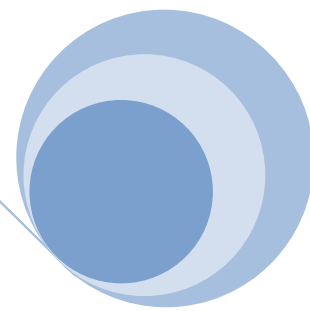


ECARDA

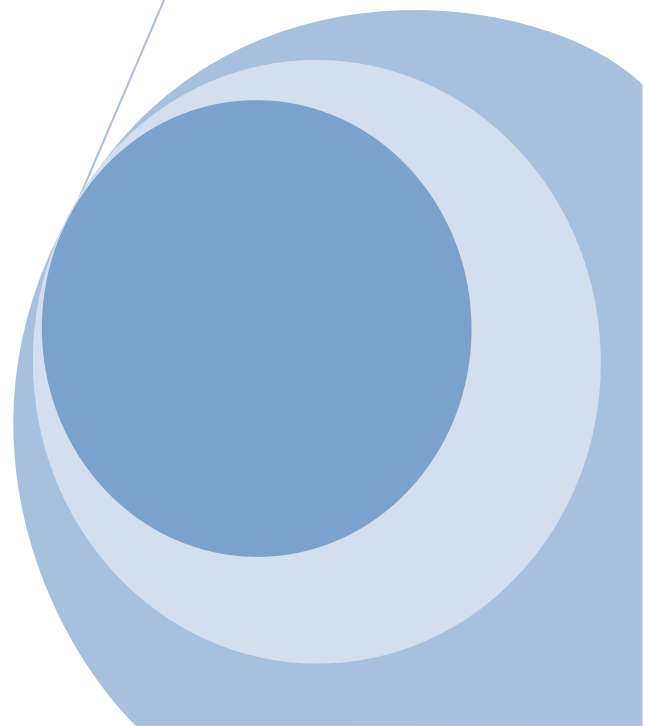


A Curriculum for Learning

A staircase to deeper learning

This paper brings up to date some work undertaken by teachers who were keen to develop progression pathways that could sit alongside a content curriculum. Instead of learning more content, teachers developed materials that would allow for a deeper exploration of that content leading to more profound understanding and confidence in application.

Peter Lacey
November 2018



'A Curriculum for Learning'

(CfL)

A progression staircase to deeper learning

A small scale collaborative research and development
project

‘A curriculum for learning (CfL)’

This project, initiated in 2007 and refreshed in line with the revised National Curriculum in 2014, came from a primary school’s evaluation of its curriculum and the way it was learnt and taught.

It is relaunched in 2018 in response to requests for materials to support autonomous, deeper and more secure learning.

Though the school consistently achieved high outcomes, it was not convinced that its pupils left the school as confident and independent learners.

The project broadened the focus of teacher planning and pupil learning onto those skills which are to do with awareness of learning and on to those attitudes that motivate and sustain independent learning.

This did not mean the school neglected the acquisition and application of knowledge, skills and understanding. It did mean that it made explicit the ways in which knowledge, skills and understanding are acquired. By doing this, the school drew attention to and made learners aware of their learning.

Learners who have learnt how to learn have no limits on the possibilities of their future achievement and they leave their school as empowered learners.

As a well-known Chinese proverb says:

Give a man a fish and he will eat for a day.

Teach him how to fish and he will eat for a lifetime.

This project is invitational and inclusive. Schools and colleges from all phases may join this project to see how it might benefit teaching and learning in their own institutions. We do ask that the materials are recognised as at 'trial stage' and therefore not for publication or wider circulation. We do ask that you send progress and feedback reports to ECARDA™, who is managing this research project, so that your advice and recommendations can be built in to the development.

These materials were formulated by teachers for teachers.

Feedback from schools involved in this research project may be published on the ECARDA website.

A PowerPoint presentation accompanies this set of working papers.

For more information contact CfL@ecarda.co.uk

Description of a ‘curriculum for learning’

The curriculum may be seen in three-dimensions:

- The affect domain that relates to emotional-social factors.
- The process domain that refers to thinking, working or learning skills.
- The cognitive or content domain that refers to knowledge and understanding.

There is almost a sequence here. Given that only the learner can learn, there needs to be a climate in which that learning is safe, motivated, nurtured, sustained, extended, supported, recognised and valued. (Features of the affects)

Once engaged, learners need to develop the skills and habits that allow them to become independent learners through enquiring, reasoning, exploring, analysing, generalising, specifying examples and evaluating. (Features of the processes)

These processes lead towards the acquisition of knowledge, skills and understanding. (Features of the cognitive or content domain)

Typically, the affects and processes overarch, or are embedded across the curriculum, whilst the knowledge and understanding are more usually expressed within “subjects” and often described as the subject content.

Broad sequences of progression for subject-related knowledge, skills and understanding (the concept or content domain) are already presented in the form of National Curriculum end-of-year, or end-of-key stage, age-related expectations, examination grade descriptions and level-related specifications.

This paper starts to sketch out ideas of progression across the process and affect domains. For each of the four *steps* of each of the seven *aspects* of the *process domain*, descriptors are presented that suggest behaviours or activities typical of a learner at that step. Similarly, descriptors are presented for four *steps* within each of three *aspects* of the *affect domain*.

These steps offer a staircase from a planned piece of subject content into greater depth and/or mastery.

Affect domain

A1 [Self-motivating](#)

Confidence and positive attitudes

A2 [Collaborating](#)

Co-operation and interdependence

A3 [Persisting](#)

Independence

A1 Self-motivating (confidence and positive attitudes)

step 1	<ul style="list-style-type: none"> ▪ With encouragement learners participate in discussions ▪ When prompted they volunteer to answer questions directed at the whole group ▪ With direction they initiate lines of enquiry and undertake tasks ▪ They use resources that have been selected for them ▪ With frequent feedback and interventions, they sustain lines of enquiry and work through tasks
step 2	<ul style="list-style-type: none"> ▪ Learners participate in discussions ▪ They begin to volunteer to answer questions directed at the whole group ▪ They begin to engage with tasks independently ▪ They begin to initiate their own lines of enquiry ▪ They begin to identify and secure the resources they may need to sustain a task or line of enquiry
step 3	<ul style="list-style-type: none"> ▪ Learners participate in discussions, occasionally taking the lead ▪ They regularly volunteer to answer questions directed at the whole group ▪ They regularly engage with tasks independently ▪ They initiate their own lines of enquiry and begin to sustain them over extended periods ▪ They see tasks and lines of enquiry through to their conclusion
step 4	<ul style="list-style-type: none"> ▪ Learners stimulate, lead and actively participate in discussions ▪ They are eager to volunteer answers to questions directed at the whole group ▪ They challenge assertions and extend questions asked of them ▪ They tackle tasks with enthusiasm, planning their execution and identifying and securing the resources they will need ▪ They initiate their own lines of enquiry and sustain them over long periods of time ▪ They critically evaluate the outcomes of their work as well as their approaches to it ▪ They seek and relish challenge and go out of their way to extend tasks to find it ▪ They demonstrate an infectious interest in their work

A2 Collaborating

step 1	<ul style="list-style-type: none"> ▪ When prompted learners discuss with others how they may work together to undertake tasks ▪ With help and encouragement, they work with others to complete straightforward tasks ▪ They listen and respond to the views of others
step 2	<ul style="list-style-type: none"> ▪ When in groups learners assume roles determined by the teacher or adult leader ▪ They help the group work towards achieving the task objectives ▪ They choose to work with others when they themselves need to solve problems and complete tasks
step 3	<ul style="list-style-type: none"> ▪ Learners begin to decide how roles and sub-tasks might be allocated across a group in order to tackle a problem or undertake a multi-stage task ▪ They contribute by offering ideas and listen to the ideas of others as appropriate ▪ They choose to work with others in order to help others to solve problems and complete tasks ▪ When asked about the effectiveness of their collaboration they explain what worked well and what could be improved
step 4	<ul style="list-style-type: none"> ▪ When in groups learners determine and agree roles that are fit for purpose, allocating sub-tasks where appropriate ▪ Their contributions are focused on helping the group to achieve task objectives or outcomes ▪ They take care to include all members of the group ▪ They assume and share leadership roles as appropriate ▪ They review roles and the allocation of sub-tasks ▪ In evaluating the task outcomes, they also evaluate the effectiveness of their collaboration ▪ In whole-class discussions they contribute to teacher-learner and learner-learner discussions

A3 Persisting (independence)

step 1	<ul style="list-style-type: none">▪ With encouragement learners sustain a task or line of enquiry beyond its initiation▪ They ask questions that clarify the task objectives and help them progress through the task▪ When encountering difficulties, they seek help from others in order to continue the task or line of enquiry
step 2	<ul style="list-style-type: none">▪ Learners independently sustain a task beyond its initiation▪ When encountering difficulties, they identify with help the intermediate questions and tasks that need to be addressed in order to overcome these difficulties▪ Having dealt with the intermediate questions and tasks they return to the substantive task or line of enquiry
step 3	<ul style="list-style-type: none">▪ Learners independently sustain a task or line of enquiry beyond its initiation and with encouragement they see it through to its conclusion▪ When encountering difficulties, they identify intermediate questions and tasks that need to be addressed in order to overcome these difficulties▪ They begin to set aside problems when they encounter difficulties and return to them later
step 4	<ul style="list-style-type: none">▪ Learners independently sustain a task or line of enquiry through to its conclusion▪ When encountering difficulties, they tackle these independently and/or with other learners calling on adult help only after exhausting their own resources▪ They routinely set aside problems when they encounter difficulties and return to them later▪ In reflecting on and evaluating the task outcomes they also evaluate their own persistence and tenacity

Process domain

P1 [Reasoning](#)

- Hypothesising
- Arguing and deducing
- Inferring

P2 [Creating](#)

- Imagining
- Planning
- Manifesting (realising)

P3 [Enquiring](#)

- Questioning
- Seeking information
- Researching and exploring

P4 [Problem solving](#)

- Identifying
- Gathering, sifting and analysing
- Concluding and deciding

P5 [Information processing](#)

- Sorting, sequencing, classifying and patterning
- Linking to existing maps (assimilating)
- Re-mapping (accommodating)

P6 [Communicating](#)

- Describing
- Explaining
- Proving

P7 [Evaluating](#)

- Checking
- Reflecting
- Appreciating

P1 Reasoning

- Hypothesising
- Arguing and deducing
- Inferring

Hypothesising	
step 1	<ul style="list-style-type: none">▪ When prompted, learners express what they think may be the outcome of a particular event, situation, experiment or line of enquiry;▪ They suggest sensible answers to questions such as “what do you think will happen?” “do you think xxx is true?” etc.
step 2	<ul style="list-style-type: none">▪ With help, learners design experiments or lines of enquiry to test a given hypothesis;▪ They suggest sensible answers to questions such as “How can we show that?”
step 3	<ul style="list-style-type: none">▪ When given a hypothesis learners plan experiments, formulate questions or design lines of enquiry that allow the hypothesis to be tested;▪ When given the plan of an experiment, a list of questions or the design of a line of enquiry, learners, with some help, determine what hypothesis may be being tested.
step 4	<ul style="list-style-type: none">▪ Learners independently construct hypotheses that inform their planning of experiments, formulating of questions or designing lines of enquiry.▪ They ascertain what hypothesis may be being tested when interpreting the design of an experiment, investigation or line of enquiry.

Arguing and deducing	
step 1	<ul style="list-style-type: none">▪ Learners give simple, yet sensible reasons related to whether or not a given assertion may be true or false;▪ Given a number of characteristics, learners deduce the ‘object’ being described.
step 2	<ul style="list-style-type: none">▪ Learners construct “if....then....” lines of argument with up to three steps;▪ They begin to generalise when presented with specific examples
step 3	<ul style="list-style-type: none">▪ Learners discern whether or not a given assertion or outcome is always, sometimes or never true;▪ They construct more complex lines of “if ... then....” argument.
step 4	<ul style="list-style-type: none">▪ With help they begin to use valid categorical syllogisms;▪ They identify and describe flaws in arguments made by others.

Inferring	
step 1	<ul style="list-style-type: none">▪ With help, learners describe why a particular experiment, investigation or line of enquiry produces a particular outcome;▪ They begin to consider both “why?” and “why not?” type questions.
step 2	<ul style="list-style-type: none">▪ Learners relate the outcomes of an experiment, investigation or line of enquiry to the initial given hypothesis;▪ They design questions with ‘yes/no’ answers in order to identify an ‘object’ in the mind of someone else.
step 3	<ul style="list-style-type: none">▪ Learners describe steps in an argument that may or may not support a particular hypothesis;▪ They present their argument to others and answer questions related to it;▪ When presented with a generalisation they cite particular examples.
step 4	<ul style="list-style-type: none">▪ Learners respond sensibly to challenges made to their lines of reasoning that may or may not support their original hypothesis;▪ They begin to present their argument in different ways in order to make it understood by different audiences;▪ They begin to infer how the outcomes to an experiment, investigation or enquiry might alter when some of the initial conditions or variables are changed.

P2 Creating

- Imagining
- Planning
- Manifesting (realising)

Imagining	
step 1	<ul style="list-style-type: none"> ▪ Learners begin to describe events and situations from the point of view of other persons; ▪ Learners begin to describe events and situations in response to “what if ...?” type questions; ▪ When working on tasks or problems they describe with help and prompts what they can “see” in their minds.
step 2	<ul style="list-style-type: none"> ▪ Learners begin to describe events and situations from the point of view of other persons, who may be situated in different locations and in different time periods; ▪ When composing and constructing, they describe in sounds, words or images what their particular compositions or constructions may be like on completion.
step 3	<ul style="list-style-type: none"> ▪ Learners answer hypothetical questions when working on problems or investigations; ▪ When working through a task or line of enquiry learners habitually anticipate the next steps and imagine the outcomes.
step 4	<ul style="list-style-type: none"> ▪ When working on tasks and problems learners describe a range of possible outcomes and, where appropriate, the particular outcome they intend to achieve; ▪ When explaining concepts, ideas or relationships, learners refer to the mental images they have developed to grasp them; ▪ Learners relate what they have learnt to their previous learning thus establishing and being aware of their mental map or lattice of connected ideas.

Planning	
step 1	<ul style="list-style-type: none"> ▪ When working on individual tasks or lines of investigation, learners describe some of the steps they will be taking; ▪ They demonstrate logical sequencing when describing steps through a task.
step 2	<ul style="list-style-type: none"> ▪ With help, learners begin to plan tasks with severable ‘variables’ such as people, time and resources; ▪ They begin to express their planning in a recorded form.
step 3	<ul style="list-style-type: none"> ▪ Learners use charts and diagrams to describe more than one possible path through a task; ▪ They use ‘outline’ and ‘detailed’ planning appropriately.
step 4	<ul style="list-style-type: none"> ▪ Learners use charts and diagrams to describe possible paths they will be taking through a complex task; ▪ They use rehearsed sub-routines when describing a path through a project; ▪ They begin to use ‘parallel’ and ‘series’ paths when formulating a plan.

Manifesting (realising)	
step 1	<ul style="list-style-type: none"> ▪ Learners complete tasks in line with the task brief; ▪ They describe the steps they took and how these matched their original intentions.
step 2	<ul style="list-style-type: none"> ▪ When working on tasks learners check steps against their plan and the original question; ▪ They check completed work against their imagined or expected outcomes.
step 3	<ul style="list-style-type: none"> ▪ Learners refine their plans as they progress through tasks and describe the nature of and reasons for any refinements; ▪ They describe how well task outcomes match the original brief or question.
step 4	<ul style="list-style-type: none"> ▪ Learners critically evaluate task outcomes and the way they were achieved; ▪ They compare the plans used by others working on similar tasks; ▪ They describe how they would improve their approach to similar tasks in the future.

P3 Enquiring

- Questioning
- Seeking information
- Researching and exploring

Questioning	
step 1	<ul style="list-style-type: none">▪ With help learners identify questions needed to initiate an investigations or line of enquiry;▪ They ask questions to clarify and check understanding.
step 2	<ul style="list-style-type: none">▪ When working on a task, problem or investigation, with help learners formulate the questions they need to initiate and then to progress through them;▪ With help they begin to ask questions to check they are on track.
step 3	<ul style="list-style-type: none">▪ When presented with a task, problem or investigation, learners identify a series of questions they need to answer that may enable them to complete them;▪ Having completed a task, learners begin to ask the sorts of questions that enable to check their outcomes for reasonableness, validity and accuracy.
step 4	<ul style="list-style-type: none">▪ When presented with a task, problem or investigation, learners identify possible series of questions they need to answer in order to complete them;▪ When asked a substantial question, learners break this into a series of manageable questions;▪ Through a habit of questioning, learners pose their own problems and initiate their own lines of enquiry.

Seeking information	
step 1	<ul style="list-style-type: none">▪ When prompted, learners go to appropriate sources of information in order to pursue a line of enquiry;▪ They begin to use lists to find their information.
step 2	<ul style="list-style-type: none">▪ Learners independently access information from a wide range of sources;▪ They begin to use search engines.
step 3	<ul style="list-style-type: none">▪ Learners use information listing systems to find information efficiently;▪ They check that the information found is relevant to the original question or line of enquiry.
step 4	<ul style="list-style-type: none">▪ Learners use advanced search facilities when using search engines; (eg refining)▪ They check information from different sources.

Researching & exploring	
step 1	<ul style="list-style-type: none">▪ Learners browse information relating to their line of enquiry and, with help, identify specific points relevant to their questions;▪ They begin to investigate information from sources referred to in other pieces of information. (multi-step trails)
step 2	<ul style="list-style-type: none">▪ When referring to information found, learners attribute the source of that information;▪ They begin to express the information they find in their own words or images;▪ With help, they check that the information they find is relevant to their line of enquiry.
step 3	<ul style="list-style-type: none">▪ Learners begin to interpret the information they find in the context of their question or line of enquiry;▪ With help, they assemble and synthesise the bits of information found into a coherent response to their question or line of enquiry.▪ They check their response for relevance to their line of research.
step 4	<ul style="list-style-type: none">▪ Learners compare information from different sources and identify similarities and differences;▪ Where information from different sources appears contradictory, learners express this in their reports and begin to propose explanations;▪ They make the distinction between facts and the interpretation of facts.

P4 Problem solving

- Identifying
- Gathering, sifting and analysing
- Concluding and deciding

Identifying	
step 1	<ul style="list-style-type: none"> ▪ With help learners identify the information and resources they may need to solve a given problem; ▪ They describe the problem in their own words; ▪ They describe what they think the solution may be.
step 2	<ul style="list-style-type: none"> ▪ Learners answer the question “what do we need to solve this problem?” ▪ With help, they describe a range of possible sensible solutions to the problem
step 3	<ul style="list-style-type: none"> ▪ Learners habitually and independently identify the information and resources they need to solve a particular problem; ▪ With help they break a complex problem into simpler parts; ▪ They logically sequence steps of the solution plan.
step 4	<ul style="list-style-type: none"> ▪ Learners break a complex problem into simpler parts; ▪ They identify the information, resources and methods they may need to use to solve each part of the problem; ▪ They describe ranges of possible sensible solutions to the problem and ranges which are either impossible or nonsensical. ▪ They identify problems they need to work on to extend their own knowledge and understanding.

Gathering, sifting and analysing	
step 1	<ul style="list-style-type: none"> ▪ With some direction learners gather the information and resources needed; ▪ They check they have all the information and resources they need; ▪ With help they use methods, resources and aids to progress through the problem.
step 2	<ul style="list-style-type: none"> ▪ Learners independently gather the necessary information and resources; ▪ They discard or combine information in preparation for solving the problem; ▪ When working in groups they may divide gathering and sorting tasks amongst members.
step 3	<ul style="list-style-type: none"> ▪ Learners re-assemble the information gathered into a form that is appropriate to solving the problem; ▪ Where appropriate they re-present the information in ways that facilitate analysis; ▪ They process/analyse the information in line with their problem solution plan; ▪ They begin to use resources and aids independently to work through a problem.
step 4	<ul style="list-style-type: none"> ▪ Learners process the information gathered so that it supports the solutions of the parts of the problem; ▪ They use methods, resources and aids creatively and confidently to work efficiently through the parts of the problem.

Concluding and deciding	
step 1	<ul style="list-style-type: none"> ▪ Learners begin express the solutions to a problem within its context; ▪ With help they check the solutions to a problem against their original prediction.
step 2	<ul style="list-style-type: none"> ▪ Learners express solutions to problems in the context in which they are set; ▪ With help they select solutions that are sensible and valid.
step 3	<ul style="list-style-type: none"> ▪ With help learners bring together the solutions to the parts of a problem; ▪ They begin to evaluate solutions in terms of sense and validity and begin to use checking strategies to check for accuracy.
step 4	<ul style="list-style-type: none"> ▪ Learners bring together the solutions of the parts of the problem so that the solution to the whole problem is found; ▪ They assess the solutions to the problem in terms of sense, validity and accuracy; ▪ They suggest ways in which the problem may be extended or refined.

P5 Information processing

- Sorting, sequencing, classifying and patterning
- Linking to existing maps (assimilating)
- Re-mapping (accommodating)

Sorting, sequencing, classifying and patterning	
step 1	<ul style="list-style-type: none"> ▪ Learners sequence events and objects by measurable characteristics such as time, size etc; ▪ They begin to recognise when sequencing of events is relevant to given outcomes; ▪ They sort and classify information using more than one given criterion; ▪ They use their senses to detect and describe simple patterns.
step 2	<ul style="list-style-type: none"> ▪ With help learners apply logical sequencing to synthesise bits of information; ▪ They extend simple patterns.
step 3	<ul style="list-style-type: none"> ▪ Learners sort information in different ways in order to detect patterns; ▪ They begin to describe the relationships between successive elements of a pattern; ▪ They begin to set their own criteria for sorting and classifying.
step 4	<ul style="list-style-type: none"> ▪ Learners choose the criteria most appropriate to the task in hand for sorting and classifying the information they have collected; ▪ They describe patterns in ways other than re-presenting their elements; ▪ They begin to use sequencing and patterning to interpolate and extrapolate new information.

Linking to existing maps (assimilating)	
step 1	<ul style="list-style-type: none"> ▪ Learners describe what new things they have learnt; ▪ With help they describe a small number of other things they know or can do that relate to their new learning.
step 2	<ul style="list-style-type: none"> ▪ Learners use words and/or , with help, diagrams to show how their recent learning relates to what they already know or can do; ▪ They describe how they will remember their new learning.
step 3	<ul style="list-style-type: none"> ▪ Learners use words and diagrams to show how their new learning connects with some aspects of what has already been learnt; ▪ With help they list some other things they know and can do by virtue of their newly acquired learning.
step 4	<ul style="list-style-type: none"> ▪ Learners discuss with each other how their new learning connects with a range of aspects of what has already been learnt; ▪ They describe through examples what other things they know or can do by virtue of their newly acquired learning.

Re-mapping (accommodating)	
step 1	<ul style="list-style-type: none"> ▪ Learners describe what new things they have learnt; ▪ With help they describe how some of the new things they have learnt might alter the way they 'see' or do things in the future.
step 2	<ul style="list-style-type: none"> ▪ Learners describe how as a consequence of their new learning they might do things better or differently in the future; ▪ With help they identify where changes may need to be made to previous learning.
step 3	<ul style="list-style-type: none"> ▪ When helped to reflect on their new learning learners identify where and what changes may need to be made to their previous learning; ▪ They begin to identify earlier misconceptions.
step 4	<ul style="list-style-type: none"> ▪ Learners describe how their new learning has altered their previously acquired skills, knowledge or understanding; ▪ They use words or diagrams to show new or altered connections within their previously acquired learning; ▪ Through examples, they describe how they resolve conflicts between new and old learning.

P6 Communicating

- Describing
- Explaining
- Proving

Describing	
step 1	<ul style="list-style-type: none"> ▪ Learners describe simple objects, ideas, events and situations in ways that allow others to construct accurate images of them; ▪ With help they record the outcomes of a piece of work in ways that support description and analysis; ▪ They use words and images appropriately in their descriptions.
step 2	<ul style="list-style-type: none"> ▪ With help, learners begin to select and use different modes of language to describe different sorts of events and situations; ▪ They begin to use newer technologies to communicate.
step 3	<ul style="list-style-type: none"> ▪ With help learners use examples to describe a generalisation and a generalisation to describe a range of examples; ▪ They select ways of recording that support description and analysis.
step 4	<ul style="list-style-type: none"> ▪ Learners describe complex objects, ideas, events and situations in ways that allow others to construct accurate images of them; ▪ They select the mode of description most appropriate to what is being described; ▪ They refine and/or alter the mode of their descriptions with regard to the nature of the audience; ▪ They choose and use appropriate technological aids to enhance their communications.

Explaining	
step 1	<ul style="list-style-type: none"> ▪ With help, when considering the outcomes of a task or investigation, learners begin to answer the question “Why ... ?”; ▪ They use words and images appropriately in their explanations.
step 2	<ul style="list-style-type: none"> ▪ Learners relate the outcomes of an experiment, investigation or line of enquiry to the initial task brief; ▪ They explain how they tackled the task giving reasons for some of their choices.
step 3	<ul style="list-style-type: none"> ▪ Learners present their argument or explanation to others and answer questions related to it; ▪ In explaining the outcomes to a task, learners explain the sequence of steps they undertook and the reason they selected them in order to arrive at those outcomes; ▪ They explain the methods used to arrive at the outcomes of a task
step 4	<ul style="list-style-type: none"> ▪ Learners routinely explain the outcomes of tasks and investigations; ▪ They re-trace steps undertaken to show how outcomes of a particular step may be explained in terms of the previous step; ▪ They begin to explain how the outcomes to an experiment, investigation or enquiry might alter when some of the initial conditions or variables are changed.

Proving	
step 1	<ul style="list-style-type: none"> ▪ Learners begin to consider “why not?” type questions. ▪ They check outcomes of a task or investigation in terms of common sense.
step 2	<ul style="list-style-type: none"> ▪ Learners compare explanations or arguments with each other and with help notice similarities and differences; ▪ With help they begin to assess the validity of each step in an explanation or argument.
step 3	<ul style="list-style-type: none"> ▪ Learners anticipate what questions others may ask of their lines of reasoning; ▪ They begin to recognise flaws in others’ arguments; ▪ They begin to use counter-examples to support “if ... not ...” lines of reasoning
step 4	<ul style="list-style-type: none"> ▪ Learners respond sensibly to challenges made to their lines of reasoning; ▪ With help they begin to use valid categorical syllogisms; ▪ They begin to present their argument or explanation in different ways in order to make it understood by different audiences;

P7 Evaluating

- Checking
- Reflecting
- Appreciating

Checking	
step 1	<ul style="list-style-type: none"> ▪ Learners check that they understand the task and/or question; ▪ With help they check that their work is in line with the task brief and has answered any posed questions; ▪ They check outcomes in terms of common sense.
step 2	<ul style="list-style-type: none"> ▪ When working on tasks learners check steps against their plan and the original question; ▪ They check completed work against their imagined or expected outcomes.
step 3	<ul style="list-style-type: none"> ▪ Learners check that the information gathered is relevant to the original question or line of enquiry; ▪ They begin to check their outcomes for reasonableness, validity and accuracy.
step 4	<ul style="list-style-type: none"> ▪ When researching learners check information from different sources; ▪ They work 'back' through tasks and problems to check for validity and accuracy; ▪ They work with others to develop and practise their checking strategies.

Reflecting	
step 1	<ul style="list-style-type: none"> ▪ When reflecting on a completed task, learners identify the new things they may have learnt; ▪ They describe how they may approach a similar task in the future.
step 2	<ul style="list-style-type: none"> ▪ When reflecting on a completed task, learners with help re-trace the steps they took; ▪ With help they begin to evaluate the information, resources and approaches used.
step 3	<ul style="list-style-type: none"> ▪ When reflecting on a completed task, learners evaluate the way they interpreted and planned it; ▪ They evaluate the appropriateness of the information and resources used; ▪ They appraise the approaches they used and the outcomes achieved; ▪ They begin to discuss how they acquired any new learning.
step 4	<ul style="list-style-type: none"> ▪ When reflecting on a completed task, learners explain where, how and why they made particular choices or decisions; ▪ They describe both what they learnt and how they learnt it; ▪ They talk about and compare their learning approaches with others.

Appreciating	
step 1	<ul style="list-style-type: none"> ▪ When reflecting on their completed work, learners identify what new things they have learnt; ▪ With help, they discuss how they might approach a similar piece of work differently next time.
step 2	<ul style="list-style-type: none"> ▪ When reflecting on their new learning learners identify how they might do things better or differently in the future; ▪ When reflecting on their work learners identify and talk about those aspects they particularly enjoyed or felt proud about.
step 3	<ul style="list-style-type: none"> ▪ In reflecting on their completed work learners begin to identify what other areas of their learning could benefit; ▪ With help they begin to recognise the originators of the ideas or expressions related to their current area of work.
step 4	<ul style="list-style-type: none"> ▪ When reflecting on a problem solved or an investigation or task completed learners identify how the problem or investigation could be altered or extended; ▪ They compare different approaches and methods used by other and identify ways in which their own work may be improved; ▪ With help they begin to see behind results or outcomes and gain a feel for 'elegance', 'beauty', 'power' and 'efficiency' in methods of working and in forms of presentation.

Concept/Content Domain e.g. Geography (KS2)

End of Year 3 (step 1)

Location:

Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.

Human and physical geography:

Describe and understand key aspects of –

- Physical geography, including climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes
- Human geography, including trade links.

End of Year 4 (step 2)

Location:

- Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.
- Identify the position and significance of Greenwich Meridian and time zones (including day and night).

Human geography: Describe and understand: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

Geographical skills and fieldwork: Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world.

End of Year 5 (step 3)

Location:

- Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries and major cities.
- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle.

Place knowledge: Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America.

Geographical skills and fieldwork: Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.

End of Year 6 (step 4)

Physical geography:

Describe and understand the key aspects of the water cycle.

Geographical skills and fieldwork:

Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world.

Use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Acknowledgements to [Windhill21](#), Herts for the above Geography end-of-year expectations.

Possible implications for planning and assessment

We understand how this may lead to some adjustment to planning sheets where learning objectives could now be expressed in each of the three domains.

What is shown below is no more than an example, where we have selected a geography topic (content) from the Key Stage 2 national curriculum, planned to be taught in Year 5. The full content picture for geography is presented on the previous page of this document. Clearly, the published National Curriculum includes the content pictures for all subjects.

For the purpose of illustration, we have included some selected third step features from the affect and process domains:

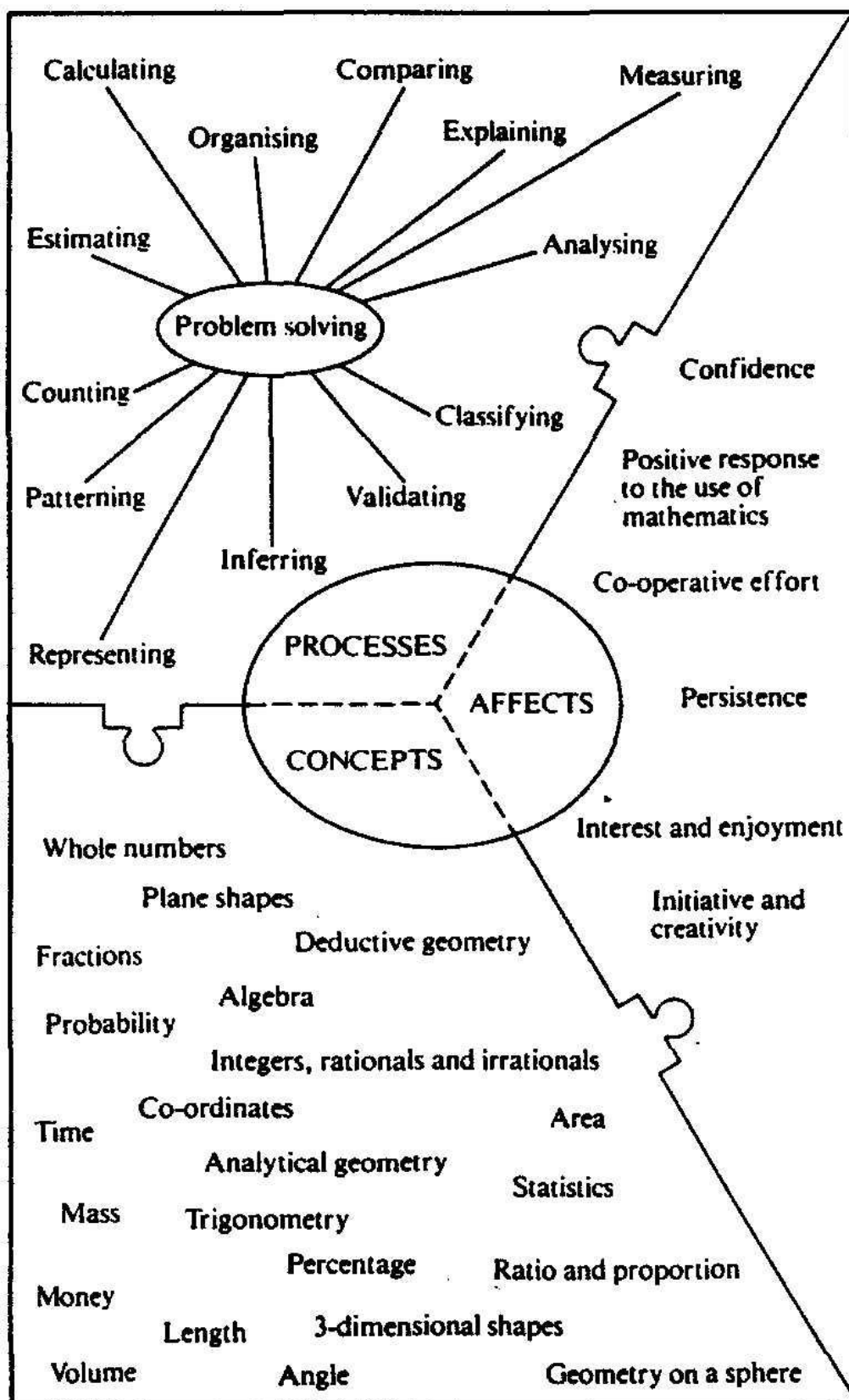
Domain	Affect	Process	Cognitive or Content
Learnt outcomes	<p>A2 collaborating</p> <p>Step 3</p> <ul style="list-style-type: none"> Learners begin to decide how roles and sub-tasks might be allocated across a group in order to tackle a problem or undertake a multi-stage task 	<p>P1 Reasoning Arguing & deducing</p> <p>Step 3</p> <ul style="list-style-type: none"> Learners discern whether or not a given assertion or outcome is always, sometimes or never true; They construct more complex lines of “if ... then....” arguments. 	<p>National Curriculum</p> <p>Geography</p> <p>(towards the end-of-Y5 expectations)</p> <ul style="list-style-type: none"> Learners compare the physical geographical differences between the UK and Holland.

Similarly, we understand how this may mean changes to the ways in which we think about, measure and record achievement, which, in this model, could be expressed in ‘three-dimensions’. There is a brief illustration about assessment at the end of this booklet.

SOME FURTHER CONSIDERATIONS

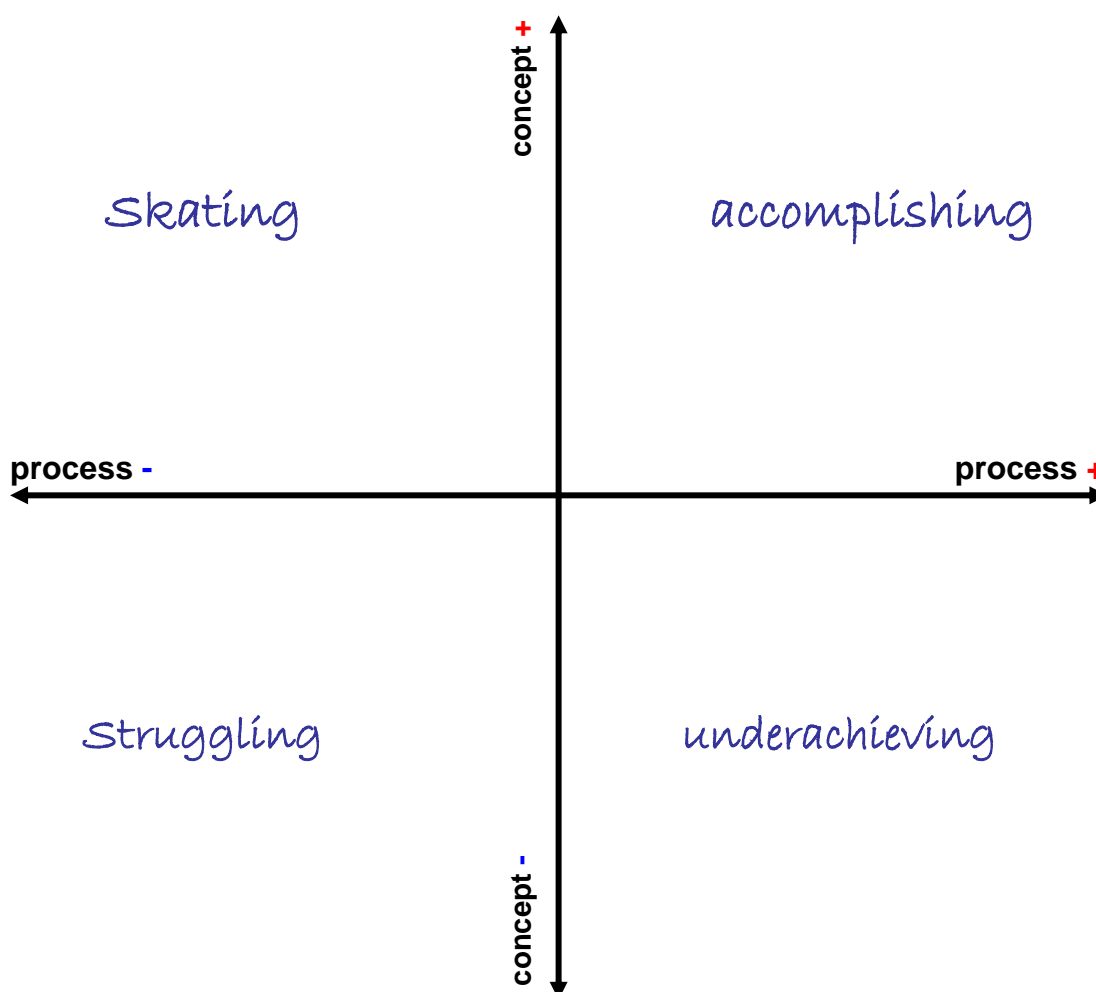
ORIGIN? OF THE IDEA OF A 3-D CURRICULUM

The scope of the Queensland State mathematics syllabus ~1986



SOME THOUGHTS ON ASSESSMENT

Using the end-of-year or end-of-key-stage expectations from the national curriculum (or other sets of grades & levels) to assess achievement in the concept domain, and using the step descriptors above to assess achievement in the process domain, it is possible to obtain a two-dimensional view of each learner's achievement.



This two-dimensional view separates high attainers who are accomplishing from those who may be skating. Similarly, it separates low attainers who are underachieving from those who may be struggling.

This allows more refined teacher responses to the assessment of learners' work.