

STEAME

FOR SAVING LIFE

Guidelines for developing and implementing
Disaster Risk Reduction Education in
Elementary School Curriculum

Policy Recommendations for Integrating Disaster Risk Reduction Education into the Educational System

Project Acronym: STEAME-DRREC
Reference number: 2023-2-CY01-KA210-SCH-000169945
Implementation period: 31 August 2024 – 30 August 2026



www.steame-life.eu

✉ steamedrec@gmail.com

📌 Steame for Saving Life



Co-funded by
the European Union

"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them."



STEAME-DRREC

“STEAME for Saving Life: Guidelines for developing and implementing Disaster Risk Reduction Education in Elementary School Curriculum”

Reference number: 2023-2-CY01-KA210-SCH-000169945

Implementation period: 31 August 2024 – 30 August 2026

Policy Recommendations for Integrating Disaster Risk Reduction Education into the Educational System

Deliverable leading partner: Cyprus Pedagogical Institute (CPI)

www.steame-life.eu



**Co-funded by
the European Union**



This content is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International license. Under the terms of the license, you are free to copy and redistribute the material in any medium or format, but only for non-commercial purposes. You must give appropriate credit, provide a link to the license and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. If you remix, transform, or build upon the material, you may not distribute the modified material. You are not allowed to create derivative works based on this material. You may not use the material for commercial purposes.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Published on: 31/7/2026

Table of Contents

STEAME for Saving Life (STEAME-DRREC).....	3
Policy proposal for the systematic integration of Disaster Risk Reduction Education for natural hazards into the education system	3
1. Purpose and policy rationale	3
2. Scientific and policy basis.....	4
3. STEAME for Saving Life as evidence of feasibility	5
4. Guiding principles	5
5. Proposed national policy framework.....	6
5.1. A common and progressively differentiated learning competency framework.....	6
5.2. Systematic integration into curricula and assessment of learning.....	7
5.3. Connecting learning with school preparedness, safety, and educational continuity.....	8
5.4. Meaningful student participation, inclusion, and rights.....	8
5.5. Integrating DRRE into initial teacher education	9
5.6. Continuing professional learning, school leadership, and communities of practice.....	10
5.7. School infrastructure, equitable access, and technical support	11
5.8. National repository and the effective use of educational and digital resources.....	12
5.9. Institutional coordination, allocation of responsibilities, and partnerships.....	12
6. Gradual implementation.....	13
7. Monitoring, feedback, and continuous improvement.....	14
8. Funding and sustainability	15
9. Proposed next steps for the institutional integration of DRRE.....	15
References	17

STEAME for Saving Life (STEAME-DRREC)

Policy proposal for the systematic integration of Disaster Risk Reduction Education for natural hazards into the education system

Erasmus+ KA2 | Implementation period: 1 September 2024 - 31 August 2026

Central policy proposal

It is proposed that a National Framework for Disaster Risk Reduction Education and School Resilience be formally established, with the gradual and systematic integration of DRRE into the existing curricula at all levels of education as its central pillar, without creating a new subject or increasing curriculum content. The framework will build on existing learning objectives, educational structures, and materials that have already been developed and implemented, providing teachers with clear guidance, appropriate flexibility, and practical implementation tools. At the same time, it will connect teaching with school preparedness and safety, the active and inclusive participation of students, initial teacher education and continuing professional learning, cooperation with scientific, operational, and local bodies, and equitable access to reliable educational resources. Its implementation will be supported by clear institutional coordination, gradual pilot-based expansion, simple monitoring and continuous improvement, as well as sustainable financial support through the existing functions of the education system.

1. Purpose and policy rationale

The purpose of this policy paper is to set out a scientifically grounded and practicable framework of guidance for the gradual and systematic integration of Disaster Risk Reduction Education (DRRE) into the curricula and everyday school practice in Cyprus. Drawing on the results of the *STEAME for Saving Life* project, international and European literature, and current education policy directions, the paper seeks to support the Ministry of Education in designing a coherent, inclusive, and pedagogically sound approach that will strengthen students' knowledge, skills, attitudes, and active participation, teachers' professional preparedness, and the safety, preparedness, and resilience of the school community.

Disaster Risk Reduction Education (DRRE) is proposed for recognition as an integral dimension of high-quality, inclusive, and future-oriented education. The DRRE approach should go beyond the simple communication of instructions or the periodic conduct of drills and should seek to: (a) develop an understanding of how hazard, exposure, vulnerability, and coping capacity shape risk; (b) interpret scientific, geographical, and social information; (c) apply appropriate protective actions; (d) make evidence-informed decisions; and (e) enable students to participate responsibly in creating safer and more resilient schools and communities.

Despite existing provisions for school safety and the conduct of preparedness drills, there remains a need to develop a unified pedagogical framework that systematically connects DRRE with the objectives, content, and learning activities of the curricula. The absence of a systematically developed connection limits the pedagogical use of preparedness plans and drills and leaves the implementation of related

activities largely to the initiative of individual schools and teachers. This proposal seeks to address that gap by supporting the transition from fragmented awareness-raising and preparedness activities to a stable and institutionally supported dimension of everyday teaching.

The proposed approach is based on mapping existing learning objectives, establishing cross-curricular and interdisciplinary links among subject areas, and making limited additions or clarifications where substantive gaps are identified, without requiring the creation of a new stand-alone subject or a significant increase in curriculum content. More specifically, it proposes the use of natural and climate-related hazards as authentic and socially significant learning contexts through which subject-specific objectives and DRRE objectives can be achieved simultaneously.

2. Scientific and policy basis

The Sendai Framework for Disaster Risk Reduction 2015–2030 identifies understanding risk, prevention, and preparedness as key priorities and calls on states to integrate relevant knowledge into formal and non-formal education (UNDRR, 2015). The Comprehensive School Safety Framework 2022–2030 connects three interdependent pillars: (a) safer learning facilities, (b) school safety and educational continuity management, and (c) risk reduction and resilience education (GADRRRES, 2022). The most recent global review of the framework's implementation confirms that policy, institutional coordination, sustained funding, teacher professional development, learning assessment, and monitoring are interrelated prerequisites for meaningful, rather than merely formal, school safety (GADRRRES, 2025).

At European level, the Preparedness Union Strategy includes the integration of preparedness into school curricula and the training of education staff as a specific action (European Commission, 2025). The recent Eurydice comparative report shows that preparedness is now integrated into primary education curricula in almost three quarters of the European education systems examined, although initial teacher education and quality assurance do not follow with the same consistency everywhere (European Commission/EACEA/Eurydice, 2026).

For Cyprus, the same European mapping identifies a reference to preparedness in the primary education Health Education curriculum and mandatory quality-assurance procedures through the Civil Defence Plan and preparedness drills. At the same time, it places Cyprus among the systems in which preparedness is included in the school curriculum without a corresponding formal requirement in initial teacher education. This proposal therefore does not introduce a separate new field; rather, it responds to a specific coherence gap among the curriculum, school preparedness, and teacher education (European Commission/EACEA/Eurydice, 2026).

The first European Climate Risk Assessment identifies 36 major climate risks for Europe and stresses the need for their immediate, systematic, and socially equitable management across all sectors and levels of governance (European Environment Agency, 2024). Similarly, the European Commission communication on managing climate risks calls for clearer ownership of responsibility, better use of data, and the integration of resilience into sectoral policies (European Commission, 2024). In education, the Council Recommendation on learning for the green transition and GreenComp support the cross-curricular development of knowledge, skills, and attitudes, meaningful student participation, initial and continuing teacher education, the provision of appropriate resources, and implementation monitoring (Council of the European Union, 2022; Bianchi, Pisiotis, & Cabrera Giraldez, 2022). The Eurydice comparative report on learning for sustainability confirms that European policies are moving towards horizontal integration across curricula, support for teachers and school leaders, and whole-school approaches (European Commission/EACEA/Eurydice, 2024).

The scientific literature points in the same direction: DRRE is more meaningful when linked to authentic and local contexts, active and participatory forms of learning, practical application, and cooperation

among schools, families, communities, and the relevant authorities (Selby & Kagawa, 2012; Kitagawa, 2021; Cvetković, Nikolić, & Lukić, 2024; Marzban et al., 2026). At the same time, a recent systematic review in a European context found that providing educational resources without formal evaluation of their effectiveness leaves a significant evidence gap, reinforcing the need for pilot implementation, shared quality criteria, and systematic evaluation (Hodson et al., 2024). Effective professional learning requires active participation, practical application, collaboration, feedback, reflection, and sufficient duration (Darling-Hammond, Hyler, & Gardner, 2017; European Commission/EACEA/Eurydice, 2024).

3. STEAME for Saving Life as evidence of feasibility

STEAME for Saving Life developed and implemented in primary education a comprehensive professional learning model that connected understanding of the core DRRE concepts, the mapping of entry points in the curricula for the simultaneous achievement of subject-specific and DRRE objectives, the use of authentic events and real-world data, collaborative activity design, classroom implementation, feedback, and reflection. Teachers acted as designers, implementers, and evaluators of integrated learning activities rather than as passive recipients of information.

Following the programme, among the participants who completed the final evaluation (n = 123), 94.3% reported a clearer understanding of how to integrate DRRE into different subjects; 91.1% stated that they felt able to identify relevant curriculum links; 87.8% felt able to combine subject-specific and DRRE objectives; 86.2% felt able to design an integrated lesson; and 88.6% felt able to implement relevant activities. These results, together with interview data and evidence from classroom implementation, provide strong indications of the model's feasibility and pedagogical value.

As the implementation took place in primary education, extending the model to the other educational levels should be accompanied by an appropriate adaptation of the learning competencies, content, and activities to the needs and characteristics of each level.

The implementation also showed that the sustainability of DRRE cannot depend exclusively on the willingness of individual teachers, as limited time, the need to adapt materials, coordination requirements, and unequal access to equipment or technical support can present significant barriers. By contrast, clear curriculum links, the availability of appropriate materials, ongoing pedagogical guidance, collaborative design, and sustained cooperation with external bodies facilitate implementation. Accordingly, the proposed policy seeks to support the transition from fragmented individual initiatives to a coherent and institutionally supported implementation framework.

4. Guiding principles

- a) Integration into the curriculum rather than an increase in curriculum content
- b) Simultaneous pursuit of subject-specific objectives and DRRE objectives
- c) Authenticity, local relevance, and the use of scientific data
- d) Experiential, inquiry-based, and collaborative learning; context-based learning; and problem-solving-based learning
- e) Inclusion, equity, and accessibility for all students
- f) Pedagogical sound use of technology, with non-digital alternatives
- g) Connecting teaching with school safety, families, and the community
- h) Gradual implementation, evaluation, and evidence-informed revision.

5. Proposed national policy framework

5.1. A common and progressively differentiated learning competency framework

It is proposed that a common national framework of knowledge, skills, attitudes, and behaviours be established and differentiated by age group. At younger ages, the focus should be on recognising basic hazards, seeking help, applying simple protective actions, and developing a sense of safety and the ability to respond appropriately. At older ages, inquiry, data interpretation, mapping, evaluation of alternative options, and active participation in plans to improve school and community safety should be progressively strengthened. (Bianchi, Pisiotis, & Cabrera Giraldez, 2022; European Commission/EACEA/Eurydice, 2026).

This progressive development is further specified, on an indicative basis, for each level of education as follows:

Level of education	Main focus and expected competences
Pre-primary Education	Children recognise familiar hazards, practise simple and safe responses, and seek help from trusted adults through play, storytelling, visual stimuli, and guided activities. The approach aims to foster emotional safety and the recognition and management of fear and other emotions, without alarmist messaging, dramatisation, or the creation of anxiety.
Primary Education	Pupils distinguish, at a basic level, between a natural phenomenon, a hazard, and a disaster; identify local hazards and vulnerable locations; take appropriate action before, during, and after an event; interpret simple maps and warnings; and collaborate in mapping and preparedness activities.
Lower Secondary Education	Students investigate the causes, consequences, and factors that shape risk; interpret maps, measurements, graphs, and real-world data; examine exposure and vulnerability; assess alternative options; and formulate evidence-based proposals for improving school and community safety.
Upper Secondary Education	Students analyse complex scenarios involving risk and uncertainty; synthesise evidence from reliable scientific sources and geospatial data; evaluate prevention, adaptation, and resilience measures; justify their decisions; and design actions or projects with social and environmental dimensions.
Technical and Vocational Education and Training	Students connect DRRE with their field of specialisation, such as construction, energy, agriculture, the environment, and occupational safety; assess risks in workplaces and infrastructure; apply appropriate prevention techniques and procedures; and propose practical solutions that support safety and the continuity of essential operations.

Minimum expected level by the end of Primary Education. By the completion of Primary Education, every child should be able, at a basic and age-appropriate level, to distinguish between a natural phenomenon, a hazard, and a disaster; recognise key hazards and vulnerable locations within the school and their immediate environment; interpret simple maps and warnings; take appropriate protective action before, during, and after an event; seek help; and collaborate responsibly in mapping and preparedness activities. This level should serve as a national reference point for learning design and formative assessment, rather than constituting a new standalone or examinable subject.

Within this progressive differentiation, the learning competencies should be organised around the following interconnected thematic areas:

- a) distinguishing among a natural phenomenon, a hazard, and a disaster

- b) understanding the concepts of exposure, vulnerability, coping capacity, and resilience
- c) knowledge of the stages of prevention, preparedness, response, recovery, and continuous improvement
- d) interpreting maps, warnings, measurements, graphs, and information from reliable sources
- e) developing responsible communication, cooperation, solidarity, and active participation
- f) linking DRRE with climate adaptation, sustainable development, and social justice, with particular emphasis on the equitable distribution of exposure, vulnerability, resources, and capacities for protection.

5.2. Systematic integration into curricula and assessment of learning

Integrating Disaster Risk Reduction Education (DRRE) does not require the creation of a new subject or an extensive revision of existing curricula. It can be achieved through limited and targeted adaptations by linking learning objectives and activities already included in the curricula with appropriate natural-hazard contexts. (Council of the European Union, 2022; European Commission/EACEA/Eurydice, 2024, 2026).

The implementation of this common framework should be adapted to the existing educational structures of each country. In Greece, DRRE may be integrated into Primary Education both cross-curricularly across individual subjects and through the Skills Workshops, drawing on their relevant thematic strands and linking them to specific curriculum objectives. In Cyprus, corresponding integration may be achieved through the existing curricula, cross-curricular approaches, and their official implementation guidelines. In this way, a common framework of learning competences and pedagogical principles is maintained across both countries, while its implementation is adapted to the institutional and curricular context of each country

For this purpose, it is proposed that DRRE be mapped across subject areas in which related objectives already exist, such as Science, Geography, Mathematics, Language, Health Education, Social and Civic Education, Education for Sustainable Development, Physical Education, Design and Technology, the Arts, and Digital Technologies. This mapping can be carried out through a simple and functional alignment framework specifying:

- a) the subject area, unit, age group, and existing curriculum learning objective;
- b) the specific curriculum learning outcomes, namely the knowledge, skills, and competencies that students are expected to develop in the relevant subject;
- c) the corresponding DRRE objective and the specific learning outcomes concerning risk understanding, prevention, preparedness, safe response, cooperation, and resilience;
- d) the natural, social, or locally relevant hazard context through which the curriculum and DRRE objectives can be achieved simultaneously;
- e) the pedagogical approach, required resources, learning activity, and expected learning product;
- f) the assessment criteria and tools, so that both the achievement of subject-specific objectives and the development of DRRE-related knowledge, skills, attitudes, and behaviours can be assessed.

A substantial part of this alignment has already been completed within the project across a broad range of subject areas, thematic units, and age groups in the curricula of Greece and Cyprus. The relevant work is presented in deliverable **O1/A2, Methodological Guidelines for Incorporating STEAME-DRRE Activities in Elementary Curriculum-Content Instruction**, which can provide the initial evidence-based foundation for adopting the proposed policy. The existing mapping can subsequently be updated and gradually enriched with additional subject areas, learning outcomes, natural hazards, local examples, teaching activities, and assessment tools, without requiring the framework to be redeveloped from the beginning.

Assessment can be integrated into the procedures already provided for within each subject and carried out through scenarios, data interpretation, mapping, problem-solving, portfolios, collaborative products, practical applications, and the justification of decisions. In this way, the same learning activity can provide evidence both of students' progress towards curriculum objectives and of the development of DRRE competencies, without requiring an additional teaching unit or a separate assessment system. (Hodson et al., 2024; GADRRRES, 2025).

5.3. Connecting learning with school preparedness, safety, and educational continuity

The pedagogical dimension of DRRE should be directly connected with the school's existing preparedness, safety, and crisis-management procedures. In this way, learning developed through curriculum subject areas can be applied in real-life conditions and contribute meaningfully to improving school preparedness, without requiring parallel or additional educational processes.

School safety plans and preparedness drills should not be limited to the formal execution of instructions; they should be systematically integrated into DRRE and, through it, into curriculum subjects. Their preparation, implementation, and review can be linked to the investigation of local hazards, the mapping of safe and hazardous locations, the study of protective procedures, and reflection after each drill. In this way, preparedness plans and drills acquire pedagogical value and function simultaneously as protective procedures, authentic learning environments, and opportunities to apply and assess the knowledge, skills, attitudes, and behaviours developed through DRRE and curriculum subjects.

More specifically, preparedness plans can be incorporated into an integrated learning cycle in which appropriate preparatory activities in different curriculum subjects precede the drill and are followed by structured discussion, reflection, and feedback. In this way, students understand why each procedure is applied, how it relates to the specific hazard, and how they can contribute responsibly to the safety of the school community. This approach should be implemented in an appropriate-age and pedagogically balanced manner, without alarmism, dramatisation, or the unwarranted creation of fear. (GADRRRES, 2022; European Commission/EACEA/Eurydice, 2026).

5.4. Meaningful student participation, inclusion, and rights

Students' active and age-appropriate participation should be established as a core dimension of DRRE and institutionally supported through existing curriculum subjects. Students should participate as active agents of learning, prevention, and enhanced school safety and should not be limited to following instructions during school preparedness drills.

Such participation is both an intended learning outcome and a prerequisite for developing a culture of prevention, cooperation, and responsible citizenship. Clear institutional direction from the State is required if it is to be implemented systematically and not depend exclusively on the initiative of each teacher. (European Commission, 2021a; Council of the European Union, 2022).

Accordingly, the following measures are proposed:

- a) **Institutional integration of DRRE into curriculum implementation guidelines.** The guidelines should clarify that teachers can use existing learning objectives, content, and subject teaching time flexibly to develop DRRE activities, without requiring the creation of an additional teaching unit.
- b) **Gradual definition of a minimum implementation framework.** Following the pilot implementation, a minimum framework of participatory DRRE activities may be defined for each level of education and implemented through existing subjects. This framework will be shaped by the results of the pilot implementation, schools' capacities, and the needs of each educational level, so that DRRE implementation acquires stability without creating an additional or untested requirement for schools.

- c) **Provision of practical implementation guidance.** The official guidelines and national repository should provide teachers with ready-to-use alignments, appropriate-age activities, and simple assessment methods. For this purpose, the methodological guidance and activities already developed and implemented within the project can be used, enabling teachers to apply or adapt them without having to design DRRE integration from the beginning.
- d) **Provision for specific forms of active participation.** The proposed activities may include identifying hazards in the school and neighborhood, creating hazard maps and safe-route maps, assessing the accessibility of emergency procedures, producing information materials, and submitting evidence-informed proposals to school leadership or local authorities.
- e) **Student participation in reviewing preparedness drills.** After each drill, students should be given the opportunity to record observations and proposals through a brief learning activity, the outcomes of which will be taken into account when school safety procedures are revised.
- f) **Ensuring equitable participation.** The official guidelines and educational materials should include simple and specific adaptations to enable the meaningful participation of students with disabilities, health conditions, language difficulties, migrant or refugee backgrounds, or other needs. (European Commission, 2021b; GADRRRES, 2025).

Through these measures, the State provides institutional approval, the necessary flexibility, and a clear minimum implementation framework. At the same time, teachers gain ready-to-use practical tools for integrating DRRE into their subjects, while students' active participation is transformed from an optional pedagogical choice into a stable and practicable dimension of the curriculum.

5.5. Integrating DRRE into initial teacher education

DRRE should be systematically integrated into initial teacher education programmes so that future teachers acquire the essential scientific, pedagogical, and practical competencies required to incorporate it into teaching. Implementing this proposal does not require the creation of a stand-alone course in every institution. The relevant competencies can be integrated into existing courses in pedagogy, subject didactics, digital education, and school experience. For this purpose, the following are proposed: (Council of the European Union, 2022; European Commission/EACEA/Eurydice, 2026).

- a) **Definition of a common minimum DRRE competency framework.** Initial teacher education programmes should ensure that students can:
 - (i) identify appropriate entry points for DRRE in the curricula and connect subject-specific objectives with corresponding DRRE learning outcomes
 - (ii) use local hazard cases, maps, graphs, geospatial information, and valid scientific data
 - (iii) design age-appropriate, differentiated, and inclusive learning activities
 - (iv) connect teaching with school preparedness, safety, and community resilience procedures
 - (v) assess both the achievement of subject-specific objectives and the development of DRRE knowledge, skills, attitudes, and behaviours.
- b) **Integration of these competencies into existing courses and workshops.** Each institution may choose how to distribute them across its programme, provided that DRRE competencies are taught coherently and explicitly assessed.
- c) **Provision for practical application.** Initial teacher education programmes are encouraged to include, within a subject-didactics course or school-experience component, the development of a lesson plan or learning activity that connects a specific curriculum objective with a DRRE objective. Where feasible, the plan should be implemented in a classroom and followed by evidence-informed reflection.

- d) **Provision of shared examples and implementation tools.** Institutions should have access to indicative curriculum alignments, activity plans, data sources, assessment criteria, and examples of differentiation. In this way, DRRE integration will be based on a specific pedagogical framework and will not depend exclusively on the experience or initiative of each teacher educator
- e) **e) Development of university-based micro-credential programmes.** Alongside the integration of the proposed thematic areas and competences into initial teacher education programmes, universities may develop and offer micro-credential programmes in DRRE for in-service teachers, educational leaders, and other professionals with related responsibilities. These programmes may focus on integrating DRRE into curricula, designing and implementing learning activities, enhancing school preparedness, and using data and digital tools. The development, award, and quality assurance of these micro-credentials should fall within the responsibility of universities, in accordance with the applicable institutional and regulatory framework.

With these arrangements, new teachers will enter the profession having already developed and demonstrated their ability to integrate DRRE into curriculum subject areas, without the need to create an additional or disconnected field of teaching.

5.6. Continuing professional learning, school leadership, and communities of practice

Professional learning for DRRE should be organised as a systematic, multi-phase process and should not be limited to fragmented or one-day information seminars. It can build on the professional development model implemented in the *STEAME for Saving Life* project, which includes the development of conceptual and pedagogical understanding, collaborative activity design, supported classroom implementation, documentation, presentation, feedback, and reflection. In this way, professional development is directly connected with the integration of DRRE into curriculum subjects and with teaching practice. (Darling-Hammond, Hyler, & Gardner, 2017; European Commission/EACEA/Eurydice, 2024).

For the systematic implementation of this approach, the following are proposed:

- a) **Integration of multi-phase DRRE programmes into existing professional learning structures.** The competent national professional learning bodies should integrate programmes into their existing professional development structures that combine conceptual and pedagogical development with the design of curriculum-linked activities, classroom implementation, support during implementation, and final evaluation.

In Cyprus, the systematic integration of DRRE into teachers' professional learning could be supported through the professional development activities of the Cyprus Pedagogical Institute, building on its institutional role and existing professional development structures. DRRE can be incorporated into the Institute's activities at the levels of teachers, education officials, and schools through multi-phase programmes, professional learning activities, and appropriate support materials connecting it with curriculum subjects. Such institutional integration would strengthen the continuity, consistency, and sustainability of the relevant activities, reducing their dependence on fragmented or isolated initiatives.

- b) **Differentiation of professional learning according to participants' roles.** Alongside teacher professional development, targeted activities should be provided for school leaders, inspectors, trainers, and other education officials. The content of the activities should relate to the responsibilities of each group, such as pedagogical support for teachers, school planning, connecting DRRE with subject areas, and facilitating its implementation at school level. A short thematic unit presenting the key guidelines for integrating DRRE into the curriculum, as set out in the *STEAME for Saving Life* project, can be incorporated into existing professional development programmes for education officials. The unit may include the pedagogical framework, the basic steps for connecting DRRE with subject-specific

objectives, and indicative examples of implementation. In this way, education officials will develop a shared understanding of the proposed approach and will be able to support its consistent implementation in schools.

- c) **Strengthening the role of school leadership.** School leadership teams should support the integration of DRRE into school planning, facilitate cooperation among teachers from different subject areas, and encourage the use of preparedness plans and drills as learning opportunities. Relevant professional development can help school leaders understand the key directions for integrating DRRE and create appropriate conditions for implementing them through existing subjects. DRRE should not be treated as the responsibility of a single teacher but as a shared pedagogical priority of the school.
- d) **Development of professional learning communities.** Teachers participating in DRRE programmes can join school-based or regional communities of practice in which they exchange activities, experiences, data, and solutions to implementation issues. These communities can be supported by trainers or advisers with experience in DRRE and in connecting it with the curricula.
- e) **Evaluation of professional learning through evidence of implementation.** Completion of the relevant programmes should not be based solely on teacher attendance, but on the design and, where feasible, implementation of a DRRE activity integrated into a specific curriculum subject. Evidence may include the activity plan, its connection with the subject-specific and DRRE learning objectives, selected learning products, and a brief reflection on its implementation and outcomes.

With these arrangements, professional learning for DRRE gains continuity, practical orientation, and a direct connection with teaching. At the same time, it is supported by school leadership, collaboration among teachers, and the exchange of experience, so that integrating DRRE into curriculum subjects does not depend exclusively on isolated initiatives. (European Commission/EACEA/Eurydice, 2024; Marzban et al., 2026).

5.7. School infrastructure, equitable access, and technical support

The integration of DRRE into the curricula should not depend on specialised facilities or expensive technological equipment. The relevant policy needs to ensure that all schools have the basic means, information, and support required to implement experiential, inquiry-based, and collaborative activities without reinforcing existing inequalities. (Council of the European Union, 2024; European Commission, 2021b).

For this purpose, the following are proposed:

- a) Ensuring **basic infrastructure and equipment.** Schools should have access to a computer or portable devices, a reliable internet connection, presentation facilities, and basic scientific, geographical, and construction materials that can be used in DRRE activities.
- b) Access **to reliable local data.** Easy access should be provided to maps, natural- and climate-hazard data, warnings, emergency plans, and other official sources in a form suitable for educational use.
- c) Ensuring **accessibility.** Equipment, educational materials, and activities should be accompanied by the necessary adaptations so that they are accessible to students with disabilities, health conditions, or other educational needs.
- d) **Provision of low-cost and non-digital alternatives.** Where feasible, activities should also be implementable using printed maps, simple materials, observation of the school premises, and locally available resources.
- e) **Targeted support for schools with greater needs.** The allocation of equipment, materials, and technical support should prioritise schools with limited infrastructure or access, so that DRRE implementation does not depend on a school's geographical location or available resources.

With these arrangements, infrastructure and technology serve as support rather than prerequisites for DRRE implementation.

5.8. National repository and the effective use of educational and digital resources

The integration of DRRE into the curricula should be supported by an organised and user-friendly digital repository, preferably incorporated into an existing official educational platform. The aim is not to create a new and complex information system, but to collect, classify, and officially provide reliable materials that teachers can use directly or adapt.

The repository may include DRRE curriculum alignments, differentiated lesson plans, scientifically validated sources, authentic data, maps, local case studies, assessment tools, templates for reviewing preparedness drills, accessible and multilingual materials, and indicative student products. Its initial development can draw on methodological guidance, mappings, and educational activities already produced within the *STEAME for Saving Life* project.

For its organisation and operation, the following are proposed:

- a) Clear classification of materials.** Resources should be organised by age group, subject area, and hazard type and accompanied by a brief description, learning outcomes, curriculum links, required time, materials, and a proposed assessment method.
- b) Establishment of basic quality criteria.** Before publication, materials should be reviewed for scientific validity, age and pedagogical appropriateness, clarity of educational use, and alignment with curriculum objectives.
- c) Ensuring accessibility and safe use.** Resources should meet basic accessibility standards, protect personal data, and avoid alarmism, dramatisation, stereotypes, and the inappropriate exposure of students to images or narratives of disasters.
- d) Pedagogically sound use of digital tools.** Digital maps, geospatial applications, simulations, artificial intelligence applications, and virtual or augmented reality environments may be used when they serve a specific learning objective and add clear pedagogical value. Their use should be based on reliable data, be age-appropriate, and comply with data-protection and cybersecurity requirements. (Council of the European Union, 2024; European Commission, 2026).
- e) Provision of alternative modes of implementation.** Where possible, digital activities should be accompanied by a non-digital or low-technology version so that they can also be implemented in schools with limited equipment or connectivity.
- f) Enrichment and regular updating.** Teachers will be able to propose evidence-informed activities or examples of implementation, which will be published following a brief review against common quality criteria. Provision should also be made for periodic checks of scientific accuracy, link functionality, data provenance, and the compatibility of materials with the curricula.

The official provision of reliable and readily usable resources will reduce the need to search for unverified materials and will support more consistent and equitable DRRE implementation.

5.9. Institutional coordination, allocation of responsibilities, and partnerships

The systematic integration of DRRE into the curriculum requires coordination among the educational, pedagogical, scientific, and operational bodies already involved in curriculum development, professional learning, school safety, and risk management. Coordination can be organised through existing administrative structures or a small interdepartmental group, without creating a new and complex administrative mechanism. (GADRRRES, 2025; Marzban et al., 2026).

The following indicative allocation of responsibilities is proposed:

Ministry of Education, Sport and Youth: setting the overall policy direction, providing institutional support for the integration of DRRE into the curricula, and coordinating the services involved.

Safety and Health Unit: providing technical guidance on emergency procedures, preparedness drills, and the safety of school facilities.

Cyprus Pedagogical Institute: pedagogical coordination, professional learning and guidance for teachers, provision of support materials, and promotion of the connection between DRRE and teaching practice.

Education Directorates and relevant curriculum teams: integrating DRRE into official implementation guidelines, supporting connections with subject areas, and monitoring implementation in schools.

Schools: incorporating relevant activities into school planning, connecting them with subjects, enabling active student participation, and making use of local partnerships.

Universities and research centres: scientific substantiation, initial teacher education, research, evaluation, and updating of educational content.

Civil Protection, the Fire Service, and rescue, health, meteorological, and geological services: providing scientific and operational expertise, reliable data, and support for organised learning activities or preparedness drills.

Local authorities and community organisations: providing local data and infrastructure, supporting school activities, and connecting learning with the community's needs and capacities.

The final allocation of responsibilities will be determined by the Ministry of Education on the basis of the existing institutional mandates of the services involved and the framework's implementation needs.

Interventions by external bodies in schools should be linked to specific curriculum objectives, the needs of the school, and the local hazard context. Scientific and operational bodies provide specialised knowledge and data, while responsibility for their age-appropriate and pedagogical sound use remains with education bodies and the school.

The interdepartmental coordination group can support policy implementation, the pilot phase and its gradual expansion, the definition of basic quality criteria, and the periodic assessment of progress. Its role should be supportive and should not create additional bureaucratic requirements for schools.

Participation in European partnerships can be used in a complementary manner to exchange expertise, develop and adapt open educational resources, foster cooperation among schools addressing common hazards, and support pilot or comparative activities.

6. Gradual implementation

It is proposed that DRRE be implemented gradually so that existing educational materials can be used, the proposed arrangements can be tested in real school settings, and the necessary adjustments can be made before system-wide implementation.

Phase 1 – Preparation of the implementation framework

During the first phase, the basic policy coordination arrangements should be defined and the existing DRRE curriculum alignments, school safety policies, and educational materials already available should be brought together within a common framework. At the same time, the core learning competencies for each age group, priority hazards by area, the professional learning model, quality criteria for educational resources, and minimum infrastructure and support needs will be specified. This phase will result in clear implementation guidelines for schools and teachers.

Phase 2 – Pilot implementation and support for schools

The proposed approach will be implemented for one school year in a representative number of schools differing in educational level, size, geographical area, hazard profile, and level of technological infrastructure, including special education schools. The pilot will include multi-phase professional development, the design and implementation of DRRE activities within existing subjects, pedagogical support for teachers, active student participation, and the connection of school preparedness drills with specific learning objectives. At the same time, common and simple tools will be used to collect data on implementation, challenges, and learning outcomes.

Phase 3 – Evaluation, revision, and gradual expansion

After the pilot has been completed, the pedagogical quality, the feasibility of integrating DRRE into the available teaching time, the adequacy of resources, equity of access, student participation, teacher support, and the development of the intended learning competencies will be evaluated. On the basis of the results, the guidelines, educational materials, and implementation procedures will be revised before their gradual expansion. (Hodson et al., 2024; GADRRRES, 2025).

The institutional integration of DRRE can subsequently be implemented through the official curriculum implementation guidelines, existing structures for initial teacher education and continuing professional learning, school planning, and education policy monitoring processes. In this way, system-wide implementation will be based on documented practice and will not be imposed on schools as an additional and untested requirement.

7. Monitoring, feedback, and continuous improvement

Monitoring the implementation of DRRE should be simple, supportive, and integrated into existing school-planning and professional-learning processes. Its purpose is not to create additional control procedures or administrative burden, but to collect essential information that will enable the gradual improvement of DRRE integration into the curriculum. (European Commission/EACEA/Eurydice, 2026; Marzban et al., 2026).

For this purpose, the following are proposed:

- a) **Brief documentation of implementation at school level.** Within existing school-planning processes, schools may briefly record the subjects into which DRRE activities were integrated, the actions implemented, and the main conclusions that emerged.
- b) **Use of learning activities as evidence.** The effectiveness of implementation can be identified through learning products already generated, such as hazard maps, data analyses, action plans, student proposals, and reviews of preparedness drills, without creating additional examinations or separate assessment tools.
- c) **Brief feedback from teachers and students.** After an activity or school drill has been implemented, a brief reflection may be conducted on what worked, what difficulties arose, and what adaptations are needed.
- d) **Periodic evaluation in a representative sample of schools.** At national level, a limited evaluation may be conducted after the pilot and periodically thereafter in selected schools to examine implementation feasibility, the quality of available materials, teacher support, student participation, and possible inequalities among schools.

Monitoring results should be used to update the implementation guidelines, educational materials, and professional learning programmes. In this way, monitoring operates as a light-touch and continuous feedback process that supports the effective integration of DRRE without imposing additional bureaucracy on schools.

8. Funding and sustainability

The sustainable integration of DRRE into the curriculum requires stable and proportionate financial support. Priority can be given to incorporating the relevant needs into existing budgets for curriculum development, professional learning, educational materials, digital support, and school safety, without requiring the creation of a separate and costly funding mechanism. (GADRRRES, 2025; Marzban et al., 2026).

For this purpose, the following are proposed:

- a) Provision of **stable budget allocations within existing structures**. Funding should cover the updating of implementation guidelines, teacher professional development and support, the development of accessible materials, and basic technical-support needs.
- b) Priority for **low-cost and reusable solutions**. Existing platforms, available equipment, open data, and educational materials that have already been developed should be used as a priority to limit implementation costs.
- c) Targeted **support for schools with greater needs**. Additional resources should be directed primarily to schools with limited infrastructure, technological equipment, or access to prevent inequalities in implementation.
- d) Complementary **use of national and European funding**. European programmes can support pilot implementation, the development of new materials, and the exchange of expertise, but the continuation of DRRE should not depend exclusively on temporary external funding.

Long-term sustainability will be strengthened when DRRE is integrated into the education system's routine planning, professional development, and support processes and does not rely on one-off equipment purchases or the voluntary efforts of a limited number of teachers.

9. Proposed next steps for the institutional integration of DRRE

Based on the scientific evidence, the results of the *STEAME for Saving Life* project's implementation, and the policy directions presented, the Ministry of Education, Sport and Youth could consider initiating the development of a National Framework for Disaster Risk Reduction Education and School Resilience. A central pillar of the framework would be the gradual and systematic integration of DRRE into existing curricula, without creating a new subject area or significantly increasing curriculum content.

Within this process, the following next steps could be considered:

- a) defining the competent coordination structure and clarifying the roles of the services and bodies involved;
- b) developing a common and progressively differentiated DRRE learning competency framework for the different levels of education;
- c) using, adapting, and further enriching the mappings, methodological guidance, and educational activities already developed within the *STEAME for Saving Life* project;
- d) integrating the project's applied professional learning model into existing structures for teacher professional development, pedagogical guidance, and support;
- e) making scientifically validated, accessible, and readily usable educational materials officially available through an existing educational platform;
- f) strengthening the connection between teaching and plans for school preparedness, safety, and

educational continuity;

- g) ensuring the basic conditions for equitable access, technical support, and the pedagogical sound use of educational and digital resources; and
- h) piloting the proposed approach for a full school year in a representative number of schools across different educational levels, geographical areas, characteristics, and hazard profiles.

Following a supportive evaluation of the pilot, the learning competency framework, implementation guidelines, educational materials, and support procedures can be reviewed and adapted before their gradual expansion at national level. At this stage, a realistic minimum implementation framework for each educational level can also be defined, considering the results of the pilot and the capacities of schools.

Adopting such a gradual and evidence-informed approach can support the transition of DRRE from fragmented awareness-raising activities and the formal conduct of preparedness drills to a stable, inclusive, and institutionally supported dimension of everyday learning, school operations, and education policy.

References

- Bianchi, G., Pisiotis, U., & Cabrera Giraldez, M. (2022). GreenComp: The European sustainability competence framework (EUR 30955 EN, JRC128040). Publications Office of the European Union. <https://doi.org/10.2760/13286>
- Council of the European Union. (2022). Council Recommendation of 16 June 2022 on learning for the green transition and sustainable development (2022/C 243/01). Official Journal of the European Union, C 243, 1–9.
- Council of the European Union. (2024). Council Recommendation of 23 November 2023 on the key enabling factors for successful digital education and training (C/2024/1115). Official Journal of the European Union.
- Cvetković, V. M., Nikolić, N., & Lukić, T. (2024). Exploring students' and teachers' insights on school-based disaster risk reduction and safety: A case study of Western Morava Basin, Serbia. *Safety*, 10(2), 50. <https://doi.org/10.3390/safety10020050>
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Learning Policy Institute.
- European Commission, Directorate-General for Education, Youth, Sport and Culture. (2026). Guidelines on the ethical use of artificial intelligence and data in teaching and learning for educators (updated edition). Publications Office of the European Union. <https://doi.org/10.2766/7967834>
- European Commission. (2021a). EU strategy on the rights of the child (COM(2021) 142 final).
- European Commission. (2021b). Union of Equality: Strategy for the rights of persons with disabilities 2021–2030 (COM(2021) 101 final).
- European Commission. (2024). Managing climate risks – protecting people and prosperity (COM(2024) 91 final).
- European Commission. (2025). European Preparedness Union Strategy (JOIN(2025) 130 final).
- European Commission/EACEA/Eurydice. (2024). Learning for sustainability in Europe: Building competences and supporting teachers and schools. Publications Office of the European Union. <https://doi.org/10.2797/81397>
- European Commission/EACEA/Eurydice. (2026). Preparedness education in Europe 2025: Eurydice report. Publications Office of the European Union. <https://doi.org/10.2797/0281387>
- European Environment Agency. (2024). European climate risk assessment (EEA Report 01/2024). Publications Office of the European Union. <https://doi.org/10.2800/8671471>
- GADRRRES. (2022). Comprehensive School Safety Framework 2022–2030 for child rights and resilience in the education sector.
- GADRRRES. (2025). Global status of school safety: Technical report of the 2024 Comprehensive School Safety Policy Survey.
- Hodson, A., Pearce, J. M., Amlôt, R., & Rogers, M. B. (2024). Delivering extreme event preparedness education in schools: A systematic review of educational preparedness resources available in England. *International Journal of Disaster Risk Reduction*, 100, 104171. <https://doi.org/10.1016/j.ijdrr.2023.104171>
- Kitagawa, K. (2021). Disaster risk reduction activities as learning. *Natural Hazards*, 105, 3099–3118. <https://doi.org/10.1007/s11069-020-04443-5>

- Marzban, A., Dowlati, M., Moslehi, S., & Ahmadi Marzaleh, M. (2026). Role of schools in disaster risk management: A systematic review. *BMC Emergency Medicine*, 26, 23. <https://doi.org/10.1186/s12873-025-01453-z>
- Selby, D., & Kagawa, F. (2012). Disaster risk reduction in school curricula: Case studies from thirty countries. UNESCO and UNICEF.
- STEAME for Saving Life. (2026a). O1/A2: Methodological guidelines for incorporating STEAME-DRRE activities in elementary curriculum-content instruction.
- STEAME for Saving Life. (2026b). O3/A1: Design, implementation and evaluation of a professional development programme for teachers.
- UNDRR. (2015). Sendai Framework for Disaster Risk Reduction 2015–2030.