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PRACTICE

Portfolio for Reflective Assessment and Competency Tracking in Chemistry Education

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Vision



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To create a national reflective skills portfolio that spans the entire chemistry education journey - from undergraduate curricula through postgraduate research and training and evolves into a continuous professional development (CPD) portfolio. This portfolio will:

- Map and track practical skills across all stages of learning and career development.
- Build confidence and self-awareness in learners and professionals. Support inclusivity, accessibility, and sustainability in chemistry education.
- Form an integral part of Royal Society of Chemistry (RSC) accreditation and professional recognition frameworks.
- Influence national curriculum development (KS2–KS5) to prepare future chemists for careers in science and industry.



Why a National Reflective Skills Portfolio

Skills

- ViCEPHEC25 Reflections: Growing consensus that chemistry graduates need stronger skills articulation and confidence.
- Skills Conversation: Employers and educators highlight gaps in practical skills tracking and recognition.
- RSC Future Workforce: Industry demands transparent competency frameworks for employability and CPD.
- Reframing HE: Shift from knowledge-only to skills-based learning for inclusivity, sustainability, and lifelong development.

Why Now?

- Current systems lack longitudinal tracking of practical and transferable skills.
- Students struggle to evidence competencies for careers and professional recognition.
- Industry needs clearer pathways for upskilling and CPD integration.
- Aligns with national priorities for curriculum reform and workforce readiness.

Impact

- Students: Confidence, employability, and self-awareness.
- Educators: Tools for curriculum innovation and accreditation alignment.
- Industry: Skilled, adaptable workforce with transparent competency tracking.
- Profession: Stronger recognition pathways and lifelong learning culture.



Current Practice



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- What reflective activities do you currently run?
- Do students engage well?
- Do you prepare students for reflection? If yes, how?
- What mechanism do you use? (paper, OneNote, Teams etc.)



<https://app.jotlet.org/boards/qk17z1rb/>

University of Liverpool: Curriculum Redesign

- Launch of Curriculum 2027 and Liverpool Learning Framework



Search



23:11
07/01/2026



What is Nominal Group Technique (NGT) ?

Recap from CTIP 25/VICEPHEC 25 talk by Linnea, Smita, Sweta, Craig & me

NGT is a **structured group session** with the purpose of **achieving group consensus** and action planning on a chosen topic.

Stages of NGT

- **Introduction**
- **Stage 1: individual** responses
- **Stage 2: group work** - clarification & analysis & consolidation
- **Stage 3: individual** ranking of responses via voting sheets
- **Final:** Overall **ranked group results** are shared, closure of session, & thanks



Benefits of NGT



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- **Benefits for group dynamics & participants**
 - Because **data generation** is done **in silence** and **individually**
 - Each participant gets an **equal voice**
 - **Data generation is not influenced** by group
 - Reduces **power imbalances**
- **Benefits for the researchers**
 - Analysed results immediately available at end of session
 - Reduces potential researcher bias
 - Potentially more ideas (in terms of volume) than other approaches (eg Focus Groups)
 - Results immediately offer **action planning** in terms of a **prioritised list**
 - Combines **qualitative** and **quantitative** methods



Data Collection



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Modification of standard NGT procedure

NGT *normally* takes place with **one group** with optimal size of **8-10 participants**

- Today we want **groups** of ~7 to allow for a greater number of simultaneous participants.

Stage 1 – Individual Responses – 3-5 mins

On Post-It notes, please can you *write down you think should be within a reflective portfolio*? Rank these from 1 to 5.

Stage 2 – Group Task – 5-10mins

Collect all the Post-It notes from your group together, discuss and combine any similar responses, and then as a group produce a combined list of responses.



Data Collection



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Stage 3 – Group Responses – 5 mins

Rank (up to) your top 5 responses for the group's list on Jotlet for your group.

Stage 4 – “Whole room” task – 5-10 mins

Discuss the outcomes from each group's responses.

<https://app.jotlet.org/boards/8pxpz1h8/>





Assessment



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- Should a reflective portfolio be assessed? If yes, how?



<https://app.jotlet.org/boards/7dtttoo5/>



Vision for Future



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- Has this workshop encouraged you to consider reflective activities in your teaching? If yes, how?

- Do you have any comments on the vision we shared?



<https://app.jotlet.org/boards/r5rg9z71/>



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Thank you