

MAKE IT OPEN

What is open schooling?

Using service design methods to characterise
the main features of open schooling

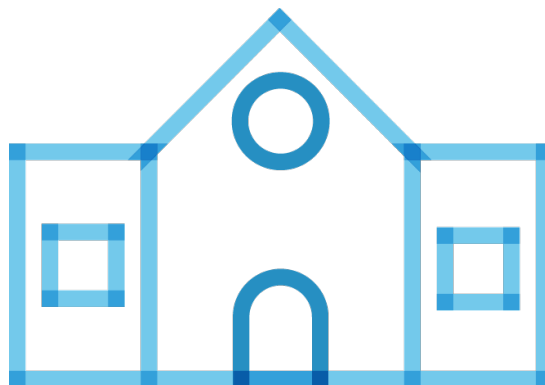


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1. Introduction

1.1. Open schooling and service design

Open learning and open schooling are broad terms which describe learning which is ‘open’ in terms of timing, location, teaching roles, instructional methods, modes of access, and any other factors related to learning processes. Most schools already do some level of open learning, through off site trips, on site visits and remote learning.

The EU funded project, ‘Make it Open’, aims to advance open schooling through creating compelling content, and also through widening its appeal and adoption by schools.

Service Design is a discipline of design focused on the design of services. Services in this context can mean anything which helps us reach an outcome we need or want, from hotels to healthcare. Service Design approaches and methods can be adopted and used at all points in the conception and planning of a service to improve the usability, desirability and effectiveness of a service. Better designed services are easier to access, work better and appeal to their target user.

Service Design methods and approaches are particularly useful in contexts of complex interactions between people, information, technology and space; this combination of elements is fundamental to open schooling.

In this project Service Design methods are used to unlock issues around the user friendliness of open schooling with the objective of making it more accessible to schools which are new to these activities.

This paper accounts for the process of using Service Design methods to create a set of ‘user centred delivery templates’; a set of templates which can help any educator to structure an open schooling project or programme. A template needs to offer a framework to that educator, to enable them to configure the different parameters of their open schooling

project i.e. how potential learning environments, roles, tools, media, platforms and any other components or qualities combine in different ways to support an open learning experience.

The exploration includes questions of open schooling vocabulary and conventions, for example whether there exists a recognisable typology of Open Schooling like an expert visit, or a challenge. If these structures can be identified and ‘templated’, the requirements and benefits of different types of open schooling can be understood by the user, and adopted more easily.

1.2. Using service design to characterise open schooling

This paper sets out the development process of the user centred delivery templates. The process split into two main stages of work: Mapping and Creative Development.

1.2.1. Mapping

Mapping is a process of building understanding through capture and analysis, logging anything from components to perspectives. Mapping exercises were undertaken to deepen the team's understanding of open schooling.

Firstly the users of open schooling were identified and perspectives were examined (including teachers, hosts, providers and experts in four participating countries). This is referred to as ‘Mapping user insights’. Secondly a study was made of the makeup and delivery models of existing publicly available open schooling programmes.

The mapping process involved a combination of online workshops and desktop research:

- 1) Logging users experiences of open schooling in the past in terms of components, resources and activities e.g. settings, roles, resources and activities
- 2) Capturing users experiences of open schooling through their ‘user journeys’, in the process identifying their needs and issues from ideas stage through to evaluation of the project
- 3) Discussing the users ambitions for open schooling in the future

- 4) Cataloguing the parameters and components of (STEM) Open Schooling projects and programmes currently available

1.2.2. Creative development of user centred templates

The outputs of the mapping process, and their analysis and synthesis were used as a foundation for an iterative creative process. With ‘user centered delivery templates’ as the end goal, some valuable outputs were created along the way, including a set of ‘open schooling dimensions’ which can be used as a framework to describe any open schooling project.

This stage involved:

- 1) Identifying and prioritising ways to understand and describe open schooling prioritising the users perspective, and
- 2) Producing a set of user-friendly delivery templates or ‘formulas’ for open schooling.

Table 1: Glossary of methodologies

Term	Definition
<i>Mapping</i>	The process or activity of creating a visual representation of the relationships between data or ideas. These exercises are used at the start of a service design project to understand the relationships between users and the possible services that they need
<i>Service Design</i>	A set of design methods which are user-centred and systems focused, applied to complex interactions between people, information, technology and spaces, making them ‘usable, desirable and effective’
<i>Use cases</i>	A specific situation in which a product or service could potentially be used. Use cases help to consider services from a user perspective

Table 2: Glossary of tools

Term	Definition
<i>Jamboard</i>	An online interactive whiteboard system used as a tool to support the user workshops
<i>Padlet board</i>	An online 'notice board' used as a tool to support the user workshops

Table 3: Glossary of dimensions

Term	Definition
<i>Components</i>	The tangible items which make up an open schooling project and enable it to happen, e.g. a visit, a guideline or a film. A key dimension of open schooling
<i>Dimension</i>	A central aspect or feature of open schooling
<i>Element</i>	Essential parts of open schooling projects which can be grouped into dimensions
<i>Location</i>	Where open schooling happens. A key dimension of open schooling
<i>Qualities</i>	The features and benefits of an open schooling project. A key dimension of open schooling
<i>Role</i>	The function assumed or part played by a person in the learning/open schooling experience. A key dimension of open schooling
<i>Timing</i>	In open schooling terms timing includes scheduling (i.e. inside or outside the school day) and whether the project is long or short term. A key dimension of open schooling

2. Methods

2.1. Mapping user insights

User insights were gathered via a series of workshops attended by teachers, learning providers and host venues with an interest in open learning programmes. These were conducted online due to Covid-19 restrictions.

Eleven workshops across five countries, working to the same structure, scripts and documentation approach, were conducted with between 5 and 12 attendees per workshop.

The workshops used a range of tools and techniques to encourage participants to share their experience, ambitions, and views on open schooling. Surveys and online tools such as Padlet boards and Jamboards, enabled attendees to contribute unmediated by the facilitators.

Specifically these stakeholder workshops worked to map participants:

1. Understanding of the term open schooling and description of what elements it comprises
2. Ambitions and barriers in adopting open schooling in the future
3. User journeys, i.e. what activities and processes they expect to undertake in planning, delivering and evaluating an open learning programme.

2.2. Mapping existing publicly available open schooling programmes

Desktop research was undertaken to better understand the parameters of open learning and open schooling projects. Through taking a representative sample of projects and mapping their components and characteristics relative to each other it was possible to log the tools and common approaches of open schooling programmes, identifying patterns and models, interesting outliers and evidence of innovation.

This exercise targeted 100 STEM or STEM related publicly available open schooling programmes as a sample, and was intended as a fast creative exercise to provide broad insights and drive ideas rather than a reliable quantitative research piece.

Sources included awards programmes (e.g. Royal Academy of Engineering Ingenious Awards), research awards (e.g. Horizon 2020) and aggregators for teaching resources (e.g. STEM Learning). Inclusion was on the basis of scoring against the open schooling dimensions of:

- 1) LOCATION (*physical*): extending the learning environment beyond the school walls
- 2) ROLES (*teaching*): others taking on the teaching role
- 3) RESOURCES (*learning*): learning initiated and/or supported through other means
- 4) ENGAGEMENT (*well-being*): creating opportunities and purpose through engagement with the wider world
- 5) TIME: happens inside or outside of school hours

From an initial set of fields which referenced these dimensions, further fields were added to capture further detail otherwise lost. A series of prioritisation exercises, using scoring, tagging and examining correlations between fields, explored the usefulness of each of the fields.

These exercises worked to identify the most useful dimensions of open schooling, on the basis that they were coherent, meaningful and distinct from the other dimensions.

2.3. Creative development of user centred templates

Informed by the user insights and building on the desktop research, a set of use cases was established that revealed key ‘entry points’ for our users; situations which can lead our target users (teachers) to consider running an open schooling project. Examples include availability of funding; a desire to change the atmosphere and get out of the confines of a classroom; or an interest in working in partnership with a local community (see Table 4) . With these use

cases in mind a series of creative workshops were the vehicles for building a useful framework which can describe open schooling.

A series of diagrams and visualizations served to establish and refine a framework. It was conceived as a tool, proposing a shared vocabulary to describe and build open schooling projects. Workshops with the extended Make it Open Team (specifically the Bloomfield Science Museum team) were held to discuss our findings and test different approaches to making the findings useful and usable.

A final set of 6 dimensions were developed as the basis for final use within templates.

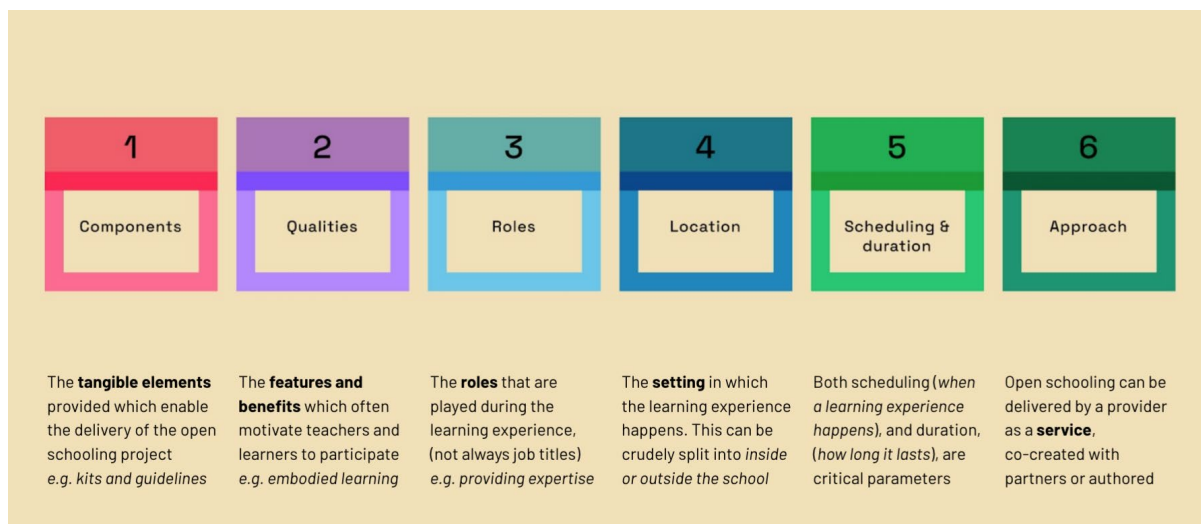


Figure 1: The final open schooling dimensions and their definitions

Table 4: Examples from partner organisations of potential use cases for user centered delivery templates

Strategic use cases	Opportunistic use cases	Content or experience driven use cases
I want to test open schooling's potential value to our school	There's a funding pot to encourage working with the community	I need to teach a unit on pollution and would like to bring it to life
To get parents more involved with the learning experience	There's a partner who is interested in deepening their involvement with the school	To strengthen [mathematics] skills
To strengthen the connection of the schoolchildren with their community	There's a parent who's a scientist who's keen to get involved	To connect our classroom to the professional world of work
To raise the profile of the school in the area and increase student recruitment	There is an event in the community calendar that the school can connect into	To change the atmosphere and get out of the confines of a classroom
Empowering students to be part of lifting the neighbourhood	National or municipal funding for projects such a "space week"	To get access to tools and equipment
Growing the self esteem in the students (towards a more positive self-image)	Companies approaching the school with an assignment	Provides learning opportunities for different topics in the curriculum
Build relationship with parents to support instances of increased learning at home	A competition	Students identifying problems [in the neighborhood] and fixing it
	Covid means more of the learning happens remotely, and with social distancing conditions - how can open schooling help?	Students identifying and fixing their own problems
	To connect with other schools	

3. Findings

3.1. Initial research

Workshop attendees generally shared positive experiences of open schooling in the past and had ambition for similar open schooling formats for the future. In spite of a firm belief in the benefits of open schooling, significant barriers to the adoption of open schooling emerged consistently across workshops, including practical and logistical barriers. Through the course of the workshops it became apparent that there is no consistent shared understanding of what open schooling is.

The workshops identified a need for significant support for schools and partners to devise, shape and plan their open schooling projects, particularly those making their first steps into open schooling. They highlighted a range of issues which either are or could be barriers to open schooling and located them within the timeline of the open schooling project (see Annex Table A1). The process clearly signposted the need for practical tools, including strategic tools for organisational or cultural change, and straightforward templates, such as consent letters for parents.

Desktop research illustrated the wide variation across and within open schooling projects. This breadth creates issues and barriers to adoption; it makes projects challenging to understand and gain support for and limits reusable resources and skills.

The attempts to categorise open schooling projects and programmes failed to identify any clear typology in existing open schooling projects and programmes. Refined several times during the research period, the following dimensions were felt to most usefully describe open schooling projects (also see Figure 2):

- | | |
|----------------------|--|
| 1. Components | The tangible elements which make up the open schooling project and enable it to happen |
| 2. Qualities | The features and benefits of the open schooling project |
| 3. Roles | Roles played in the learning/open schooling experience |

4. Location	Whether the project happens on or off the school site
5. Timing	Capturing detail about both scheduling (in the school day or outside the school day) and whether the project is long or short term.
6. Approach	The nature of different provider types e.g. full service or DIY

3.2. Identifying an open schooling typology or service delivery model

As stated, no clear patterns or affinities between the open schooling dimensions emerged through the course of analysis. For example, a competition or challenge (which might at first appear to be a type of open schooling project) can consist of a wide variety of components, can happen in different locations, and be on different time bases. The fact that a project is a competition reveals little about what form it might take or what resources or skills are required to deliver it. In other words, it does not form an open schooling delivery model.

Further attempts to categorise projects and programmes to establish a typology were unsuccessful, though there were some significant insights. For example, it was found that open schooling programmes are as often located on the school site and run inside the school day, as off site and off timetable.

One tentative conclusion is that open schooling can be considered as a culture, with a wide vocabulary of behaviours and tools, which come together in a wide range of combinations. In this sense, it is mutable and adapted according to context, rather than a model which is adopted and repeated. This finding could explain the workshop findings around barriers to adoption in the early stages of planning open schooling projects; if every project is different, the diversity of options can be confusing and daunting to the user.

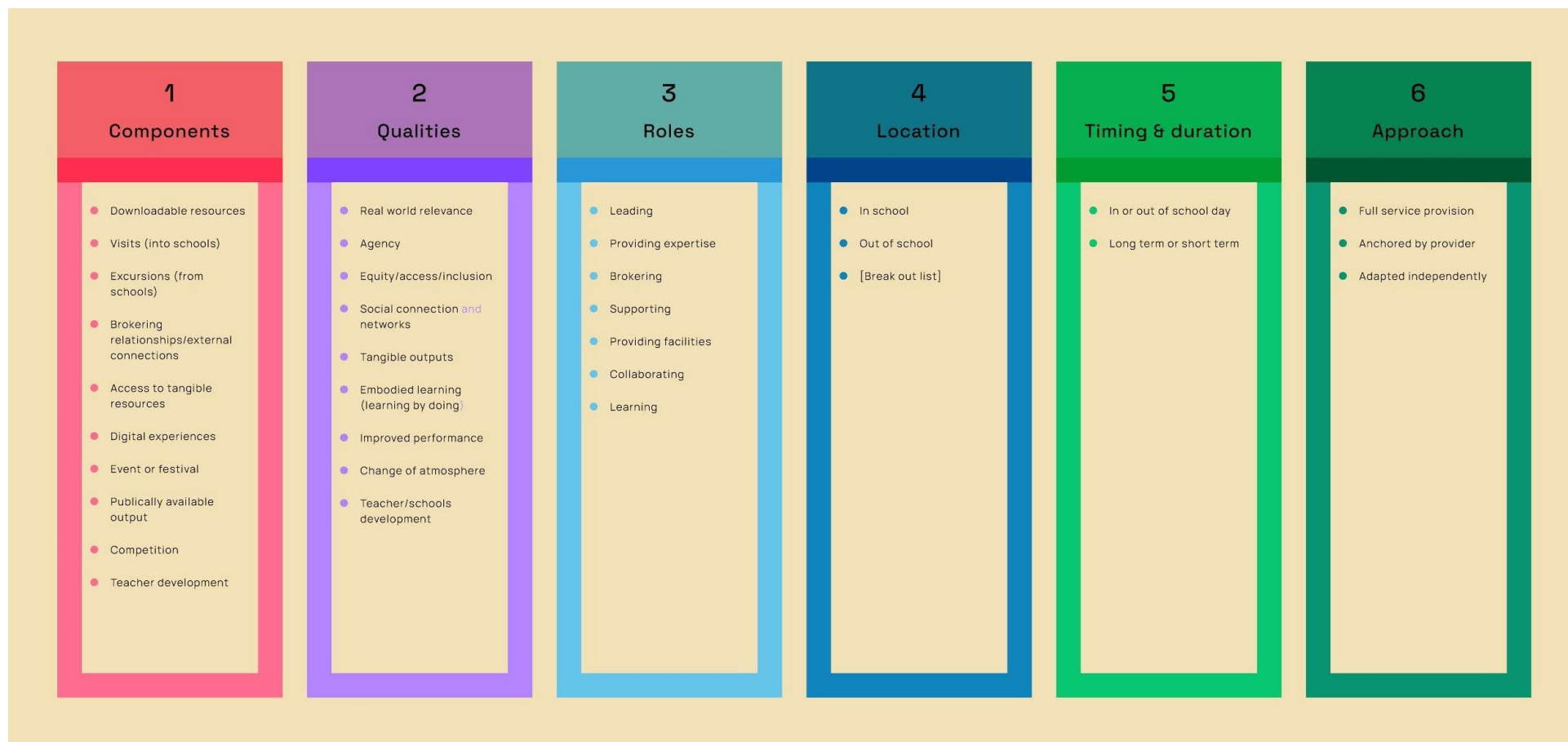


Figure 2: The final open schooling dimensions and their elements

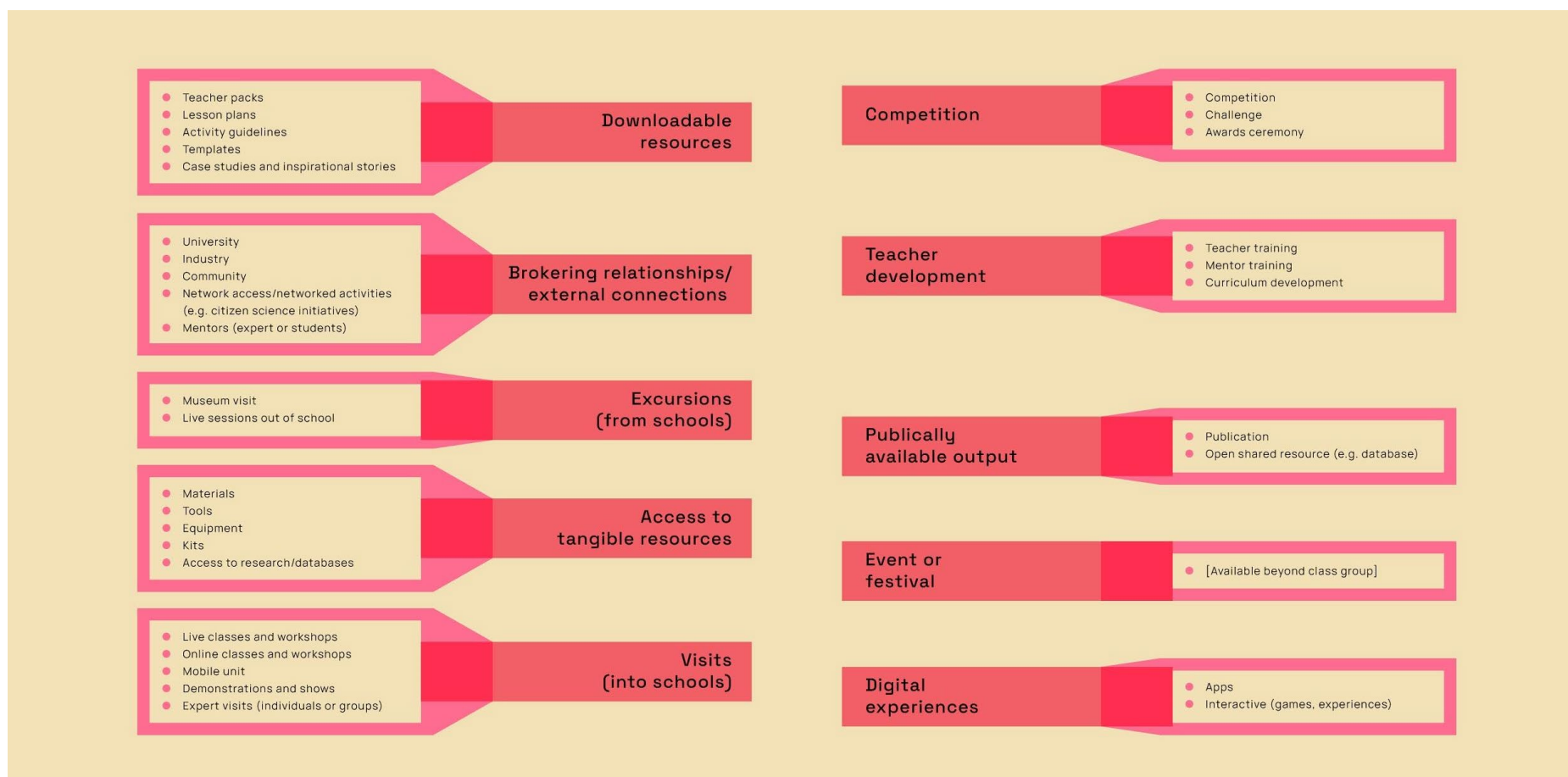


Figure 3: The breakdown of the Components dimension - the tangible items which make up an open schooling programme

3.3. The user centred delivery templates

The user centered delivery templates proposed are structured around the open schooling dimensions.

3.3.1. A menu of templates

A small set of these templates are illustrated in a menu form to convey how a user might explore their possible open schooling project (Figure 4). Of the open schooling dimensions and their elements, *components* were the most tangible and recognisable dimension and, therefore, likely to be the most accessible, appealing and effective dimension for schools to use. Consequently *components* form the starting points for a menu of templates.

Considering strategic, opportunistic, or content driven ‘use cases’ (i.e. considering users motivations) can help inform the selection of an option within the menu.

3.3.2. The open schooling delivery template

The template itself includes the dimensions with their associated options (Figure 5). It also includes prompts in areas beyond the dimensions, which were found to be relevant to the building of open schooling programmes during the research process:

- *First steps*: to accommodate the varying entry points to open schooling activity
- *Long term goals*: to recognise the long term journey of schools from their first steps into open schooling to open schooling confidence and finally a culture of open schooling
- *Planning tips*: to engage with the practicalities and avoid duplicated and wasted work
- *Content and curriculum pointers and MiO scenarios*: to support teachers needs for direct relevance to curriculum requirements and assessment goals

Importantly the templates are not complete tools in their own right; rather they are intended as starting points for further work, or as complementary to other tools for teachers to create open schooling projects (Figure 5).

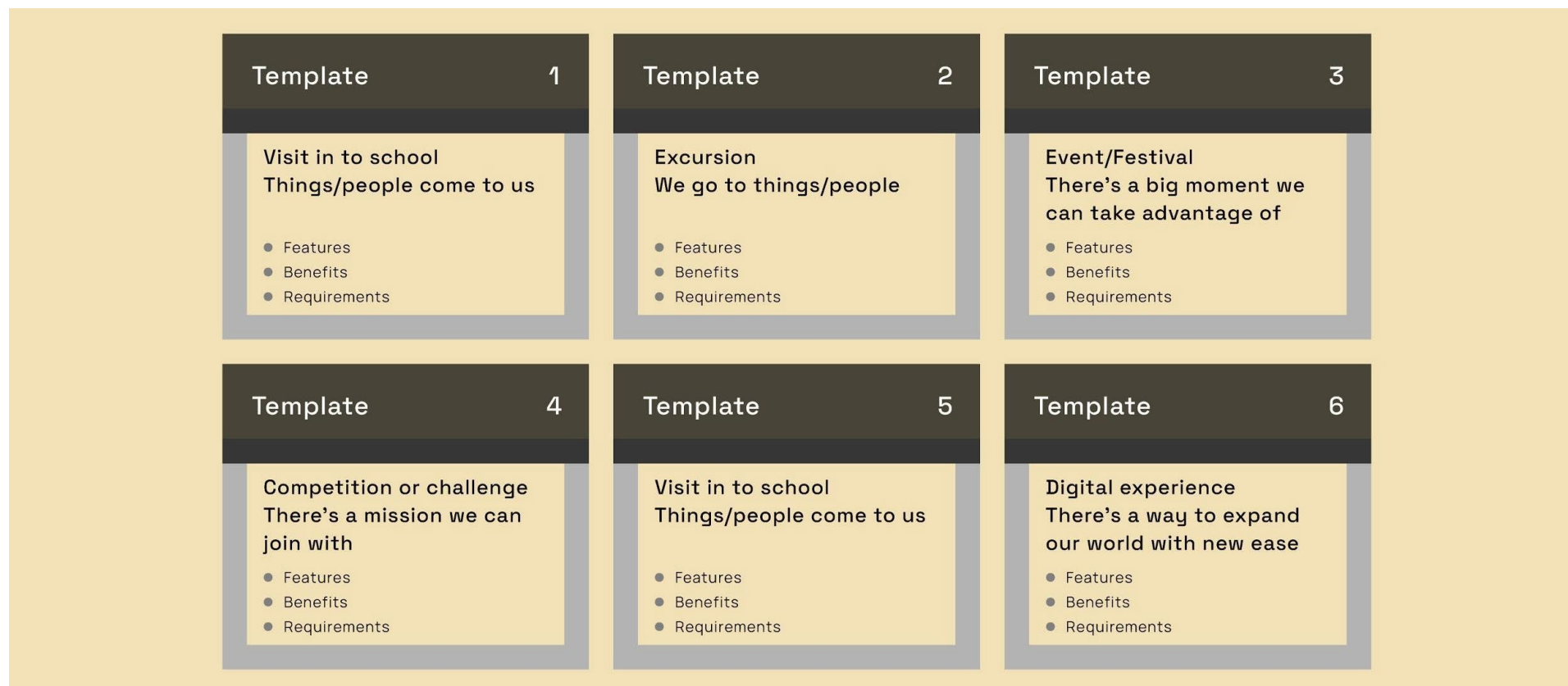


Figure 4: A set of 4-6 templates will describe a range of open schooling options for a user

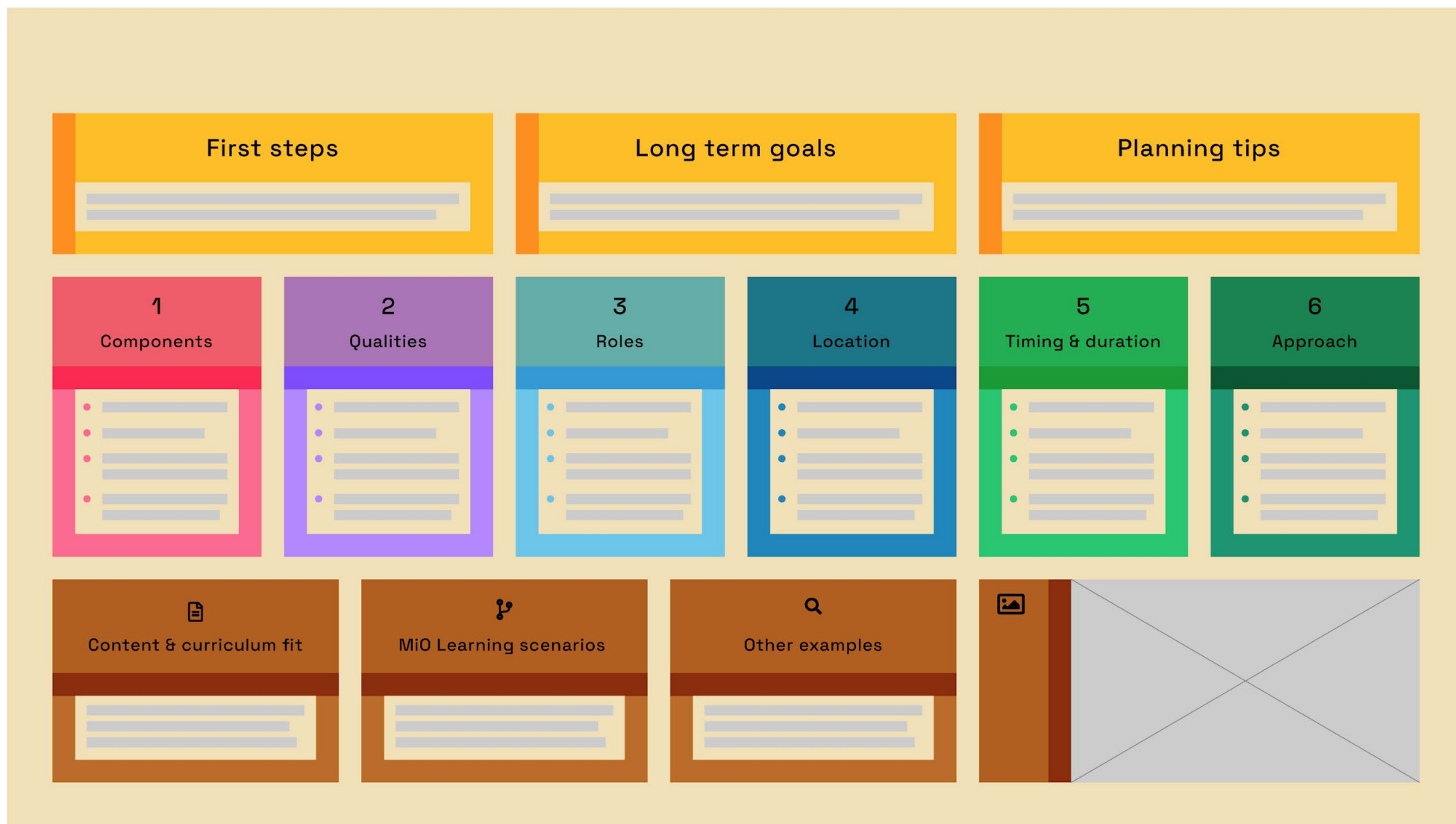


Figure 5: Example open schooling template as a graphic

4. Discussion and conclusions

The initial research identified a wide variety of open schooling programmes, and revealed that schools and partners need significant support in devising, shaping and planning their open schooling projects. Further analysis found no clear models or types of open schooling, something which is a barrier to adoption and equally a challenge to the creation of user centred templates.

The open schooling dimensions which were created in the course of analysis have the potential to provide an alternative approach. By establishing a framework for understanding the components which make up an open schooling project or programme, they can become useful as recipes, prompts, checklists, and other tools for the creation of new activities.

User centered delivery templates are tools to help teachers and stakeholders understand options, communicate with others, and create tailored objectives which match their own school needs and resources. These templates capture the central elements of any open schooling project and so serve to kickstart the work of devising an open schooling project.

4.1. Future use and development

The user centered delivery template formed for this deliverable can be used in a number of ways:

- *to support communication:* as an illustration or case study as an entry point to the options available within open schooling with teachers and stakeholders
- *to support decision making:* by exploring the practical commitments and potential benefits brought by different open schooling options
- *to support planning:* through use as a blueprint for tailoring specific open schooling projects.

Since the templates acknowledge the process, timeline and barriers to delivering an open schooling programme (all related to the planning stage of open schooling projects; a major concern and barrier of workshop attendees - see Annex Table A1), the templates will be a particularly useful tool for teachers and stakeholders who are less confident in creating open schooling projects.

5. Annex

Table A1: A ranked list of the concerns that attendees noted relating to their open schooling experiences

Task	Problems/ concerns	Solutions (discussed during workshops)
Project planning	Need guidance	<ul style="list-style-type: none"> - Ask experts for advice - Start with creating a clear objective/ theme - Plan with project partners
Developing project team and roles/ Identify what is needed from a partner	<p>How to create and maintain partner relationships</p> <p>Avoiding uneven workloads</p>	<ul style="list-style-type: none"> - Make sure to have a shared agenda - Regularly update the team on project (weekly) - Find like minded colleagues who can collaborate and assist with the project - Participation should be voluntary (parents, helpers and partners) - Show the benefits of partner participation - Have localised partners which can advocate and support the project - Have mixed people from different backgrounds to represent the local community - For schools, recruit a group of teachers which divide and agree on responsibilities - Make sure to have resilient, dedicated and passionate teachers to maintain motivation and completion of project
Project consent	Changing perceptions of school culture, learning and traditions by teachers, principles, community, parents and students	<ul style="list-style-type: none"> - Parents: engage if the goal and the product are related to future opportunities for children - Teachers: engage when projects offers opportunities on their CV - Principle: engage if sees the value of open schooling. Show how this will not impact Ofsted - All: engage when given good examples of open schooling and its outputs - Students: need routine and structure so will engage after open schooling is more established
Project practicalities / risk assessment	Need to relate to the curriculum	N/A

Project funding	<p>Partner relationships can affect funding success (one host had funding turned down because they and their partner had a new relationship and the funder wanted a deeper, longer relationship with the activity co-created)</p> <p>Timing between funding rounds and timetables</p>	<p>- Use existing networks</p> <p>N/A</p>
Project timeline/ time frame	Students busy with regular lessons	N/A
Workshop materials	Unsure what counts as 'open schooling'	N/A

Open Schooling Planning Template

Planning a visit based programme

Use this form when you're initiating the process to make decisions about the form of your open schooling project or programme. Fill it in with your stakeholders.

1. Why are you interested in open schooling? What are your priorities?

(e.g. I want to test Open Schooling's potential value to our school; There's a funding pot to encourage working with the community; I need to teach a unit on pollution and would like to bring it to life)

I want to test Open Schooling's potential value to our school.

First steps? Start here

- Links to guidance

Already confidently open schooling? Start here

- Links to guidance

What components do you want to include? (Tick all that apply)

(the tangible products and services which support an open schooling programme)

- ☐ Downloadable resources
- ☒ Visits (into schools)
- ☐ Excursions (from schools)
- ☒ Brokering relationships/external connections
- ☐ Access to tangible resources
- ☐ Digital experiences
- ☐ Event or festival
- ☐ Publically available output
- ☐ Competition
- ☐ Teacher development

3. What qualities do you want to include? (Tick all that apply)

(the features and benefits the Open Schooling programme can deliver)

- ☒ Real world relevance
- ☐ Agency
- ☒ Equity/access/inclusion
- ☒ Social connection and networks
- ☐ Tangible outputs
- ☐ Embodied learning (learning by doing)
- ☐ Improved performance
- ☐ Change of atmosphere
- ☐ Teacher/schools development

4. Who will be involved and what roles will they play?

(the identities and job titles who will be involved in the students' learning experience)

- ☐ Leading

<input checked="" type="checkbox"/> Providing expertise <input type="checkbox"/> Brokering <input type="checkbox"/> Supporting <input type="checkbox"/> Providing facilities <input type="checkbox"/> Collaborating <input type="checkbox"/> Learning
5. What is the ideal location of your open schooling programme? (Tick one) <input checked="" type="checkbox"/> In school <input type="checkbox"/> Out of school
6. What is the ideal time and duration of your open schooling programme? (Circle 1 option for each row) - <input checked="" type="checkbox"/> In or out of school day - Long term or <input checked="" type="checkbox"/> short term
7. What is the ideal approach of your open schooling programme? (Tick one) <input checked="" type="checkbox"/> Full service provision <input type="checkbox"/> Anchored by provider <input type="checkbox"/> Adapted independently
Make it Open Learning Scenarios based on a visits
Example providers and programmes that focus on visits into schools
Inspiration

Figure A1: Example of user centred delivery template as a form for teachers to use, based on Figure 5