

For Discussion



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- ✚ In your classrooms, whose voice dominates and is heard most frequently?
- ✚ What are the issues about pupil learning in your community and in Norway that matter most?
- ✚ What are the local issues in your community that pupils can demonstrate citizenship in action? How could they communicate positive change?
- ✚ What might Collaborative Inquiry and Global Competencies look like in your school setting?
- ✚ How is critical thinking to determine what is "fact and what is opinion taught in your school?
- ✚ How do pupils learn to recognize what evidence is effective and then how to extrapolate from that evidence?
- ✚ What classroom opportunities do your pupils regularly get to collaborate on a joint task to solve problems? Who teaches them the skills of collaboration? When and when are they reinforced?
- ✚ What ways do you and your peers document pupil learning? What is the ratio of assessment for learning (formative) and assessment of learning (summative, evaluative) in your classroom/school?
- ✚ Why do you think there is a greater gap between females and males in Norway than in Canada? What evidence of the gap do you see in your classrooms and schools?
- ✚ Where in their schooling, in your context, are pupils taught the skills needed for collaborative problem-solving and how are they reinforced?
- ✚ Thinking of your tasks, which tasks allow your pupils to develop and refine their collaborative problem-solving skills? Can you share a specific example?

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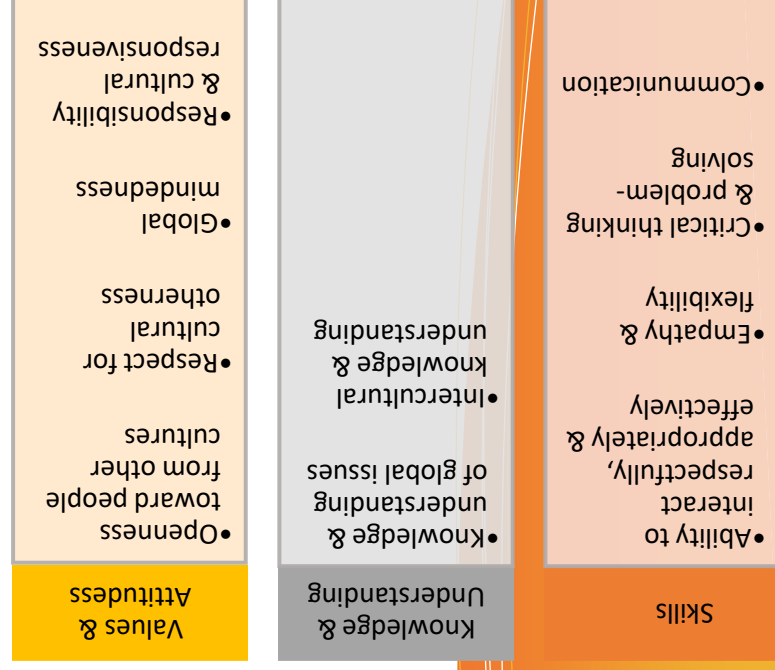
KS LEARNING

Pupil Inquiry: Building Global Competencies for Tomorrow's World





PROPOSED DIMENSIONS FOR GLOBAL COMPETENCY
OECD, PISA 2018



“Research indicates that when teachers collaborate on pedagogy and practice, they feel more supported and their sense of efficacy increases.”
(Goddard & Kim, 2018)

Preparing Students for Tomorrow's World
FROM SCHOOLS OF TEACHING TO SCHOOLS OF LEARNING

Education systems around the world face the challenge of responding to a changing globalized and knowledge-based society, made even more difficult because the task of education is, in part, to prepare young people for a future, which is unknown and often unpredictable. The challenge is “to prepare pupils to solve messy, complex problems – including problems we don't yet know about – associated in living in a competitive globally connected, technologically intensive world” (Ontario Ministry of Education, 2016: 3). This is part of the shift; we are all experiencing moving from schools of teaching towards schools of learning and thinking. Ensuring “inclusive and equitable quality education and promoting lifelong learning opportunities” forms UNESCO's fourth Sustainable Development Goal for 2030.¹

WHAT ARE THE QUESTIONS WE NEED TO ASK?

What are the skills and knowledge required by today's learners for tomorrow's rapidly changing, diverse, interconnected, and digital world to be global citizens?

What are the 21st century global competencies?

What are the strategies, programs and services required that build these competencies?

What do teachers and school leaders need to know, and do differently, to prepare pupils for global competencies?

How can learners demonstrate learning outcomes or the mastery of these competencies in terms of what they know and are able to do as evidence?

¹UNESCO, SDG4, 2015 <https://en.unesco.org/sustainabledevelopmentgoals>

Matrix of Collaborative Problem-Solving Skills*

WELL-BEING AND SENSE OF BELONGING ARE IMPORTANT IN TERMS OF PLACE AND SPACE

Collaborative Inquiry is another way to build engagement, well-being and a sense of belonging.

The analysis of 2018 PISA acknowledged variability due to socio-economic factors, immigration and parental levels of education. There was recognized variability from school to school, within the same school district/municipality.⁶ The quality of time spent on productive learning matters, not the total amount of time during a day and/or year in school. A growth mindset was identified as another positive factor and predictor of success. Self-motivation, a lower fear of failure, willingness to engage in risk-taking, and a sense of self and collective efficacy all contribute to a growth mindset. This matters especially for pupils traditionally underserved and underachieving.

To support a positive sense of belonging, pupils need opportunities to work collectively to build the following:

- Build agency & co-agency with peers
- Learn to work effectively in a network of peers and others, which can be diverse
- Foster collaboration
- Work respectfully
- Develop empathy

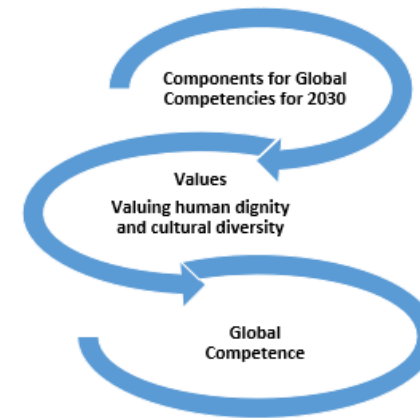
Some suggested Norms for Pupil Collaboration:

- I listen carefully to the members in my group.
- I am open to new ideas and new learning.
- I value knowledge and skills of the members of my group.
- I try to use and build on someone else's ideas.
- If I don't understand I ask for clarification.
- I disagree respectfully.
- I allow for wait time for others to respond.
- I try and make sure everyone contributes and no one voice dominates



PROCESS SKILL GROUP	ESTABLISH & MAINTAIN UNDERSTANDING	TAKE APPROPRIATE ACTION	ESTABLISH & MAINTAIN TEAMS
EXPLORING & UNDERSTANDING	Discovers the perspectives & abilities of team members and identifies mutual knowledge of the team. (what does each member know and understand) Asks questions	Discovers the type of collaboration needed to solve the problem along with the goals Understands perspective-taking	Understand the roles needed to solve the problem (when to initiate and when to be prompted)
REPRESENTING & FORMULATING	Builds shared representation and negotiates to find common understanding of the meaning of the problem Explores, represents and formulates Locates relevant information and assesses relevancy collectively	Identifies and describes the tasks needed to be done Understands the interdependency of the task	Describes roles and team norms and protocols
PLANNING & EXECUTING	Communicates with team members on actions to be and/or being performed Understands concept of reciprocity	Enacts the plans	Follows the norms and roles for the team
MONITORING & REFLECTING	Monitors and revises the shared understanding Communicates	Gathers data to monitor the results of the actions and evaluates success	Monitors and provides feedback Communicates

“Teachers will spend less time as information providers and more as learning coaches in assisting pupils through mentoring, encouraging, and supporting pupils.” (Brooks and Holmes, 2014: 29). Research indicates that when teachers collaborate on pedagogy and practice they feel more supported their sense of their efficacy increases (Goddard & Kim, 2018). Teachers when they collaborate are more likely to try and implement challenging pedagogical/instructional practices, such as inquiry, and differentiation (Goddard & Kim, 2018). Studies link increased meaningful teacher collaboration with positive outcomes in pupil achievement (Bruce, Esmonde, Ross, Dookie, and Beatty, 2010). Working together on building global competencies is one way to more effectively, and coherently, develop those competencies in pupils.



Pupils need a toolbox of transferable competencies to become lifelong learners and contributing members of society. As educators, we are exploring ways to support pupils’ learning to become competent and complex thinkers. Global competence involves knowledge, cognitive skills, social skills and attitudes, as well as values. OECD ‘s *Global Competency for an Inclusive World* (2016) provided the discussion paper that grounded PISA 2018². Building global competencies and lifelong learning in pupils aligns with current Norwegian educational priorities. It will support Norway’s continued improvement in PISA results.

²<http://globalcitizen.nctu.edu.tw/wp-content/uploads/2016/12/2.-Global-competency-for-an-inclusive-world.pdf>

OECD

Global Competency for an Inclusive World (2016) assessed, “the extent pupils have developed and can apply intercultural and global issues to the following set of knowledge and skills: knowledge and understanding of global issues, intercultural knowledge and understanding, and analytical and critical thinking” (OECD, 2016: 5).

Teachers, school leaders and the community can create a learning environment to build and consolidate global competencies.





WHAT IS INQUIRY?

“Inquiry is an approach to learning where pupils find and use a variety of sources of information and ideas to increase their understanding of a problem, topic, or issue of importance. It espouses investigation, search, exploration, research, quest, research, pursuit and study.”

(Kukitnau, Maniotes and Caspari, 2007:2).



³http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/meaningful_making.html Research into Action series
⁴<http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/capacityBuilding.html>

Developing Global Competencies Underpins Collaborative Inquiry

Collaborative Inquiry Learning is an evidence-based approach for teachers but also for pupils. It allows pupils to develop and refine their global competencies as they explore and go deeper into questions/problems using inquiry as a design. The current evidence is that greater pupil engagement leads to improved results³. Steven Katz (2019), concluded that inquiry challenges thinking and practice. It moves beyond teacher-centered approaches to engage pupils in their own learning. It is an applicable approach for early learners and for those in upper secondary and beyond.

If Collaborative Inquiry is a whole-school practice, it can serve to lessen school and classroom variability.

IN YOUR CLASSROOMS, WHOSE VOICE DOMINATES AND IS HEARD MOST FREQUENTLY?

We are collectively moving towards *accountable talk* through pupil discourse and pupil voice⁴. “Pupil voice is a metaphor for pupil engagement and participation in issues that matter to learning” (Ontario Ministry of Education, Pupil Voice, 2013: 2). Teachers create opportunities to pupil inquiry. It becomes one component of a balanced approach to pedagogy. Pupil inquiry creates space for pupils to have more ownership for their own learning in a gradual release of control. It is a component of a growth mindset.

Collaborative Inquiry & Global Competencies



While only 8% of pupils across PISA scored on skills such as awareness of group dynamics, resolving conflicts, identifying efficient pathways to solve a problem and monitoring results, 85% of pupils reported positive attitudes about collaboration.

PISA created a proficiency description for collaborative problem solving involving four levels. The key attitudes/skills for pupils who scored as *proficient* included:

- Completes complicated problem-solving tasks with high collaboration and complexity;
- Solves problems that involve complexity, with multiple constraints, keeping relevant background information in mind; Maintains an awareness of group dynamics and takes actions to ensure agreed upon norms; Monitors progress towards a solution; Identifies gaps or obstacles to solving the problem;
- Selects efficient and alternative approaches and pathways.

For pupils scoring at Level 1 the responses were simple, used repetitive language and approaches, demonstrated low problem-solving capacity, pupils refer to or use literal meaning, and exhibits limited experience with collaboration. Actions if concretely described





OECD DEFINITION OF COLLABORATIVE PROBLEM-SOLVING

“the capacity of an individual to effectively engage in a process whereby two or more agents (other team/group members) attempt to solve a problem by sharing the understanding and effort required to come to a solution and pooling their knowledge, skills, and effort to reach that solution.”

(OECD, PIA #78: 6, 2017))

Collaborative Inquiry & Global Competencies

The 2019 Worldwide Education for the Future Index by The Economist notes, “The need to develop critical thinking has never been so vital. Critical thinking and related skills are also needed to make sense of the volumes of data” (2019:3). Additionally, critical thinking and problem solving increasingly are dependent on digital competencies. These are core future competencies for tomorrow’s world.

Global competencies prepare pupils for life and the workplace equipping them with life skills. These can be developed and nurtured in schools. This school-wide approach builds adaptive capacity to view problems in terms of seeking solutions, using evidence, working with others and being flexible and responsive.

Collaborative problem solving is an approach that inquiry-based learning uses. It combines individual cognitive processing, and sociability skills. There are individual and group problem-solving and ongoing communication skills required. It requires the team to establish and maintain a shared understanding of the task and the possible solutions. It requires reflective practice. These skills need to be intentionally developed and reinforced, through coherent classroom and school-wide pedagogical practices. To make this happen, educators require capacity building, such as this program to collectively develop and refine their skills and strategies through professional collaboration.

Developing Global Competencies Underpins Collaborative Inquiry

Collaborative Inquiry allows teachers to gather data on pupil engagement and mastery through pedagogical documentation as they observe, have conversations with pupils on their understandings, record, interpret and then share products and/or performances. If this is a whole-school coherent practice, it can serve to lessen school and classroom variability in Norway as described by OECD. Teaching & Learning Walks and TIDE can be used to gather evidence of inquiry impact. Collaborative Inquiry is an intentional approach to build collective professional efficacy.⁴

Rich classroom discussions and collaborative learning allow pupils to reflect, explain their ideas and reasoning, ask questions of peers, and share their thinking.

WHAT ARE THE ISSUES ABOUT PUPIL LEARNING IN YOUR COMMUNITY AND IN NORWAY THAT MATTER MOST?

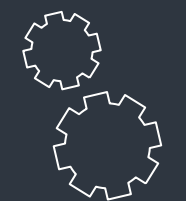
Research indicates that pupil learning increase when they are involved in inquiry and problem-based instruction (Sparks, 2019). The researchers found that boys were more engaged and their results improved. If inquiry is authentic and based on real-world community, national and global issues, pupils can be engaged in civics and citizenship in action. President Mandela believed that education was the best way to initiate and create positive change. This can be tied to sustainability and collective well-being.



Getting Started with Student Inquiry

- Introduce new concepts;
- Observe and strategically question students to clarify and extend their thinking;
- Provide opportunities for students to demonstrate their understanding, skills and new learning;
- Provide opportunities for self and peer assessment;
- Revisit initial questions and thinking with students;
- Strategically model ways to describe patterns, analyze information and draw conclusions from a variety of sources.

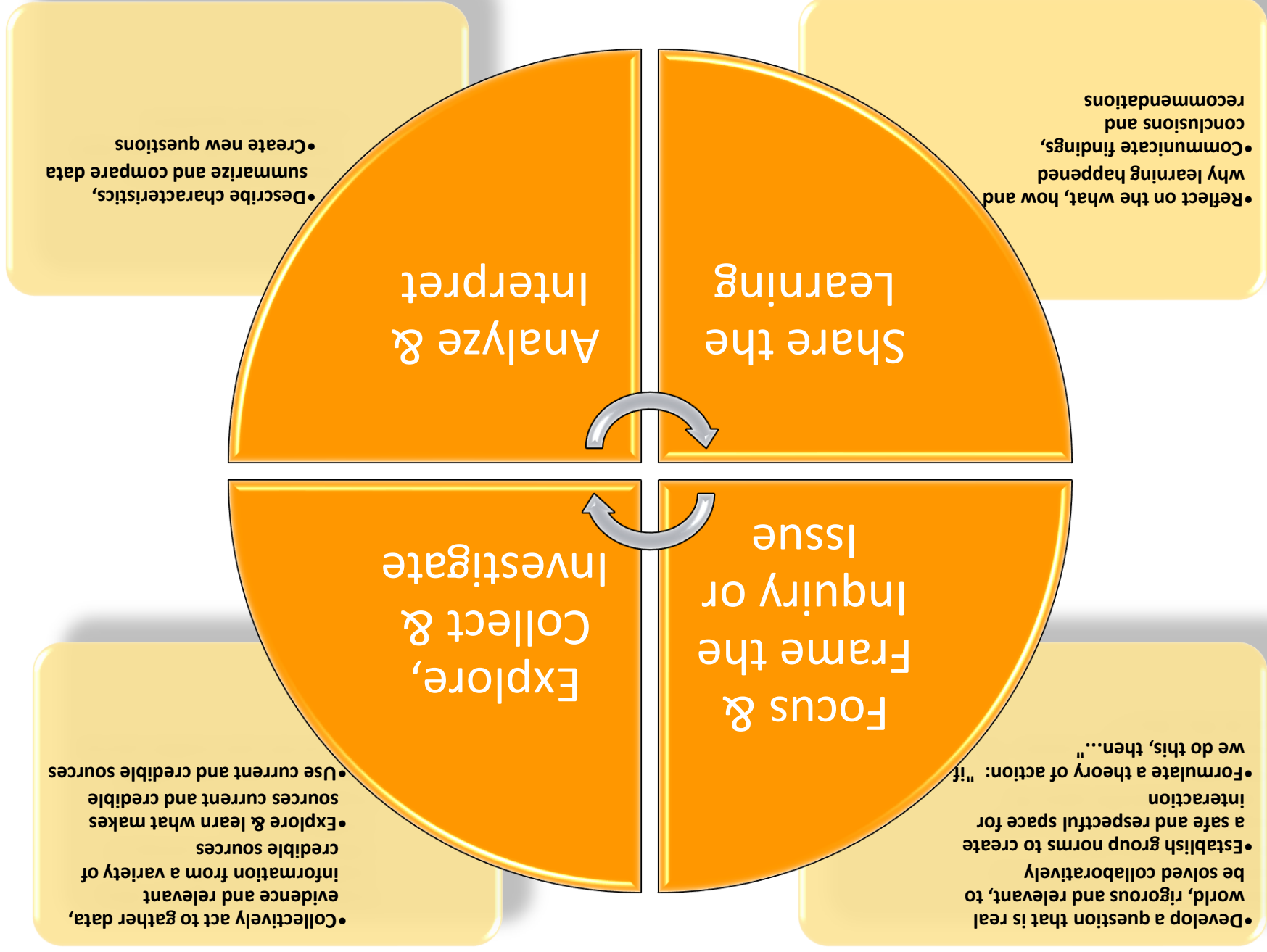
Getting Started with Student Inquiry, Capacity Building Series #24, (2011:3)



⁴<http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/capacityBuilding.html>



Pupil Inquiry Process



Teachers Construct the Opportunities for Inquiry

Teachers with opportunities to experience collaborative inquiry as professionals and share their experiences and pupils' work, learn together. Having experienced inquiry, they are able to apply the principles with their pupils. Teachers incorporate explicit pedagogical instruction and scaffolding at relevant points during the inquiry to support pupils' thinking and learning.

