Schools for Resilience

Linking schools with
local communities' sustainability

WP2: Research Report on PBL and Best Practices

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1 · Background thinking

Three goals provided the impetus for research, namely:

- An environmental education focused on understanding and positively responding to global challenges with local solutions;

- An environmental education in which students build up their own contribution to sustainability according to their community needs, instead of being told what has to be done (socio-contructivist vs. conductist approach; promotion of creativity and entrepreneurship); and

- Strengthening the links of schools with the outside world, making teaching and learning relevant to students and society and help to develop local response to global challenges.

We explored two key sustainability movements which aligned with the goals of Schools for Resilience: Transition Towns[1,2] and Resilience[3]. Reviewing the work of these movements and key organisations therein, we distilled a list of core concepts which underpin their work and can influence the development of Schools for Resilience. We call these the Core Pillars of Schools for Resilience.

- Hope – the Transition Towns movement is based on a hopeful future. In this respect it is distinct from much environmental education and education for sustainability which often emphasises problems over solutions, and negative results of human activity before meeting human aspirations.

- (Dis)organisation – organisation is leaderless, based on a self-organising ecosystem model rather than top down. This approach supports resilience through creating systems that can respond to change internally without top-down leadership, although leadership will emerge based on need.

- Behaviour change – Transition Towns is influenced by the addiction model of change developed by Prochaska and DiClemente[4] (The Stages of Change). This model recognises that addiction needs to be recognised before it can be addressed. The Transition Towns movement uses a similar approach by encouraging people to reflect on how they are addicted to the use of oil. There needs, however, to be a careful counter-balance with hope if despair is to be avoided.

1 http://www.transitionnetwork.org/
2 http://www.transitionnetwork.org/about/principles
3 http://fieryspirits.com/group/resilience
4 http://currentnursing.com/nursing_theory/transtheoretical_model.html

- <u>Systems</u> – change is based on changing the system not trying to make the old one work better. This requires questioning worldviews and asking if the beliefs they are based on are an effective reflection of reality. It also uses natural systems as a model, mentor and measure. Understanding the whole system is vital if effective and lasting change is to occur, this includes asking if the system itself needs to change[5].

- <u>Community</u> – the Transition Towns movement is a community based process, one that is owned by and lead by the participants.

- <u>Values</u> – an exploration of the values that influence choice and well-being, and how values influence and are influenced by physical systems. Research by Common Cause[6] and others shows how values and frames are deeply ingrained habits, often sub-conscious, and exercise significant control over our lives. Learning is always values based but often unaware of the values it promotes. Fostering intrinsic values, including self-acceptance, care for others and concern for the natural world, have been shown to support pro-environmental behaviour and increased levels of well-being. Conversely, supporting extrinsic values such as authority, wealth and social power develop the opposite.

The core pillars of Schools for Resilience suggest the following relationship:

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5 http://www.donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/
6 http://valuesandframes.org/

2 · Place Based Learning research

Based on the Core Pillars a number of key questions were posed to guide research in PBL[7] (Place Based Learning) and the case studies we collected.

Core Pillars Characteristics	Key questions
Positive outlook	Is the learning led and owned by young people? Do participants feel confident and positive about their own ability to respond to change? Do young people develop the skills and widened perspective to realise radical change? Does learning support and encourage learners to rethink assumptions about 'power', democracy, change, responsibility and action? Do young people show motivation to achieve a shared goal?
System thinking	What is the system – linear or circular? What are the system intervention points? Are the system goals and paradigm questioned? Are resilient and self-organising systems created? Does the system work? Are solutions of appropriate scale and scalable? Is thinking linear or circular? Are links made? Is the whole system or only part of the system explored?
Community engagement	Are community groups involved in learning? Is the community clearly defined? Does the community support/involved in change/learning? Does learning take place in the community? Is this prominent?
Values	Are values considered? What values are considered? Are they public? (to whom) How are values addressed – directly/indirectly? Are intrinsic values promoted over extrinsic values? How do values link to the curriculum? Do case study values link with environmental values? How? Are dominant myths questioned?
Action competencies	Does the case study support competencies required to cope and deal with change? Are there existing competency frameworks that can help us explore the case studies? Does the case study blend thinking and practical competencies? Are 'communities' able to respond to change without external intervention? (self-organising)

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7 http://www.promiseofplace.org/what_is_pbe

We also used the following definition of PBL:

Place-based education is the process of using the on PBL local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum. Emphasizing hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. Community vitality and environmental quality are improved through the active engagement of local citizens, community organizations, and environmental resources in the life of the school.

The following education projects were assessed and reviewed against the criteria and based on a questionnaire approach (see Annex 1):

Project Title	Summary
Education for Sustainable Development (Denmark)	The aim of the project was to develop an educational content with a topical and important issue and give students the chance to tackle the content, both practically and theoretically. It was also important that the content showed as many aspects of the concept of sustainable development as possible in order to let the concept be internalized by the students. Sustainable development was not seen as an isolated and closed project, but rather as an ongoing process. This will, in addition to raising students' awareness of sustainable development, in the long term also help to shape the school's ethical profile.
Ecobeo - Learning to look after our place! (Ireland)	'Eco-Beo ' is an educational programme delivered in the Burren, one of the largest karst landscapes in Europe, using a Place Based Learning approach. The 20-week course builds awareness of the Burren's vast and varied heritage gives students, as well as their parents and teachers, a unique insight into the world famous landscape. The Eco-Beo courses are designed for local primary schools in the Burren area and its hinterland and have been delivered for 10 years. The main objective is to instill among the children of the Burren, the future custodians of the landscape, a sense of informed pride, ownership and responsibility for their heritage.
Energy budget and environmental impact of Olginate's secondary school (Italy)	The project aimed at assessing the impact of Olginate's secondary school on environment. The idea of the project rose from the consideration that the school is, for all the people spending there many hours a day, a sort of "home", a place where they had to feel as comfortable as possible. The need, identified by the school staff and the Municipality, was to increase awareness of the energy and resources consumption by assessing it and working on the best solutions and practices in order to decrease it and act in an

"ecologically friendly" way.

River story from different perspectives: nature, human, history (Latvia)	The goal of the project was to raise Latvian pupils' sense of responsibility for the future of the five largest Latvian rivers and to improve environmental education work in schools. The project was designed in a way so as to both expose pupils and teachers to a different way of teaching and learning. The project was like "a story of the river" which could be discovered by participants themselves. Different kinds of "stories" were presented – about history, plants and animals in the rivers and around, people in the river banks etc.
Leaving the classroom: a didactic framework for education in environmental sciences (Spain)	This is a Lifelong Educational experience where environmental sciences are learnt through immersion in rural cultural life. By means of personal interviews combined with *in situ* field work, students learn the techniques used in the production of traditional crops and livestock breeding. Afterwards, research of scientific literature is carried out in order to identify which of those procedures are "environmentally-friendly" practices.
Eco Challenge (UK)	The Eco Challenge project was an innovative project which built on a challenging residential experience in remote, rugged and awe inspiring landscapes, to develop opportunities for young people to take part in local environmental projects. The project combined residential and local experiences focussing on personal development and increased understanding and involvement in the natural environment. Project staff coordinated follow-up sessions with local environmental organisations to enable students and teachers to carry out environmental projects in the school grounds or local area. One of the outstanding successes of Eco Challenge was initiating relationships between schools and local organisations, and coordinating sessions so that students got actively involved in school grounds or in nearby green spaces. This enjoyment and enthusiasm often translated into schemes back in the school grounds or in local green spaces which far exceeded original plans – all due to increased interest and confidence of students and school staff, supported by the local environmental organisation and Eco Challenge project staff. These plans and activities often rippled out to engage and involve the wider school community.

Finding case studies which matched the Schools for Resilience Core Pillars was challenging. It became clear that the Schools for Resilience approach is different from most education for sustainable development currently being taught. As such the case studies investigated did not provide a 'perfect' example to illustrate the Schools for Resilience approach. However, elements from each case study did support parts of the Schools for Resilience approach. These were used to develop the Schools for Resilience method and model, and to help illustrate the stages of the method (see Section 4).

3 · Resilience

Underpinning the Schools for Resilience project is the concept of resilience. This is a common word, and many of us have a sense that being resilient is a good thing, but what does it actually mean? How might the development of resiliency as a competency enhance a citizen's effectiveness and wellbeing, as well as being of benefit to the health of their communities?

The word resilience comes from the Latin word 'resalire', which means springing back, or rebounding. This captures the essence of resilience from an individual's perspective, our ability to recover quickly from illness or misfortune. Resiliency is an important emotional intelligence competency. It means not giving up, and continuing to face the future with optimism and courage despite setbacks. It is not a characteristic that some people have and others don't have, everyone can develop their resilience.

A transformational view of resilience emphasises renewal, regeneration and re-organisation, it is not then just about recovering or preparing for shock, it is about human agency and the power to learn to navigate effectively through life. Adaptability is at the core of this perspective of resilience, which can occur either in response to or in anticipation of a challenge. So being resilient is more than just bouncing back to where we were before. If we are resilient we stretch ourselves, we spring forward and, because of the challenges we face, we emerge stronger. When resilience is framed as transformation challenges don't define us, they refine us.

In their book, *Resilience: Why Things Bounce Back*, Andrew Zolli and Ann Marie Healy point out that "a new dialogue is emerging around a new idea, resilience: how to help vulnerable people, organizations and systems persist, perhaps even thrive, amid unforeseeable disruptions. Where sustainability aims to put the world back into balance, resilience looks for ways to manage in an imbalanced world."

This period of extraordinary change is an opportunity to nurture our resilience and ensure that the places where we live are vibrant, innovative and have the potential to thrive. The notion of resilience implies flexibility, adaptability and the ability cope with adversity, the healthier, buoyant and more flexible we are as citizens the more resilient our communities will be.

Community Resilience is now often associated with emergency preparedness, in which communities get ready for, respond to and recover from emergencies. This usually involves sustaining infrastructure and systems that support the functioning of a community after a disturbance. Healthy communities however naturally build resilience as a part of their ongoing development. Through the building of better relationships with neighbours and working together on projects of common interest resilience is strengthened. This can help communities cope with challenges in ways that strengthen their social bonds, better steward resources, enhance our capacity to manage change and allow us to spring forward from adversity strengthened and more resourceful. Feeling connected

to those around you and taking pride in your village, town or city, has also been found to contribute to our own well-being and resilience.

The basis of a community's resilience is the quality of the interactions between people in that locality. At the heart of the Transition Towns movement is the strengthening of relationships with our neighbours through working with them on projects of common interest. The Transition process is a way of thinking about community readiness for abrupt change. People working with the Transition Town process are concerned about the state of the economy, our ability to cope with declining energy supplies and the impacts of climate change. They recognise that our communities currently lack the ability to withstand these sorts of challenges and purposely set out to build resilience. Using the Transition process a community develops ways to reduce its vulnerability to these converging challenges and increases the ability to respond and prosper.

Communities in Transition come up with different initiatives depending on their own particular circumstances. These might include local food projects, community gardens, programmes to retrofit homes, exploring community energy systems, initiating local currencies, starting car clubs, and establishing social enterprises. For Transition resilience means being more self-reliant by putting a priority on what can be produced locally and generating livelihoods in the community.

Learning how we can navigate change and prosper during these turbulent times could be compared to surfing. A short animated film that Cultivate produced called 'Surfing the Waves of Change' can be found on YouTube. It explores how we can nurture our personal and community resilience to adapt to challenges with confidence and optimism. I think the metaphor of surfing is a good one for resilience building.

Resilience can become a powerful new driver for engaging more deeply with our fellow students, workmates and neighbours. However a group of resilient individuals does not necessarily make a resilient community, but once people come together with a common purpose and principles they become a powerful force for change.

Luckily, resiliency is not an ability we are born with, it is a skill everyone can develop. The Schools for Resilience programme, which is aimed at teenagers, will use a place based learning methodology to build the student's key competences and skills to be better able to adapt to the changes they face and help them to transform their communities.

As all natural systems are resilient, abundant and self-organising, think of what we might learn by observing and emulating them! With nature as a teacher, we might better design systems in ways that don't impact the environment and at the same time strengthen our resilience, as well as implementing projects that will help our communities to flourish.

Communities building resilience come up with different initiatives depending on their own particular circumstances. These might include local food projects, community gardens, exploring community energy systems, initiating local

currencies, starting car clubs, and establishing social enterprises. Most of these types of projects will be too difficult for the students we will be targeting to complete. If we can facilitate the young people in identifying local assets or playing a part in better stewarding local resources, this will help build community resilience.

We are attempting to create a learning programme for teenagers that develops their capacity to be agents of change in their community, or at least connect them and their school to the locality in a stronger way. By making a small intervention in the places where they live we hope that students will contribute in some way to transforming their communities and ensure that they have the potential to cope and adapt positively to the challenges that will manifest locally from global issues we face. As a basis of a community's resilience is the quality of the interactions between people in that locality, anything we can do to strengthen the social connections of the students to their community will contribute to the resilience of that community and fit with the methodology of Place Based Learning.

From a larger list we have created here the resilience knowledge, skills, and qualities that an individual needs to play a part in their community's resilience.

- Have adaptive and coping skills
- Be capable of self-direction
- Be able to communicate well and problem-solve with others
- Have the ability to take a whole system perspective and be able to see the bigger picture
- Have a strong sense of place
- Have ecological literacy and an understanding of the challenges we face
- Have an understanding of community values
- Being able to appreciate the resources and the assets of the community

Annex I – PBL research questions

Template for good practice case studies – Place Based Learning

The purpose of this document and template is to help the partners gather the information needed when writing their case studies on Place Based Learning.

There's nothing as powerful as case study to influence a project, however we have to ensure that the local examples we each choose contain and draw out the principles the Schools for Resilience project is focused on.

As we want to find specific examples of community resilience building and Place Based Learning, this template will bring together the elements we need to look out for and the information we need to include. Our aim is to assemble a set of examples that adequately demonstrate various approaches, stimulate action and allow us to reflect deeply on what is a good case study and draw out the key principles that will inform our own learning journey, influence the SfR model, and inspire school projects.

In searching for and preparing your case studies, we recommend you read the following documents:

- Definition of PBL
- The core pillars of SfR
- The learning support document
- Resilience competencies

These four documents help to frame SfR and provide a background to our thinking.

First Step in Writing the Case Study...
1. Identify a project of interest (one resilience and one PBL)
2. Is the project relevant to our target audience
3. Identify what information is needed and from whom we will get it

What are Potential Sources of Information?
Case studies typically rely on multiple sources of information and methods to provide as complete a picture as possible. Information sources could include:

- Project website
- Project reports
- Interviews with project leader
- Questionnaire/survey results
- Observation

What are the Elements of a Case Study?
Case studies do not have set elements that need to be included; the elements of each will vary depending on the case or story chosen, the data collected, and the purpose (for example, to illustrate a best case versus a typical case). The elements listed in the template below are for guidance, feel free to add new elements if they emerge.

Case Study Template
To ensure completeness and uniformity, the WORD template below for case studies

has been developed using the headings above that can be downloaded off the Moodle and then submitted electronically once completed by the partners.

Topics of Interest

Your case study should focus on at least one of the four topics of interest identified in our project proposal:

- Biodiversity
- Food
- Waste
- Energy
- Other

Examples of Actions of PBL

There are lots of examples of Place Based Learning to help you. For some examples explore:

- www.ecoliteracy.org/strategies/place-based-learning
- www.promiseofplace.org/Stories_from_the_Field
- placebasedbasics.weebly.com/

Case Study

Schools for Resilience (SfR)is a new approach to education for young people based on a community action and place based learning.

Students will identify an appropriate project that they can work on in a positive and creative way. SfR will foster a sense of self direction, initiative, entrepreneurship and creativity, which use innovative active-learning methods and makes learning relevant.

The case studies will be used to inspire students, inform teachers and act as a resource for what can and cannot be replicated.

Short Definition of Place Based Learning

Place-based education is the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum. Emphasizing hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. Community vitality and environmental quality are improved through the active engagement of local citizens, community organizations, and environmental resources in the life of the school.

Case Study Template – Place Based Learning

1. Case Study Title
   A title that will attract the attention of the reader.

2. Case Study Theme
   E.g. food, energy, travel, biodiversity, culture change

3. Contact details of the project
   Name, Email, Website, Article links, You Tube, etc

4. Description of the Project
   This section should be short, inspiring and give an overall flavour of the case study. Please also include some pictures or links to short videos.

5. Who where the participants?
   Ages of students? Types of community groups involved? Where there a range of groups from voluntary to statutory included?

6. What was the need, issue or problem being addressed?
   How was the need for the project identified? By whom, was the whole community involved? What was the context/situation the project emerged from? What was the problem or an issue that it addressed?

7. Where did the project take place?
   Background on the place - where is it, size of population (rural/urban), what climate, culture, etc.

8. Was there a vision? How was the vision identified?
   Who initiated the process, and how? Did the project move towards a positive shared future?

9. What were the challenges to the project, what issues had to be overcome?

10. What actions were taken to overcome the challenges?
    What was actually done? What were the surprises? What were the lessons learnt?

11. What was the impact / result / outcome of the project?
    Try and be specific. What assets were developed? What skills and competencies were developed? How much carbon / money saved - actual or estimated? Were community relationships strengthened? How much did the project cost? Were there indirect / strategic benefits?

12. What was the educational impact / result / outcome of the project?
    Try and be specific. What elements of PBL were included? Did the learner's attitudes change as a result of the project? Where there improvements in educational attainment/behaviour of learners? Where changes transitional?

13. How did the learning take place?
    Who delivered the learning? What pedagogical approaches where used? Was learning self-directed? What did pupils learn: knowledge, skills, and competencies? Did systems thinking influence the learning, how? Was the learning linked to the curriculum: which subjects? How was the learning delivered: team teaching, outside experts, etc.

14. Lessons learned / success factors?
    - *What was achieved? What were the deliverables?*
    - *What valuable lessons can be shared with others?*
    - *Why did the project work?*
    - *What mistakes were made?*
    - *What would you do differently next time?*
    - *What were the critical factors to success?*

15. How was the project framed and what values were promoted?
    Refer to the Common Cause booklet for guidance (valuesandframes.org).

16. How does the case study link with wider issues?
    Does the project contribute the addressing larger challenges (e.g. a local food projects helps reduce travel and carbon emissions, reduced food imports and creates new jobs). Refer to Fritjof Carpra's living system principles (www.ecoliteracy.org/essays/ecological-principles).

17. Does the project/initiative contribute to wider national and European initiatives/policies?
    For example does it contribute to the EU2020 Strategy?

18. What parts of this project are replicable over Europe?
    Consider the social, cultural, legal and administrative aspects, these will vary from country to country

19. What aspects of this project will not be transferable?

20. What was the unique or special element that made the project a success?

21. How did the project measure success?
    What was success like for the participants/environment/community?

22. What were the unintended results of the project?
    Friendships, competencies developed, community strengthened, sense of place, social development.

23. Quotes
    Include one or two short quotes to illustrate the benefits of the project to the community or the learners. These will be used to inspire students or teaching staff.

24. Date the case study was completed

25. Contact details of the author of this case study
    Name, Email, Website

Annex 2 – Competencies and Schools for Resilience

From a larger list we have created here the resilience knowledge, skills, and qualities that an individual needs to play a part in their community's resilience.

- Have adaptive and coping skills
- Be capable of self-direction
- Be able to communicate well and problem-solve with others
- Have the ability to take a whole system perspective and be able to see the bigger picture
- Have a strong sense of place
- Have ecological literacy and an understanding of the challenges we face
- Have an understanding of community values
- Being able to appreciate the resources and the assets of the community

The table below shows how the SfR competences support delivery of the EU Transversal Competencies[8].

EU-competence	Description of EU-competence	SfR-competence related to our project
Communication in the mother tongue	*…to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate and creative way*	Has the ability to express and understand concepts, ecological relations, technical feasibility, social conditions, values and attitudes and on this basis participate in (collection) constructive discussions with others with the aim of developing local resilience solutions
Mathematical competence and basic competences in science and technology; *(In our project only competences in science and technology)*	*Competence in science refers to the ability and willingness to use the body of knowledge and methodology employed to explain the natural world, in order to identify questions and to draw evidence-based conclusions.* *Competence in technology is viewed as the application of that knowledge and methodology in response to perceived human wants or needs.* *Competence in science and technology involves an understanding of the changes caused by human activity and responsibility as an individual citizen.*	Has the ability to apply the knowledge, skills and methods in holistic science and technology to analyze the resilience challenges a specific community are facing and come up with local adaptive interventions.
Learning to learn	*Learning to learn' is the ability to pursue and persist in learning, to*	Has the ability to pursue and persist in learning, ie. identify one's own

8   RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 on key competences for lifelong learning (2006/962/EC) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/uri=CELEX:32006H0962&from=EN

	organize one's own learning, including through effective management of time and information, both individually and in groups. This competence includes awareness of one's learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training. Motivation and confidence are crucial to an individual's competence	needs for acquiring new knowledge and skills including through proper management of time and information, both individually and in groups to solve the challenges one encounter.
Social and civic competences (in this project only civic competences)	*Civic competence is based on knowledge of the concepts of democracy, justice, equality, citizenship, and civil rights, including how they are expressed in the Charter of Fundamental Rights of the European Union and international declarations and how they are applied by various institutions at the local, regional, national,European and international levels. It includes knowledge of contemporary events, as well as the main events and trends in national, European and world history. In addition, an awareness of the aims, values and policies of social and political movements should be developed. Knowledge of European integration and of the EU's structures, main objectives and values is also essential, as well as an awareness of diversity and cultural identities in Europe.*	Has the ability, based on the insight of democracy and citizenship, to engage in local cooperative challenges and take responsibility for one's own and common solutions and actions.
Sense of initiative and entrepreneur-ship	*Sense of initiative and entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage*	Has the ability to develop new ideas and solutions and transform them into action in relation to the resilience challenges the community is facing.

	projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance.	