



CommNet

Developing education resources for schools – a guide



CommNet



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This document is designed to provide guidance for projects wishing to plan and develop educational resources for schools. There is overview that looks at how children learn together with practical points for consideration.

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1. About Learning

The word education comes from a Latin word **educare** which means **to bring out that which is within**.

The average concentration span for pupils is their chronological age plus two minutes. Everyone learns more at the beginning of a lesson because concentration is higher, and there is usually an element of anticipation. If pupils are asked to sit and listen for a long time they lose concentration, stop learning and may misbehave.

It is therefore important that educators plan and use teaching resources effectively. The guidelines give an overview of the important points to take into consideration when planning and developing resources for pupils.



Learning Styles

Everyone, young or old has a preferred learning style. There are three main learning styles:

Visual learners	Auditory learners	Kinaesthetic learners
Some pupils like to see pictures and diagrams, moving images and colour.	Some pupils like to hear sounds and voices.	Some pupils like to do things practically, move around and use touch to learn.

We use a combination of these learning styles but most pupils will prefer one or perhaps two of these styles. If pupils learn to use different learning styles, their learning will improve. It is not unusual to use different learning styles for different tasks. That is why pupils can respond so differently to the same thing.



2. Thinking and learning

Research has shown that there is a lot we can do to help pupils to learn to be better thinkers. Pupils need to be able to judge, analyse and think critically. They also need to think clearly and creatively and be able to use information to solve problems. If we allow them time to reflect on their tasks and to challenge ideas, they will be able to deepen understanding.

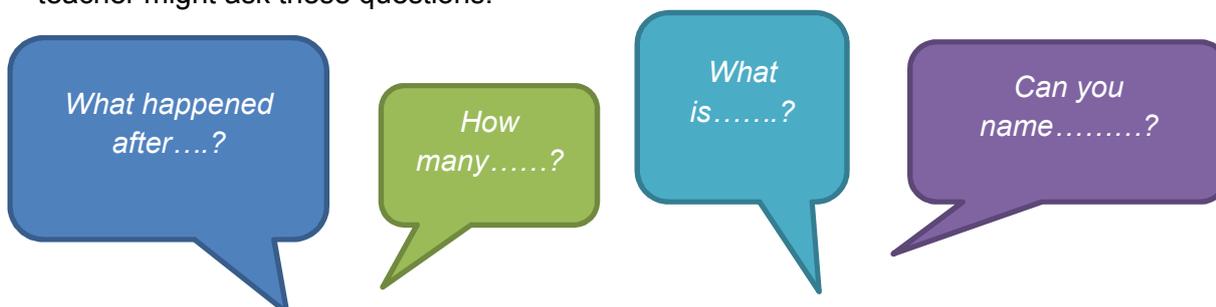
There are different levels of thinking skills, lower order and higher order thinking. Pupils are usually unaware they are using lower order skills, however when higher order thinking skills are being used, the pupil is aware that they are thinking (meta-cognition), this is because it takes a greater cognitive effort to perform higher order thinking; it is more complex.

Lower order thinking skills	High order thinking skills
Remembering	Analysing
Understanding	Evaluating
Applying	Creating

Lower order thinking skills

a) Remembering: *recognising, listing, describing, retrieving, naming, finding*

Pupils are able recall relevant knowledge from their long term memory. So for example, the teacher might ask these questions:



Resources, activities and products the teacher might use include:

- Definition
- Fact
- Label
- List
- Quiz or test
- Reproduction
- Test
- Workbook
- Worksheet.



b) Understanding - *interpreting, summarising, paraphrasing, classifying, explaining*

Pupils grasp the meaning of information by interpreting and translating what has been learned; in effect they make sense of what they have learnt.

The teacher might ask these questions:



Resources, activities and products the teacher might use include:

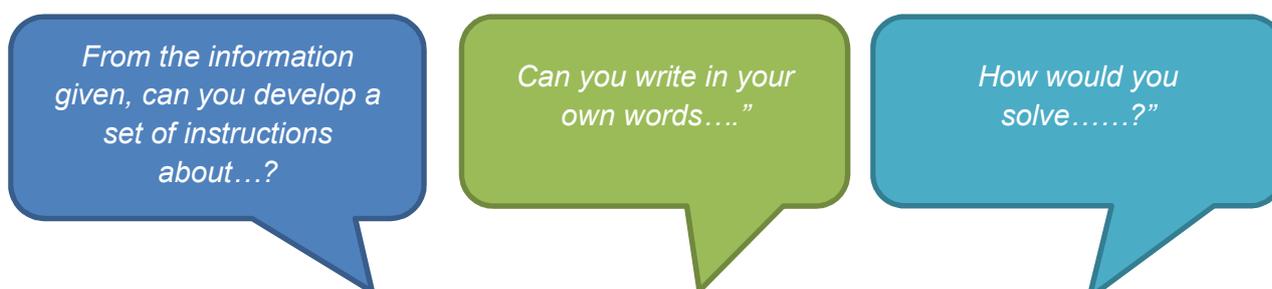
- Collection
- Example
- Explanation
- Label
- List
- Outline
- Quiz/Test
- Recitation
- Show and tell
- Summary.



c) Applying - *implementing, carrying out, using, executing*

Pupils are able to use the information they have learned in another familiar situation.

The teacher might ask these questions:



Resources, activities and products the teacher might use include:

- Demonstration
- Diary
- Illustration
- Interview
- Performance
- Presentation
- Quiz/Test.



Higher order thinking skills

d) **Analysing - comparing, organising, deconstructing, interrogating, finding**

Pupils are able to break down the concept or knowledge into parts and understand how each part related to one another.

The teacher might ask these questions:



Resources, activities and products the teacher might use include:

- Abstract
- Chart
- Checklist
- Database
- Outline
- Quiz/Test
- Report
- Spread sheet
- Survey.



e) Evaluating - *checking, hypothesising, critiquing, experimenting, judging*

Pupils are able to make judgements based on a set of guidelines or criteria.

The teacher might ask these questions:



Resources, activities and products the teacher might use include:

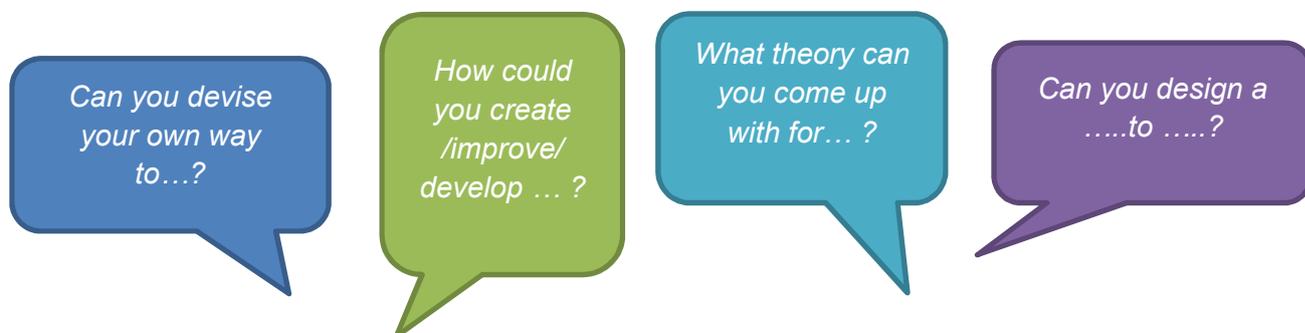
- Conclusion
- Debate
- Evaluation
- Investigation
- Panel
- Quiz/Test
- Report
- Portfolio
- Verdict.



f) Creating - *designing, constructing, planning, producing, inventing*

Pupils are able to put together information in an innovative way and build new ideas.

The teacher might ask these questions:



Resources, activities and products the teacher might use include:

- Advertisement
- Film
- Media product
- New game
- Painting
- Plan
- Portfolio
- Project
- Story.



Consideration

It is useful to remember the different thinking and learning skills when planning and developing teaching and learning resources. They can be used as part of a checklist to ensure the resources aid pupils' learning in order to develop the desired capabilities and outcomes for them.



3. Ages and stages

CommNet divides the age range of pupils into four phases:

- Phase 1: 5 – 8 years
- Phase 2: 8 – 11 years
- Phase 3: 11 – 14 years
- Phase 4: 14 – 16 years

It is essential that resources and activities developed for pupils are age appropriate and most importantly are suitable for the stage of learning. It is also important to remember that some pupils will have special educational needs. There may be some pupils for whom learning is more challenging and equally those whose learning is more advanced than their chronological age.

Practical points

It is important to consider the developmental age and stage of the pupil when planning to ensure the learning resources are suitable. The pupil must be able to understand (with guidance) and engage with the resources or activity to achieve the desired learning outcomes. It is good practice to identify the learning outcomes at the start of the planning process.

The following indicate only general developmental stages but give an indication of what might be expected at each age phase.

Phase	Expectation
Phase 1 pupils:	<ul style="list-style-type: none">• Like to debate and reason and use words like "because".• Recognise categories.• Are project minded – they plan building, play scenarios and drawings.• Use a sentence length of approximately 6-10 words.• Draw pictures that represent animals, people and objects. Can colour within lines.• Sequence numbers.
Phase 2 pupils:	<ul style="list-style-type: none">• Can focus attention and take time to search for necessary information.• Have accumulated a lot of general knowledge and have gradually developed the ability to apply learned concepts to new tasks.• Have a well-developed understanding of time and number concepts.• Use complex and compound sentences easily.• Are capable of concrete problem solving.• Are able to work as part of a team, sharing ideas and valuing/evaluating the ideas of others.
Phase 3 pupils:	<ul style="list-style-type: none">• Begin to think logically: identify and reject hypotheses or possible outcomes based on logic.• Develop systematic problem solving: can attack a problem, consider multiple solutions, and plan a course of action.
Phase 4 pupils:	<ul style="list-style-type: none">• Demonstrate continued growth of capacity for abstract thought.• Develop greater capacity for setting goals.• Develop an interest in moral reasoning.

Creating your own resources – a checklist

Use this checklist as a guide to help plan and develop your resources.

Curriculum	✓
<ul style="list-style-type: none"> Investigate the curriculum that is used by schools in your Member State. There may be specific requirements nationally, regionally, locally or at school level that must be followed. 	
<ul style="list-style-type: none"> Find out if there are any non-statutory guidelines that relate to the topic or subject you are working on. 	
<ul style="list-style-type: none"> Use the resources developed by CommNet to support Education. These include a competence framework, support resources for schools and case study materials. commnet.eu 	
<ul style="list-style-type: none"> Investigate the European Food Framework. The framework is a set of competences for young people aged 5-16 years, relating to diet (food and drink), active lifestyles and energy balance. 	
<ul style="list-style-type: none"> Think about the amount of curriculum time that will be needed for the resource or activity. It must be realistic and be able to support and/or compliment curriculum requirements. 	
<ul style="list-style-type: none"> Consider any other resources the school might need to undertake the activities. What are the cost implications? 	
<ul style="list-style-type: none"> The resources and/or learning activities are up to date, consistent. 	
<ul style="list-style-type: none"> The resources/learning activities are not subjective but are based on evidence. 	
Resources	
<ul style="list-style-type: none"> Use appropriate images and other visual stimulus; the resources should be visually appealing. Check they are age appropriate. 	
<ul style="list-style-type: none"> Use appropriate vocabulary for the age phase. Check any technical vocabulary. 	
<ul style="list-style-type: none"> Do not over complicate or make sentences too long. 	
<ul style="list-style-type: none"> Look at the types of activities and resources that help to develop the different levels of thinking and learning. Try to ensure that the resource supports at least one of these skills. 	
<ul style="list-style-type: none"> Are there some interactive activities for the pupils? They help engage pupils' interest and encourage problem solving skills. 	
<ul style="list-style-type: none"> Think about the font type and size. Generally fonts should be rounded, allow for space between letters, reflect ordinary cursive writing. 	
<ul style="list-style-type: none"> Avoid dense blocks of text. 	

4. Resources for learning

There are many different types of resources and activities that can support pupil learning. Here are some examples:

Resource	How the resource may help teaching and learning
Titles for discussion/debate. Information sources and investigation. How to plan and organise a formal discussion or debate.	Encourages the development of language skills and the need for co-operation and collaboration. Research and planning skills.
Workbook or worksheets. Quiz.	Pupils recall and interpret knowledge. They understand knowledge. Use investigative and research skills.
Case study – to help provide information which can be used to illustrate or analyse a principle or process.	Encourages the pupils to apply knowledge learned to other situations. They will analyse information and begin to draw conclusions.
Posters or other display material.	Add visual interest to the topic. Help keep the pupils focussed on the message.
Assembly resources, e.g. presentation, photographs, artefacts.	Provides the teacher with up to date, unbiased resources and information on a specific topic. May be used with specific age groups or as a whole school resource.
Board games, card games or other games.	Helps the pupils learn through playing games and learn about games. Encourages thinking skills and problem solving.
Electronic presentations with accompanying notes.	Can provide pupils with ideas/materials they would not otherwise see. Uses images and animations for impact.
Video or DVD.	Video clips/DVD help to engage pupils and bring lessons to life. They can be instructional videos, projects which the pupils record or videos show recorded presentations/experiments.
Online webinar or podcast.	Enables the pupils to gain information from other adults in a different environment, e.g. a science laboratory or food manufacturer. Opportunity to 'ask the expert' questions.
Interactive learning resources.	Can be used on electronic whiteboards. Pupils can participate in active learning.