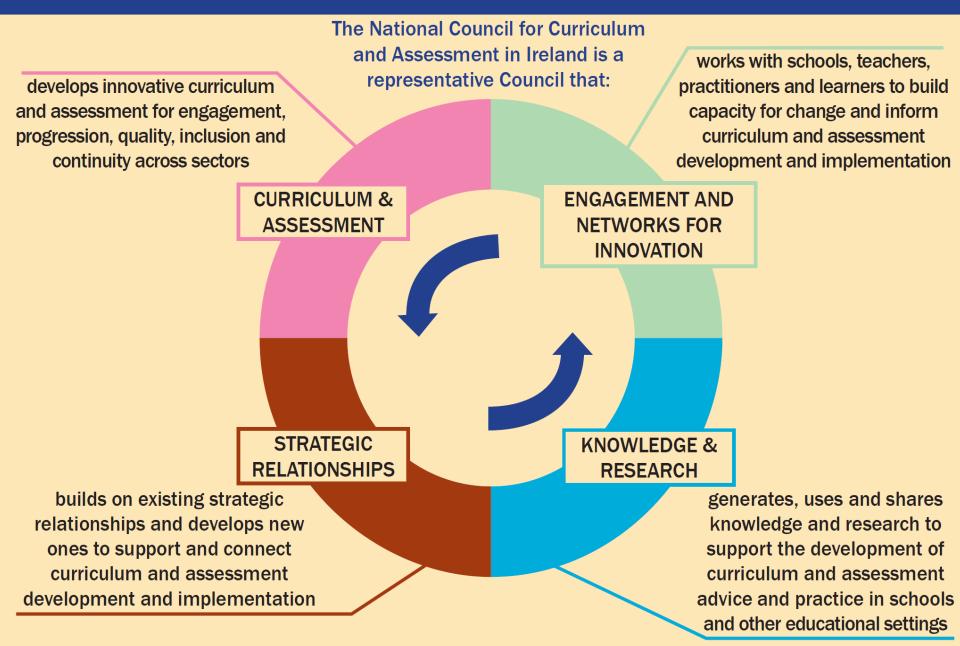
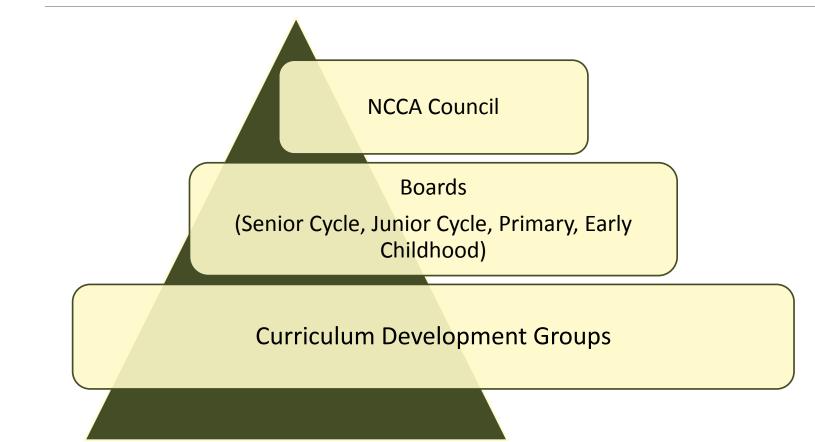
Opportunities and Tensions with Changes in **Assessment Practice**

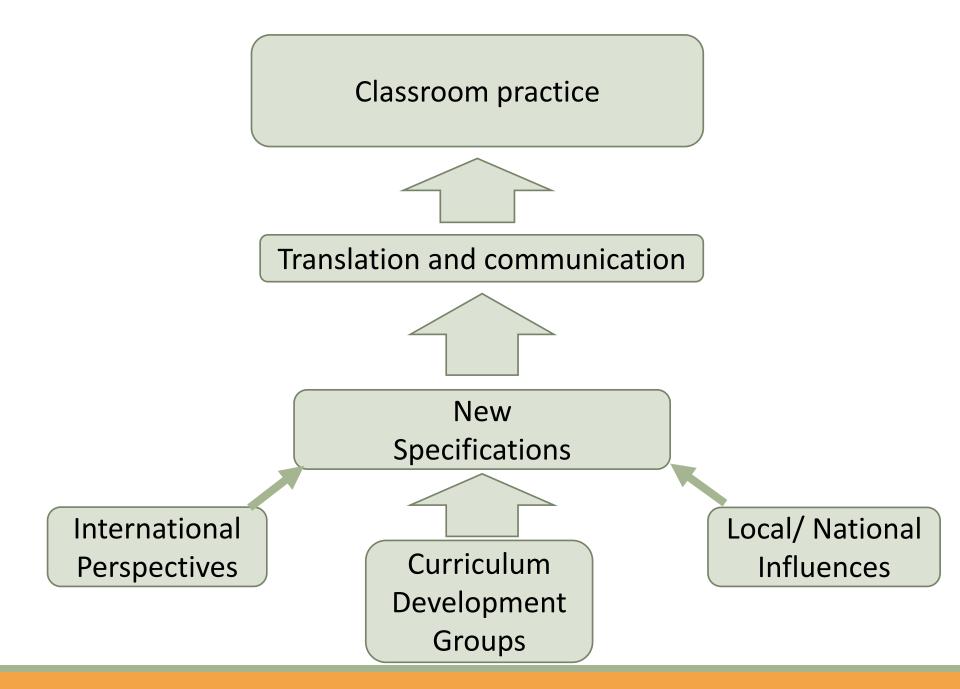
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Recent developments

- Revised specifications are written as learning outcomes
- Key skills are embedded in learning outcomes
- Flexibility of teaching and learning built-in
- Junior cycle (lower second level) reform of all subjects
 - Classroom based assessment of practical science
 - Extended experimental investigation (year 2) -teacher assessed
 - Issues investigation (year 3) teacher assessed
 - Written assessment task, based on issues investigation task- externally assessed
- Senior cycle (upper second level) reform of science subjects
 - Assessment of practical science for the first time by a practical examinationcombination of direct and indirect assessment- externally assessed
 - Extended experimental investigation does not contribute to the final mark

Macro-level

- Big ideas
- Coherent policy connecting outcomes, content and process

Meso-level

 Support materials focus on direct engagement with big ideas and messages from macro level policy

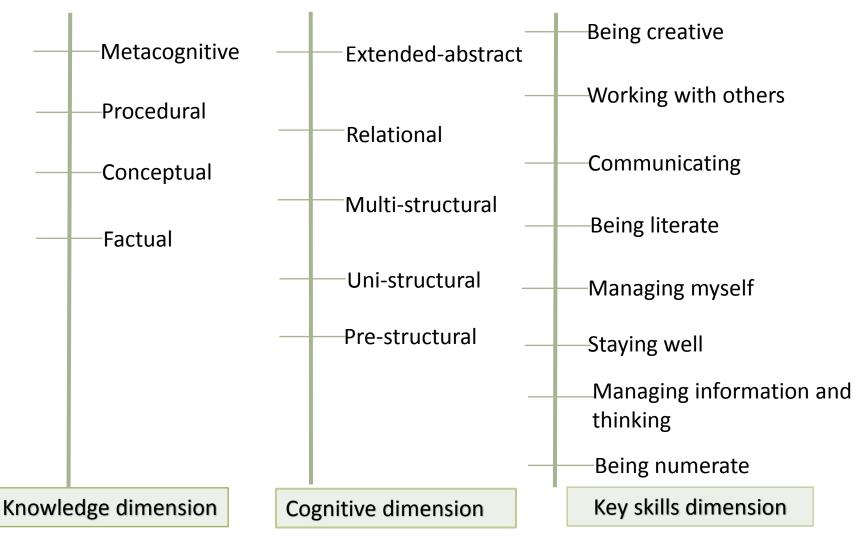
Micro-level

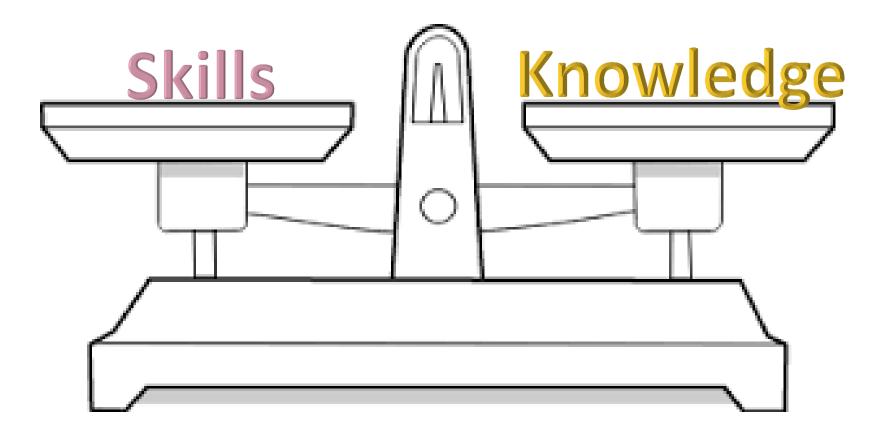
 Detailed discussions about content, context and method made at local level rather than prescribed from above, and are clearly related to curricular purposes and learning outcomes

(Priestly 2014)

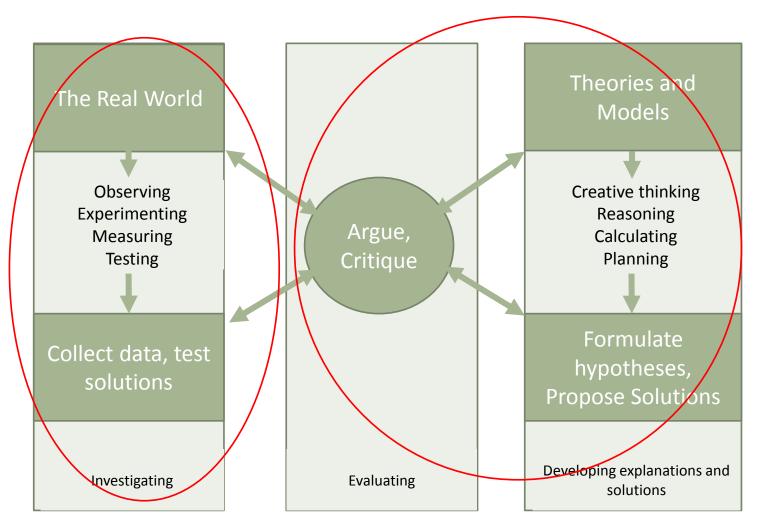
Assessment of learning outcomes

Rather than thinking in terms of aligning assessment more closely to curriculum, the construction of learning outcomes is better understood as a 'complex, non-linear interacting system with the with the ultimate goal being a synergy that embraces curriculum, pedagogy and assessment' (Daugherty et al. 2012) Three dimensions of learning outcomes: knowledge, cognitive process and key skills





Achieving a balance



A model of science showing the three major spheres of activity and their constituent practices (Osborne 2011) (NRC 2012)

- Forms a testable hypothesis or prediction with justification
- Describes considerations related to reliability and fairness
- Safely assembles, and accurately uses, appropriate equipment and technologies to collect and record reliable data
- Describes the method used to accurately collect and record good quality, reliable data in a manner that could be easily repeated
- Records a sufficient amount of good quality data
- Presents data in the most appropriate way using relevant scientific terminology and informative representations; calculations, if any, are performed to a high degree of accuracy
- Describes the relationships between the variables
- Shows examples of creativity in presentation or uses an innovative approach that truly enhances the work

- Provides a comprehensive and logically-sequenced conclusion supported by the data; identifies and explains any anomalous data
- Uses relevant science knowledge to assess and describe whether the hypothesis has/has not been supported
- Describes in detail the strengths and weaknesses of their own investigations, including appropriate improvements and or refinements, or explains fully why no further improvements could reasonably be achieved

- Chooses an interesting or novel topic and research question
- Finds information about the topic from a large number of varied and balanced sources, and gives a complete reference list
- Evaluates the reliability (relevance, accuracy and bias) of the sources
- Considers the quality of the information collected from the different sources
- Clearly positions the topic as science in society; explains the relevant science and the impact of the topic on society and/or the environment
- Presents the investigation in a very well-structured way (that is clear and easy to read) using relevant scientific terminology and informative representations; uses an innovative approach that truly enhances the work
- Explains different sides of the argument in detail
- Evaluates all the information; views on the chosen topic are considered and discussed in depth
- Links the information to the topic under investigation
- Reviews all the information using science explanations
- Gives a personal opinion which is justified by referring to the information evaluated

Quality assurance

Annotated samples of classroom based assessment at each level that are hosted with the specification on <u>www.curriculumonline.ie</u>

- the state examinations commission
- The Department of Education
- The NCCA
- The teacher

Tensions

- Change is personal and professional
- Teachers experience conflicting expectations and fragmentation
- Quality assurance process has highlighted major issues in particular, teacher assessment literacy
- Danger that assessment becomes the target of teaching
- Potential de-coupling of assessment from learning
- Myth that knowledge has been downgraded
- Worry that the mistakes of the past will be repeated- assessment of practical science reducing inquiry because of the fear of 'getting it wrong'
- Text books

Opportunities

- Change is personal and professional
- Professional development- Subject Learning and Assessment Reviews
- Allows teacher to use their professional judgement and expertise
- Assessment is a part of teaching and learning
- Promotes collaboration between teachers and dialogue about inquiry
- Teachers and schools are central to the change process
- Shared purpose among the other education partners
- Valid assessment