual cases • Opinion about practice outcomes emphasised – 'In my experience . . .'	• Well-designed, randomised trials and other controlled clinical research • Facts about practice outcomes emphasised – 'The data show that . . .'
2 Knowledge location and access	• Hierarchical • Knowledge is possessed by opinion leaders and gurus • Charismatic expert driven	• Democratic • Knowledge is available to anyone willing to read the published scientific research or research reviews • IT-driven.
3 Method of achieving progress	• Haphazard, fortuitous • Based on changing values, fads, fashions and leaders	• Systematic, predictable • Based on incremental and cumulative programmes of outcome research

Example of Improvement/ Australia

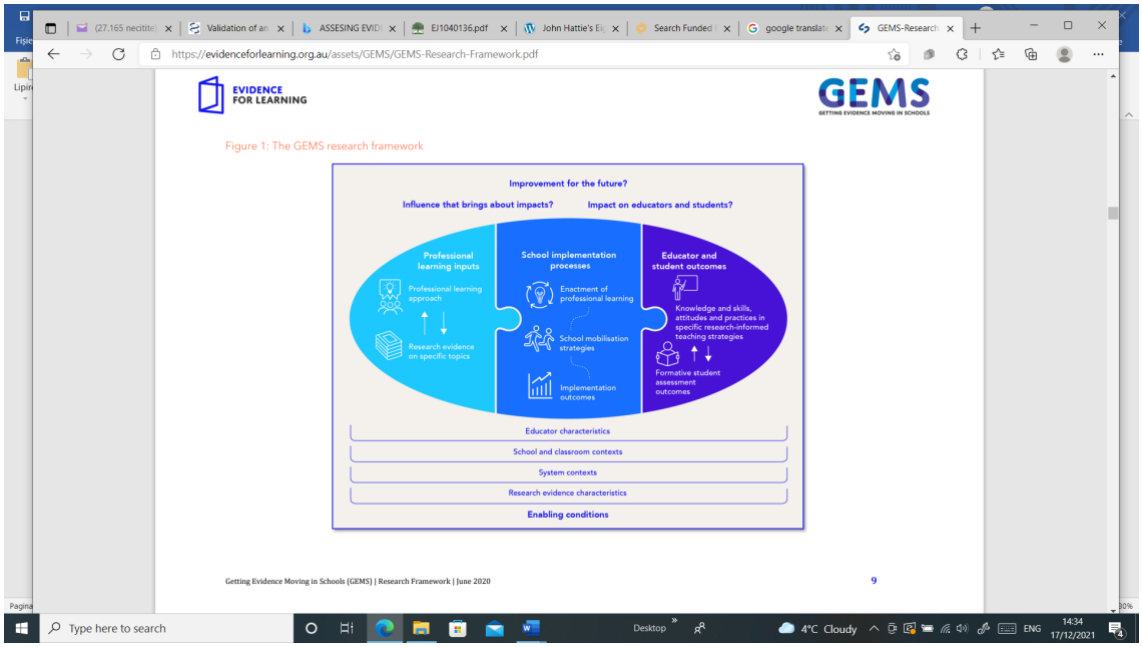
The QURE Framework as a Navigational Tool for Improvement

Educators' insights into how, why and to what extent they use research in practice are powerful prompts for consideration about what is happening in schools. The following questions should be debated:

Skills	How well developed are your skills in: (i) finding relevant research; (ii) appraising its quality and contextual relevance; (iii) adapting research for implementation and uptake; and (iv) reflecting on its effect in practice? What steps could you take to improve your research-related skills? If you are a school leader: What research-related skills and abilities do your colleagues have? What plans could you implement to develop your own and others' skills?
Relationships	What social and professional networks do you have, both within and beyond your school, that could help you source, assess and interpret research better for your context? How well are you leveraging these relationships? Are there other relationships that could be more beneficial? If you are a school leader: How well are you fostering collaborations, both within and beyond your school, to benefit your own, as well as your colleagues' research use? How do you know this?
Mindsets	How open-minded are you to using research in practice? What value do you see in using research alongside your own professional knowledge and experience? How confident are you in your abilities to use research? If you are a school leader: How well are you fostering and role-modelling the use of research in practice such that your colleagues feel motivated, positively challenged and confident to improve their practice through research use?

Infrastructure	To what extent are barriers to research use, particularly time and access constraints, as well as skill adequacy, being addressed in your school? What role can you play, as either a leader or a colleague, to improve research related processes and resources?
Leadership	How well is research being considered, interpreted, positioned and explained by leaders in your school? To what extent is leadership enabling better research use in practice? How can you contribute to positive discussions that connect leadership to improved research use in practice? If you are a school leader: How well are you making the purpose and benefits of research use clear to your staff? To what extent are you involving others in sourcing, interpreting, deciding on and implementing research?
Culture	How well does your school culture encourage: (i) informed risk-taking and experimentation with research; (ii) questions about research selected for use; (iii) collective critique of research; and (iv) group debate and reflection about research implementation? How can you contribute to positive discussions about improving supportive research use school cultures?

Getting Evidence Moving in Schools (GEMS) | Research Framework | June 2020. The GEMS research framework



GEMS research framework can be used as a tool to support the evaluation of initiatives focused on research mobilisation in schools, with a special focus on professional learning. GEMS was designed to investigates different aspects of such initiatives, and is able to:

1. examine the impact of research evidence mobilisation through professional learning on educators' knowledge, attitudes and practices around using research and research-informed practices;
2. explore the influence of different layers in the mobilisation process, i.e. the evidence-based resources, professional learning processes, educator characteristics and school- and system level factors; and

3. identify ways to improve the effectiveness of the research evidence mobilisation process in light of these influences, with a view to identifying enabling conditions that can support future work in this area.

The evidence use can be characterized as:

- an active process – as it involves active engagement and learning rather than passive reception and transfer. This aspect was very well described by Figgis et al. (2000: 347): 'Practitioners/policy-makers must not be thought of as passive receptacles patiently waiting to receive advice and insight from research and researchers. For too long the literature on research utilization and dissemination has implied a straight transmission model.'
- a demanding process – as it requires skills and capacities that are both relational and technical. According to Earl and Timperley (2009: 3): 'Productive evidence-informed conversation [are] more than conversations with some attention to evidence […] The qualities that are required in these kinds of conversations are having an "inquiry habit of mind", considering a broad range of "relevant evidence" and engaging in "learning conversations" [based on relationships of respect and challenge].'
- a social process – as it develops with and through interactions with other colleagues and collaborators. In Cain's opinion (2015: 491): 'Research texts can shape both what teachers think about and how they think. But to achieve this, there must be space for 'long, focused discussions', not only with the 'third voice' [of the research] but also with the 'second voice' of colleagues.'

Collaboration between teachers is important in the identification and selection of an EIP. Thus, the first step in this process is to make sure you are seeking for the right practice or program, according to your needs (e.g., socio-emotional skills, reading skills, reading fluency, overall reading achievement, calculation abilities, etc). Accessing new practices or programs

may need some resources: costs, time and training. It implies a few important questions that need answers:

- How long will it take to implement the particular practice?
- How does it affect my daily activities/routine?
- Is there an additional cost for the program/practice?
- What resources does the programs offer? Or do you need to provide your own resources?

Assessing an EIP can be a difficult and time consuming process, and therefore, the best way to choose a good practice is to find its reviews done by multiple sources.

Instrument

In order to assess specific evidence informed practice, certain criteria are needed, as given below:

- Is the EIP published in academic / trusted journals?
- Was it peer-reviewed?
- Has the EIP been used by a significant number of teachers?
- Does the practice or program address skills I'm interested in?
- Are the outcomes the same ones I am interested in?
- Are the research study participants comparable to my students (e.g., age, ethnicity, socio-economic status, demographic location)?
- Were subgroups, such as children with disabilities (or other subgroups types) included in the EIP?
- Is the research setting(s) similar to my instructional setting?
- Is the practice or program aligned with my country's laws and standards?
- Were conditions in the research similar to the ones in my setting?

Each practice can be assessed differently even when it is used the same evaluation criteria. Thus, some criteria will be more important than others, according to the different requirements.

Sample exercise of evaluating a practice:

The following table provides data regarding the evaluation of an activity designed to develop social-emotional skills for primary pupils who have classmates with special needs. In this case, a set of 4 criteria was chosen to illustrate how a weighted average calculation works.

Criteria	The EIP has been used by a significant number of teachers	The practice or program addresses skills I'm interested in	Children with disabilities are included in the EIP	The practice or program is aligned with my country's laws and standards
Grade (1-10):	8	10	10	5

Weight (1-100, the final sum should be 100):	20	20	50	10
Weighted average:	9.1			

Grade – a subjective number that we give for each criterion based on our own research about the evidence

Weight – with this we give a certain percentage to each criterion and that percentage establishes the importance of that criterion in the final average. The more important criteria will have higher percentages.

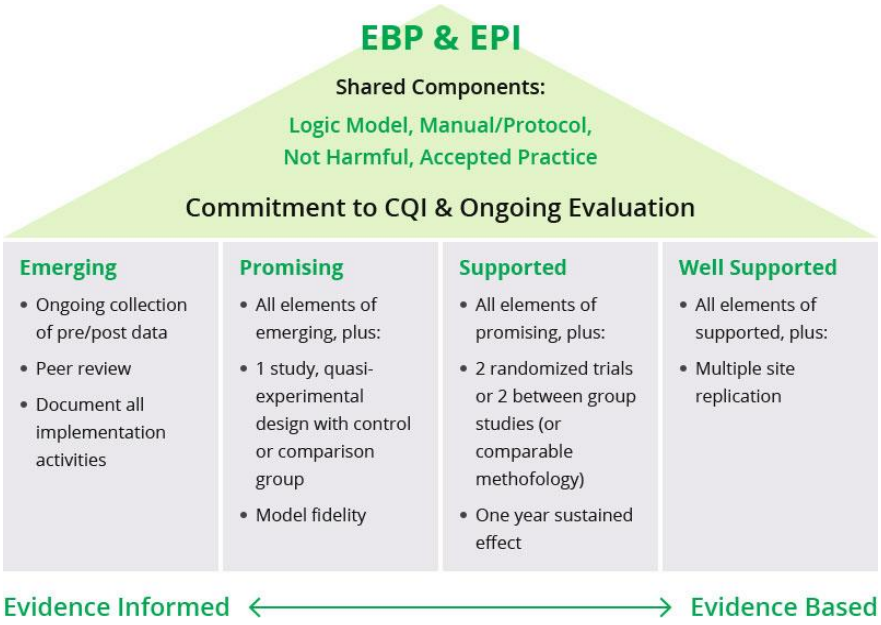
Weighted average – a score the is calculated by multiplying each grade with its weight/percentage and summing the results and then dividing the sum to the total sum of weights (which should be100).

Ex: (8*20 + 10*20 + 10*50 + 5*10) / (20 + 20 +50 + 10) = 9.1

If we need to choose among multiple activities, the calculated weighted average could help us to decide between them, based on each activity's score.

Conclusions

- **attention** to the conceptualisation, application and impact of EIP within education and across public policy sectors (for example, Nutley, Walter and Davies, 2007).
- **general consensus** that 'evidence' constitutes a range of types and sources of knowledge and information, including professional expertise and judgement, as well as data and research.
- the most frequently used sources of 'evidence' are often derived from **professional experiences** and colleagues rather than original research studies, despite the considerable debate about 'gold standards' of research methodologies.



RESOURCES

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- http://www.claimyourcollege.org.uk/
- https://www.gov.uk/guidance/what-works-network
- http://www.oecd.org/edu/ceri/centreforeducationalresearchandinnovationceri-countryreviewsoneducationalresearchanddevelopment.htm
- http://www.research4schools.org/
- https://ies.ed.gov/funding/grantsearch/details.asp?ID=1466
- Measuring Teachers' Research Engagement: Findings from a pilot study, Report and Executive Summary, March 2017, Julie Nelson, NFER, Palak Mehta, NFER, Jonathan Sharples, EEF, Calum Davey, EEF, https://educationendowmentfoundation.org.uk/public/files/Evaluation/Research_Use/NFER_Research_Use_pilot_report_-_March_2017_for_publication.pdf

ASSESSMENT

Identify 3 resources (book, article, posters, worksheets, guide, booklet, manual, links, short movies etc.) from educational area and bring some arguments why are EIP and are important for creating inclusive and qualitative ethos in schools.