



EDULIS LIBRARY

CTLI Premises

Belhar Main Road / Private Bag X9099

Kuils River/ Cape Town

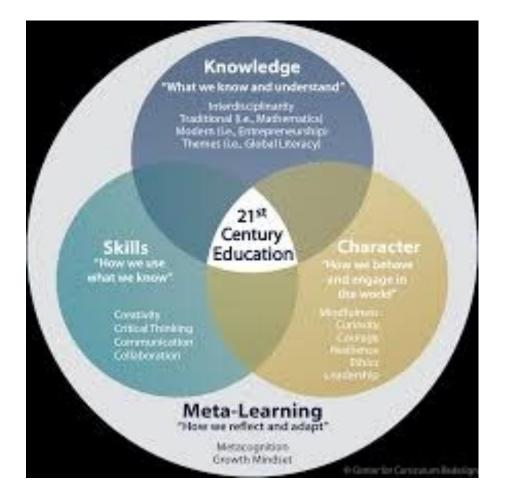
7580/8000

Tel.: 021-957-9618

Fax: 086 489 2500

E-mail : edulis@westerncape.gov.za

http://edulis.pgwc.gov.za



Compiled by Edna Böhmer. The bibliography will continue to be updated as the papers become declassified.

https://curriculumredesign.org/wp-content/uploads/CCR-

Commissioned Papers

OECD Future of Education and Skills 2030

https://www.oecd.org/education/2030-project/

The **Future of Education and Skills 2030** project has commissioned numerous experts to draft papers on a wide range of topics relevant to the project. Those papers which have been declassified are published below as free online PDFs.

Atkin, J.

SUGGESTIONS FOR AN OECD KEY COMPETENCIES FRAMEWORK.

8 July 2015 4 pages

http://www.oecd.org/education/2030-project/contact/

Suggestions_for_an_OECD_key_competencies_framework.pdf

First informal working group webinar/meeting 7 July 2015 .

Augustine, D., Chrona, J., Hodgson, C. & Williams, L. MEANINGFUL RECONCILIATION: INDIGENOUS KNOWLEDGES FLOURISHING IN B.C.'S K-12 EDUCATION SYSTEM FOR THE

BETTERMENT OF ALL STUDENTS. 23 October 2018 25 pages http://www.oecd.org/education/2030-project/contact/

Meaningful_reconciliation_indigenous%20knowledges_flourishing_in_B.C.'s_K-12 education_system_for_the_betterment_of_all_students.pdf Partial abstract:

To embrace reconciliation, we must provide a welcoming and inclusive culture, support a knowledgeable and qualified workforce and honour jurisdiction in all that we do. All of B.C.'s (British Columbia, Canada) curriculum contains Indigenous worldviews and perspectives – In all subjects and throughout all grades. Resources and supports have also been developed to compliment the curriculum. There are 17 provincial Indigenous language curriculums in use across BC public schools with more in development. Efforts to address racism in B.C. schools are well underway. A handson tool has been developed to support school districts with assessing and addressing inequities for Indigenous students. Today, all students in B.C. teacher education programs are required to complete Indigenous coursework and the provincial government has committed new Indigenous teacher education program seats. Of course, the journey towards reconciliation in B.C.'s education system will not occur overnight. There is much work still to be done. Evidence of structural racism remains in B.C.'s education system. It is not okay that B.C. Indigenous students feel less safe at school than non-Indigenous students and this needs to be addressed. We also have more to do strengthen course offerings in Indigenous studies. New teachers to B.C. require the foundation to feel confident engaging with Indigenous students, families and communities. There is also a wonderful opportunity ahead to implement the recently negotiated BCTEA agreement that honours jurisdiction.

Section III: Preliminary Construct Analysis in the Values & Attitudes Domain

- 3.1 Attitudes
- 3.2 Values
- 3.3 Malleability
- 3.4 Measurability

Section IV: Preliminary construct analysis focusing on malleability

- 4.1 Malleability, Neuroplasticity, and Recent Scientific Evidence
- 4.2 Skills, Attitudes, and Values that Forecast Young People's Academic and Life Success
- 4.3 The Role of Environment in Promoting Knowledge, Skills, Values, and Attitudes in Adolescence
- 4.4 Skills, Values and Attitudes for Success in the 21st Century 4.5 Conclusions and Future Directions

References

Zarmati, L.

FUTURE OF EDUCATION AND SKILLS 2030: CURRICULUM ANALYSIS :

LEARNING PROGRESSION IN HISTORY. 2 July 2019 20 pages

http://www.oecd.org/education/2030-project/about/documents/Learning%

20progression%20in%20history%20-%20Zarmati.pdf

Table of Contents

Learning Progression in History

Introduction

What is learning progression in history?

Historical thinking, understanding and reasoning

The processes of 'doing' history

Learning progression in history curricula

- England
- British Columbia (Canada) Learning Competencies for Social Studies
- Australia
- Europe Malta
- Asia Singapore

Assessment of progression: challenges and possible solutions

- Designing effective assessment instruments
- Formative class, grade or school assessment Research gaps and future directions Bibliography

Voogt, J., Nieveen, N., Thus, A. & Kuiper, W.

EDUCATION AND SKILLS 2030: CURRICULUM ANALYSIS : LITERATURE REVIEW ON FLEXIBILITY AND AUTONOMY.

18 October 2018 20 pages

http://www.oecd.org/education/2030-project/contact/ Literature_review_on_flexibility_and_autonomy.pdf

Abstract

This review summarizes literature on the topic of curriculum flexibility and autonomy. The paper gives a description of curriculum flexibility, autonomy and agency. The results are discussed in terms of the implemented curriculum, the attained curriculum and conditions.

The implemented curriculum describes school and teacher curriculum flexibility. The attained curriculum describes school and teacher autonomy in relation to student achievement. Finally, the paper describes under which conditions curriculum flexibility and autonomy contribute to teacher agency/ teacher performance/ teacher wellbeing and student agency/ student performance/ student well-being.

Young, M. (Section I) Ross, K., Tomporowski, P., Collins, A., Jacobs, R. & Bilett, S. (Section II) Lippman, L. (Section III) Schonert-Reichl, K.A. (Section IV) **PRELIMINARY REFLECTIONS AND RESEARCH ON KNOWLEDGE, SKILLS, ATTITUDES AND VALUES NECESSARY FOR 2030** 3 April 2017 115 pages http://www.oecd.org/education/2030-project/about/documents/PRELIMINARY-REFLECTIONS-AND-RESEARCH-ON-KNOWLEDGE-SKILLS-ATTITUDES-AND-VALUES-NECESSARY-FOR-2030.pdf

Table of contents

Background

Section 1:

Reflection on the Knowledge Domain: School Curriculum in 2030

- 1.1. Introduction
- 1.2. The concept of powerful knowledge: as a curriculum principle
- 1.3. Some key curriculum issues
- 1.4. Knowledge and skills
- 1.5 . Values and the broader aims of schooling

1.Section II:

Preliminary Construct Analysis in the Skills Domain

- 2.1. Cognitive/Meta-cognitive Skills
- 2.2 Social and Emotional Skills
- 2.3 Physical and practical skills
- 6. Concluding comments

Benander, R. A LITERATURE SUMMARY FOR RESEARCH ON THE TRANSFER OF

LEARNING. 22 October 2018 29 pages

http://www.oecd.org/education/2030-project/about/documents/A-Literature-Summary-for-Research-on-the-Transfer-of-Learning.pdf

Abstract:

In this paper, we begin by providing an overview of definitions on far/near transfer and horizontal/vertical transfer and describe the kind of knowledge/skills/attitudes and values that are identified/supported by research for "near-transfer" and "far transfer" (including the aspect of "vertical transfer/horizontal transfer") across different disciplines and between school and everyday life. The review and consensus of the research has suggested that the following elements support the transfer of learning:

- Teaching "big ideas" and supporting students to see conceptual links between differing contexts.
- Practice of skills with immediate feedback
- Application of skills and knowledge in ill-structured problem solving situations
- Opportunities to practice skills learned in school in the context of work
- Scaffolding learning activities to build up from specific skills to application of those skills in different environments
- Support from instructors/supervisors, an explicit expectation of transfer, and a value of transfer

Berger, T. & Frey, B.

FUTURE SHOCKS AND SHIFTS: CHALLENGES FOR THE GLOBAL WORKFORCE AND SKILLS DEVELOPMENT. 24 April 2017 34 pages http://www.oecd.org/education/2030-project/about/documents/Future-Shocks-and-Shifts-Challenges-for-the-Global-Workforce-and-Skills-Development.pdf Key messages

1. This report presents evidence on the expanding scope of automation. After three decades of a secular decline in middle-income jobs, the bulk of low-skilled and low-income workers are now for the first time susceptible to computerization. Meanwhile, skilled jobs remain relatively resilient to recent trends in technology. In particular, workers with extraordinary social and creative skills will still remain in the workforce in 2030.

2. As technology replaces old work, new jobs are being created. Occupations such as nanotechnology engineers, solar energy engineers, web developers, and bio-statisticians, have all recently emerged. To adapt, the workforce of 2030 will require more technical skills, such as the ability to design and develop new theories that form the basis for advancements in a discipline, and applications.

3. While more investment in digital skills will be needed, a combination of skillsets that make workers adaptable to technological change will be even more important. In particular, educational efforts should focus on fusion skills—that is, the combination of creative, entrepreneurial and technical skills— allowing workers to shift into new occupations as they emerge.

4. The recent surge in income inequality has led to inequality of opportunity. Investments to broadly improve skills development for children at an early stage are thus not only likely to pay long-term dividends in terms of productivity gains, but would also contribute to a more equal distribution of skills, in turn making incomes more uniform and boosting upward mobility. In particular, as socio-emotional and cognitive skills reinforce each other and shape children's future skills development, investments in such skills during the school years will be of crucial importance.

5. Demographic shifts are fundamentally changing the demand for skills. A shrinking workforce and an aging population will require increasing adaptability for people to be able to work later in life. The ability to constantly acquire new skills and knowledge provides a central challenge for the workforce.

6. Aging populations will also make socio-emotional skills such as caring, sociability and respect more important. A wide range of emerging occupations, including acute care nurses, informatics nurse specialists, geneticists and hospitalists, speak to the growing demand for such skills.

7. We find that younger workers are more likely to be observed in new work and tend to cluster in skilled cities. On average, cities with a younger workforce are also more innovative. If fewer people work, the workforce will have to become even more innovative to avoid stagnation. Teaching entrepreneurial skills will be essential to avoid stagnation

Chung, C., Rus, C., Bishop, P., Aguirre-Esponda, G. J., Hideyuki, H., Balankat, A., Monticone, C., Adler, A. & Seligman, M.

THE EDUCATION 2030 CONCEPTUAL LEARNING FRAMEWORK AS A TOOL TO BUILD COMMON UNDERSTANDING OF COMPLEX CONCEPTS.

4 November 2016 90 pages

http://www.oecd.org/education/2030-project/contact/

The E2030 Conceptual learning framework as a tool to build common understanding of complex concepts.pdf

Table of contents

Introduction

Using the Education 2030 Learning Framework to decompose complex concepts

- 1. Global Citizenship/ Global Competence
- Global Citizenship Ms Connie Chung, Associate Director, Global Education Innovation Initiative & Lecturer, Harvard Graduate School of Education
- Global Citizenship UNESCO Section of Education for Sustainable Development and Global Citizenship

4. Mechanisms and lessons learned

- 4.1 Key messages
- 4.2 Emerging models
- 4.3 Implications for future research

References

- Appendix 1 Search strategy
- Appendix 2: Terminology
- Appendix 3: Selected research

Voogt, J., Nieveen, N., van de Oudewetering, K. & Sligte, H.

EDUCATION 2030 - CURRICULUM ANALYSIS: LITERATURE REVIEW ON MANAGING TIME LAG AND TECHNOLOGY IN EDUCATION THE FUTURE OF EDUCATION AND SKILLS: EDUCATION 2030

13 October 2017 45 pages

http://www.oecd.org/education/2030-project/contact/

Curricu-

<u>lum_analysis_Literature_review_on_managing_time_lag_and_technology_in_educati</u> <u>on.pdf</u>

Table of Contents

- 1. Introduction
- 2. Method
- 2.1. Search strategy and analysis
- 2.2. Overview of the dataset
- 3. Results
- 3.1. Overview of findings
- 3.2. Curriculum quality: Contributions of technology to student learning
- 3.3. Affordances of technologies
- 3.4. Conditions for effective implementation
- 4. Summary and conclusions

References

Appendix 1

1.1. Search Technology in Education

Appendix 2

Van den Akker, J.

BRIDGING CURRICULUM DESIGN AND IMPLEMENTATION.

17 October 2018 22 pages

http://www.oecd.org/education/2030-project/contact/

Bridging_curriculum_redesign_and_implementation.pdf

Abstract

This review examines how thinking about implementation of curriculum already in the design stage can have an impact on the actual later implementation. The aim is to develop a shared conceptual framework about curriculum design and implementation approaches. The review also examines how change theories relate to curriculum implementation and what curricular policy steers and facilitate systematic and sustainable curriculum change at all levels. A few country examples of successful approaches are included in this review

Voogt, J.

E2030 CURRICULUM ANALYSIS: LITERATURE REVIEW ON THE IMPACT

STUDY. 28 October 2016 32 pages

http://www.oecd.org/education/2030-project/contact/

E2030_Curriculum_Analysis_Literature_review_on_the_impact_study.pdf Table of contents

- 1. Introduction
- 2. Methodology
- 2.1 Search strategy and analysis
- 2.2 Overview of the sample
- 3. Results
- 3.1 Overview of the reforms
- 3.2 Quality of curriculum (including overload) Alignment of curriculum content/ goals with teachers' practice Alignment between the curriculum reform and student learning dispositions Effects of generic curriculum reforms on student outcomes Effects of subject curriculum reforms on student outcomes
- 3.3 Equity and opportunities to learn
 - Effects of curriculum reforms on disadvantaged students Effects of curriculum reforms on girls
 - Effects of curriculum reforms on students in developing nations
- 3.4 Planning effective implementation and time lag dilemma Teacher involvement and collaboration School leadership involvement School-based conditions Curriculum ownership Implementation support
 - Social and cultural pressures

- Global Citizenship Competences for Democratic Culture: Mr Calin Rus, Expert, Council of Europe
- Global Aspects of Civic and Citizenship Education Inter-national Association for the Evaluation of Educational Achievement (IEA) International Civic and Citizenship Study (ICCS) 20 E)
- Global Competence OECD PISA
- 2. Foresight Mr Peter Bishop, Teach the Future
- 3. Education for Sustainable Development (UN SDG 4.7) UNESCO Section of Education for Sustainable Development and Global Citizenship
- 4. Innovation 4
- A) Mr Guillermo José Aguirre-Esponda, Grupo Aguirre Innovalia
- B) Mr Horii Hideyuki, iSchool, Tokyo University
- 5. Computational thinking/Programming/Coding Ms Anja Balanskat, European Schoolnet
- 6. Financial Literacy Ms Chiara Monticone, OECD Directorate for Financial and Enterprise Affairs
- 7. Student Well-being Mr Alejandro Adler and Mr Martin Seligman, University of Pennsylvania

Annex 1.

References

Confrey, J.

A SYNTHESIS OF RESEARCH ON LEARNING TRAJECTORIES/

PROGRESSIONS IN MATHEMATICS 31 May 2019 47 pages

http://www.oecd.org/education/2030-project/about/documents/

<u>A_Synthesis_of_Research_on_Learning_Trajectories_Progressions_in_Mathematics</u>

<u>pdf</u>

Table of contents

- 1. The Dilemma of Learning Needs vs. Grade-Level Expectations
- 1.1. Addressing the Dilemma as an Open Design Challenge
- 2. What is a Learning Trajectory/Progression (LT/LP) in Mathematics Education?
- 2.1. A Distinction in Language
- 2.2. Connections to Theory and Method
- 2.3. LT/LPs Are Not Stage Theories
- 2.5. LT/LPs and Mathematical Practices
- 2.6. Grain Size .
- 2.7. Five Commitments Shared by LT/LP Theorists
- 3. Around What Topics has the Research been Concentrated?

- 4. What is known about the Use and Outcomes of LT/LPs in Curriculum, Instruction, and Formative Assessment?
- 4.1. LT/LPs and Curriculum Materials
- 4.2. LT/LPs, Instruction, and Professional Development
- 4.3. LT/LPs and Classroom/Formative Assessment
- 5. How are LT/LPs Measured
- 5.1. Approaches to Building Measures of LT/LPs of LT/LPs
- 5.2. Valuation of Measures of LT/LP Theorists
- 5.3. Distinguishing between a LT/LP and its Measure
- 5.4. LT/LPs as Deep Collaborations among Learning Scientists, Practitioners and Measurement Experts
- 6. What Evidence is there from Taking LT/ LPs to Scale?
- 6.1. Types of Outcomes from LT/LP studies
- 7. What is Known about LT/LPs' Impact on Educational Policy?
- 8. What are the Possible Future Roles of LT/LPs in the OECD's 2030 Vision and Learning Framework?
- 8.1. Considerations
- Appendix A. A List of Learning Trajectories/ Progressions in Mathematics by Strand, Topic, and Grade Level
- Appendix B. Theoretical Publications and Studies of Applications of LT/LPs in Mathematics
- 9. References

Dunn, J., Salmela-Aro, K., Talreja, V., Abiko, T., Steinemann, N., Leadbeater, C., Bentley, T., Grayling, A., Kunin, D., Walt, N., Toutant, A., Allen, R., Haste, H. & Bishop, P.

EDUCATION 2030 - CONCEPTUAL LEARNING FRAMEWORK:

BACKGROUND PAPERS 13 October 2017, 167 pages

http://www.oecd.org/education/2030-project/contact/ Conceptual learning framework Conceptual papers.pdf

A. DEMOCRACY AND EDUCATION FOR THE FUTURE / JOHN DUNN (FELLOW OF KING'S COLLEGE & EMERITUS PROFESSOR OF POLITICAL THEORY, CAMBRIDGE UNIVERSITY) p. 4 - 17

- 1. What democracy was and is
- 2. Why is the challenge to democracy today so acute?

Tichnor-Wagner, A.

OECD FUTURE OF EDUCATION AND SKILLS 2030: CURRICULUM ANALYSIS : DRAFT CHANGE MANAGEMENT: FACILITATING AND HINDERING FACTORS OF CURRICULUM IMPLEMENTATION

9 May 2019 22 pages

http://www.oecd.org/education/2030-project/contact/

<u>Change management for curriculum implementation Facilitating and hindering f</u> actors of curriculum implementation.pdf

Table of contents

- 1. Introduction
- 2. Conceptual Framework: Applying Ecological Systems Theory to Educational Systems Change
- 3. Methods
- 4. Contextual Factors that Influence Effective Curriculum Change
- 4.1. The Microsystem: Classroom Practices
- 4.2. The Mesosystem: School-Level Activities
- 4.3. The Exosystem: Policy and External Supports
- 4.4. The Macrosystem: Education Beliefs and Values
- 4.5. The Chronosystem: Implementation Timelines
- 5. Impact of System Level Interactions
- 5.1. Building Teachers' Capacity
- 5.2. Message Coherence
- 5.3. Philosophical Beliefs versus Practical Realities
- 5.4. Structures for System-wide Interactions
- 6. Theory of Change in Action: Curriculum Reform
- 7. Reflections
- 7.1. Curriculum Change as Part of a Bigger Change Management
- 7.2. Aligning Curriculum Change with Changes in Teacher Training
- 7.3. Aligning Curriculum Change with Changes in Pedagogy and Assessment
- 8. References
- Annex A. List of Articles Reviewed

Tables

- Table 1.
 Factors that Influence Curriculum Implementation
- Figures
- Figure 1. Education System Layers
- Figure 2. An Ecological Systems Approach to Curriculum Change

- 3.2. Pre-reflective forms of agency Symbolic and linguistic functions
- 3.3. Reflective levels of agency: Regulatory functions
- 3.4. Self-concept and identity
- 3.5. Purposeful and intentional action: Taking responsibility
- 3.6. Social responsibility and citizenship
- 4. The social embeddedness of agency
- 4.1. Historical conditions
- 4.2. Social institutions
- 4.3. Social norms
- 4.4. Social Structures
- 4.5. Can individual agency potentially compensate for socio-economic disadvantage?
- 5. Implications for the OECD Learning Framework 2030
- 5.1. Developing Transformative Competencies
- 5.1.1. Creating new value.
- 5.1.2. Taking responsibility
- 5.1.3. Reconciling tensions and dilemmas
- 5.2. Challenge for educators Developing teacher agency
- 5.3. Challenges for Curriculum Development
- 6. References

Tichnor-Wagner, A.

FUTURE OF EDUCATION AND SKILLS 2030: CURRICULUM ANALYSIS CONNECTIONS BETWEEN ANTICIPATION-ACTION-REFLECTION AND CONTINUOUS IMPROVEMENT CYCLES. 9 April 2019 .18 pages

http://www.oecd.org/education/2030-project/about/documents/Connectionsbetween-Anticipation-Action-Reflection-and-Continuous-Improvement-Cycles.pdf Table of contents

- 1. Introduction
- 2. Description of PDSA and PDCA Cycles
- 2.1. Purpose
- 2.2. Process
- 3. Uses of PDSA Cycles across Sectors
- 3.1. Industry
- 3.2. Healthcare
- 3.3. Education
- 4. Comparison of AAR and PDSA Cycles
- 4.1. Similarities
- 4.2. Differences
- 5. Implications
- 6. Bibliography

- 3. How to educate for the societies we already are and the societies we must learn to become
- 3.1. The repertoire of skills we now need and the challenges they must equip us to meet
- 3.2. The challenge of technology and work
- 3.3. The challenge of globalization
- 3.4. The challenge of information flow
- 3.5. The challenge of terrorism
- 3.6. The challenge of ecological survival and recuperation
- 4. Refashioning a democracy which can hope to take the strain

B. CO-AGENCY IN THE CONTEXT OF LIFE SPAN MODEL OF MOTIVATION / KATARIINA SALMELA-ARO (UNIVERSITY OF HELSINKI) p. 17 - 37

- 1. Introduction
- 2. Educational paths channel motivation
- 3. Student agency including choice and voice
- 4. Co-Agency
- 5. With Peers
- 6. With Parents
- 7. With Teachers
- 8. Agency and co-agency for achieving individual and collective well-being in 2030
- 9. Relevance to achieving the future transformative competencies
- 10. Achieving new value
- 11. Taking and developing responsibility
- 12. Coping with tensions
- 13. Conclusion
- 14. References

C. STUDENT AGENCY: THE IMPACT OF ADVERSITY / VISHAL TALREJA p. 38 - 54

- 1. Impact of Adversity
- 2. Failure to Thrive
- 3. Pace of Change in the World
- 4. Student Agency- Its Role in helping young people Overcome Adversity
- 4.1. Kavitha moves towards her Learning Compass by learning to Take Responsibility, Manage Conflict and Create New Value
- 4.2. Vivek, Rajesh and Vijaya Develop Transformative Competencies
- 5. The 'Arc of Transformation' Framework to developing Student Agency
- 6. The role of the Adult Co-Agency
- 7. The role of the Adult Co-Agency
- 8. References

D. SHORT COMMENTS ON 'STUDENT AGENCY' : A JAPANESE VIEW / TADAHIKO

- **ABIKO** p. 55 59
- 1. Preposition
- 2. Terminology
- 3. Meaning
- 4. Structure
- 5. Functions or Characteristics
- 6. Additional comments on Student Agency

E. STUDENT AGENCY IN ASIA: EDUCATORS' PERCEPTIONS ON ITS PROMISES AND BARRIERS / NAMJI STEINEMANN (EAST-WEST CENTER) p. 60 - 66

- 1. Redefining the Concept of Student Agency in Local Contexts?
- 2. Culture-Practice Tensions
- 3. Barriers to Change
- 4. What More Is Needed

F. STUDENT AGENCY / CHARLES LEADBEATER p. 67 - 90

- 1. Students as Agents of Change
- 2. The Roots of Agency
- 3. Four Components of Agency
- 3.1. First, they should be purposeful.
- 3.2. Second, students should become reflective through learning by doing and in action.
- 3.3. Third students need to make an investment in actively pursuing their purpose.
- 3.4. Fourth, students need to learn to take responsibility for their actions.
- 4. Levels of Agency
- 4.1. Individual
- 4.2. Collaborative
- 4.3. Collective
- 5. Aspects of Agency
- 5.1. Moral agents
- 5.2. Creative agents
- 5.3. Economic agents
- 5.4. Citizen agency
- 6. Learning to Acquire Agency
- 6.1. Knowledge
- 6.2. Personal Strengths
- 6.3. Social Skills
- 6.4. Learning to be an Agent
- 7. Developing Agency in Practice

Table of contents

- Curriculum analysis methods
- Illustration of curriculum analysis results
- Curriculum Analysis Related to Student Performance
- An example of curriculum analysis impacting curriculum policy References

Appendix

Figures

- Figure 1. Dimensions of curriculum
- Figure 2. Number of mathematics topics intended across grades
- Figure 3. The five most emphasised topics in eighth-grade science
- Figure 4. The composite A+ mathematics international benchmark
- Figure 5. Plot of countries' TIMSS eighth grade mathematics scaled score versus the ratio of curricular coherence to focus
- Figure 6. Relationship between mathematics performance and students' exposure to applied mathematics
- Figure 7. Relationship between the index of exposure to formal mathematics and students' mathematics performance
- Figure 8. Exposure to applied mathematics vs. Exposure to formal mathematics

Schoon, I. & Haste, H.

EDUCATION AND SKILLS 2030: CONCEPTUAL LEARNING

FRAMEWORK : DRAFT PAPERS SUPPORTING THE OECD LEARNING

FRAMEWORK 2030 7 May 2018 32 pages

http://www.oecd.org/education/2030-project/contact/

Draft Papers supporting the OECD Learning Framework 2030.pdf

- 1. Introduction
- 2. Conceptualising Agency
- 2.1. Self-directed action embedded in a wider social context
- 2.2. What motivates individuals?
- 2.3. A socio-ecological developmental approach
- 2.4. Different modes of agency: Personal agency, co-agency and collective agency
- 3. Development of Agency
- 3.1. Basic self-regulation

The OECD Learning Compass 2030

- 1. Transversal key competencies for 2030 cutting across DeSeCo's set of competencies (DeSeCo 2.0)
- 1.1. Creating new value
- 1.2. Dealing with tensions, dilemmas, trade-offs
- 1.3. Taking a responsibility (ethical compass)
- 2. Embedding the competencies for 2030 into curriculum
- 2.1. Knowledge
- 2.2. Skills
- 2.3. Attitudes & Values domain
- 3. Competency development cycle for shaping the future
- 3.1. Reflection
- 3.2. Anticipation
- 3.3. Action
- References
- Boxes
- Box 1: New Zealand's National Learning Framework
- Box 2: Australia's New National Learning Framework
- Box 3: Estonia's National Learning Framework
- Box 4: The British Columbia, Canada: New Curriculum
- Box 5: Singapore's new national learning framework
- Box 6: New Zealand conceptual framework

Schmidt, W.H.

PURSUIT OF SCIENCE LITERACY 4 April 2016 4 pages

http://www.oecd.org/education/2030-project/contact/

Pursuit_of_Science_Literacy.pdf

The pursuit of science literacy : putting fundamental ideas of science into the classroom

Schmidt, W.H.

INTERNATIONAL CURRICULUM ANALYSIS: TWENTY YEARS OF BACK-GROUND ANALYSING MATHEMATICS AND SCIENCE CURRICULA

2 May 2016 14 pages

http://www.oecd.org/education/2030-project/contact/

Transnation-

al_Curriculum_Analysis_Twenty_years_of_background_analysing_mathematics_and_ science_curricula.pdf

G. OBSERVATIONS ON 'TAKING RESPONSIBILITY' AND 'COPING WITH TENSIONS AND DILEMMAS' / AC GRAYLING p. 91 - 94

- 1. Taking Responsibility
- 2. Coping with Tensions and Dilemmas

H. BRIEF COMMENTS ON 'CREATING NEW VALUE' AND 'TAKING RESPONSIBILITY'/ TOM BENTLEY p 95-98

- 1. Initial reflection: working between categories
- 2. Creating new value
- 3. Taking responsibility

I. DATA LITERACY: EXTENDING LITERACY IN THE AGE OF BIG DATA / DANIEL KUNIN

p. 99 - 107

- 1. Literacy in the Digital Age
- 2. Defining Data Literacy
- 3. New Literacies
- 4. The Data Deluge
- 5. The Data Pipeline
- 6. Technical and Non-Technical Skills
- 7. Promoting Data Literacy in the Classroom
- 7.1. Sharing Our Stories
- 7.2. Compete to Learn
- 7.3. Explorable Explanation
- 8. Data Literacy and Education 2030
- 9. References

J. BC'S REDESIGNED CURRICULUM - THEORETICAL UNDERPINNINGS / NANCY WALT, EXECUTIVE DIRECTOR, MINISTRY OF EDUCATION ARNOLD TOUTANT, A. TOUTANT CONSULTING, MINISTRY OF EDUCATION ROD ALLEN, SUPERINTENDENT, SCHOOL DISTRICT #79 (COWICHAN VALLEY) p. 108 - 128

- 1. Introduction
- 2. Curriculum Redesign Principles
- 3. Core Competencies
- 3.1. Communication
- 3.2. Thinking
- 3.3. Personal and Social Competence
- 4. Core Competencies in the Curriculum
- 5. Aboriginal perspectives and knowledge
- 6. Concept-based, competency-driven curriculum
- 6.1. Concept-based learning
- 6.2. Competency-driven learning

- 7. The Role of Concepts in BC Curriculum
- 8. Future Development of Cross-cutting Concepts
- 9. BC's Know-Do-Understand (KDU) Curriculum Model
- 9.1. Content and Curricular Competencies
- 9.2. Big Ideas
- 10. Big ideas and how they work
- 10.1. Background to the KDU (or KUD) Model
- 10.2. Curriculum Redesign Approaches
- 11. The Role of Epistemic Knowledge
- 11.1. Arts Education
- 11.2. Science
- 11.3. Mathematics
- 12. The Role of Procedural Knowledge
- 13. Summary
- Appendix 1:Relationship between Core and Curricular Competencies in ScienceAppendix 2:Exploring Concepts in BC's Redesigned Curriculum
- 13.1. Definitions Relevant to Concepts in BC Curricula
- 13.2. Concept Development
- 13.3. Crosscutting Concepts

K. DEFINING VALUES AND ATTITUDES IN THE CONTEXT OF LEARNING AND WELL-BEING / HELEN HASTE (HARVARD GRADUATE SCHOOL OF EDUCATION/ UNIVERSITY OF BATH) p. 142 -154

- 1. Introduction
- 2.2. Values
- 2.4. Principles
- 2.5. Virtues and Character
- 2.6. Moral reasoning
- 2.7. Conscience
- 2.8. Civic Values
- 3. Points to consider

L. ANTICIPATION AND AGENCY / PETER BISHOP (TEACH THE FUTURE INC.)

p. 154 - 167

- 1. Introduction
- 2. Psychological Basis
- 3. Anticipation and Agency in Academic Institutions
- 3.1. Futures Studies at the University of Houston
- 3.2. Futures Studies at other academic institutions
- 4. Anticipation and Action in Futures Research
- 5. Anticipation and Action in Professional Practice
- 5.1. Association of Professional Futurists
- 5.2. European Forum on Forward Looking Activities (EFFLA)

- 2.2.4. Conflicts, democratic disengagement and new forms of violence
- 2.2.5. The planet at risk
- 2.2.6. Addressing imbalances between economic, social and environmental development
- 3. Implications for demand-oriented competencies for shaping the future
- 3.1. Models of the «competent human»
- 3.1.1. The puzzle is not the solution
- 3.1.2. New narratives to make sense storytelling
- 3.1.3. Using tools interactively and crafting to access creativity
- 3.2. Reflective and future-oriented action in light of the complex demands
- 3.2.1. Navigating in social space and time
- 3.2.2. Dealing with dilemmas, contradictions, and ambiguities
- 3.2.3. Ethics and value orientation taking responsibility
- 3.4. DeSeCo's framework in light of the demands shaped by change
- 4. The way forward
- 4.1. Reconceptualization of competencies for 2030
- 4.1.1. Navigating in time and space an umbrella concept
- 4.1.2. Reflection-anticipation-action: competency development cycle
- 4.1.3. Cross-cutting competencies transcending DeSeCo's categories of key competencies
- 4.2. Operationalization of competencies for 2030
- 5. References

Rychen, D. S., Lippman, L., Lambert, P. Bishop, P., Hall, R., Young, M., Ross, K., Tomporowski, P., Collins, A., Jacobs, R., Billett, S. & Schonert-Reichl, K.A

EDUCATION 2030: DRAFT DISCUSSION PAPER ON THE PROGRESS OF

THE OECD LEARNING FRAMEWORK 2030 7 November 2016 24 pages

http://www.oecd.org/education/2030-project/contact/

E2030 Progress report on the conceptual framework with visual presentation.p

<u>df</u>

Table of Contents

DRAFT DISCUSSION PAPER ON THE PROGRESS: OECD LEARNING FRAMEWORK 2030 . Introduction

- Future we want
- Being able to navigate in time and social space

4. Cambridge Assessment is engaged in curriculum analysis as part of: qualifications development and provision development of ancillary materials such as textbooks and digital resources reform and development support to various jurisdictions support work to UK Government on the National Curriculum transnational comparative work on the performance of education and training systems

5. 2010, Cambridge Assessment provided support to the review of the National Curriculum. Tim Oates chaired the Expert Panel furnishing advice to the Secretary of State. Cambridge analysis provided much of the starting points for the development of the new National Curriculum (and its assessment) and this included insights from transnational comparisons.

6. We believe that much transnational analysis or putatively transnationallyfocused has been fundamentally defective. We differentiate:

- parallel description interesting but so what
- policy borrowing theoretically deficient
- analytic transnational comparison a basis for action

7. But we also assert that transnational analysis does not supply 'judgement-free policy formation'.

8. We also remain concerned that transnational analysis of curricula is used as spurious legitimation for domestic action, including the general sense of 'manufactured fear' that other nations are doing better than a home country, something which is explored later in this paper

Rychen, D. S.

E2030 CONCEPTUAL FRAMEWORK : KEY COMPETENCIES FOR 2030

(DESECO 2.0) 4 November 2016 22 pages

http://www.oecd.org/education/2030-project/about/documents/E2030-CONCEPTUAL-FRAMEWORK-KEY-COMPETENCIES-FOR-2030.pdf

- 1. Introduction
- 1.1. Aim
- 1.2. Background
- 1.2.1. DeSeCo's mission
- 1.2.2. Addressing key issues
- 1.2.3. A Competence a combination of knowledge, skills, attitudes and values
- 1.2.4. DeSeCo's conceptual framework for key competencies
- 2. Global trends and challenges ahead
- 2.1. Shaping the future
- 2.2. Global trends: Risks and opportunities
- 2.2.1. Rapid technological changes 4th industrial revolution
- 2.2.2. Globalization, the changing landscape and substantial global inequalities 2.2.3. Diversity through increased mobility and population movements

6. Conclusion

Annex .A. Naming the emerging field

- Early names
- Futures studies, Futures Research, Futurist Foresight

Annex .B. The Discipline of Anticipation, Futures Literacy, Futures Literacy Laboratories

- Futures Literacy
- Futures Literacy Laboratories
- Transforming the Future: Anticipation in the 21st Century
- Conclusion

Annex .C. References

Fadel, C.

EDUCATION 2030 ADDENDUM TO "FRAMEWORK ISSUES, INCLUDING CROSS WALKS" 4 September 2015 9 pages

https://www.oecd.org/education/2030-project/contact/Framework Issues Paper.pdf

- 1. Definitions
- 1.1. Knowledge
- 1.2. Skills
- 1.3. Character
- 1.4. Meta-Learning
- 2. Definitions used by other frameworks
- 3. Usable suggestions from webinars / in person meetings
- 3.1. Competency
- 3.2. Meta-Learning
- 3.3. Transversality of Competence
- 3.4. Goals of education
- 4. Additional suggestions for OECD's Edu2030 project

Garcia, E.

THE ROLE OF SKILLS, COMPETENCIES AND BEHAVIOUR IN DETERMINING SHORT AND LONG TERM OUTCOMES: A LITERATURE REVIEW.

3 September 2015 17 pages

http://www.oecd.org/education/2030-project/contact/

The role of skills, competencies and behaviour in determining short and long t

erm_outcomes.pdf

Why is research necessary to study NCS? In Education Policy? Goals and structure of the study

- 1. Framework : Empirical Literature
- 2. Literature review : Findings
- 3. Conclusion

Haste, H.

PRELIMINARY SUMMARY OF LITERATURE REVIEW: COMPETENCES AND VALUES – THE E2030 MODEL (WORK IN PROGRESS)

24 October 2018 12 pages

http://www.oecd.org/education/2030-project/contact/

<u>Preliminary summary of literature review Competences and Values %20-</u> the E2030 model.pdf

Abstract

The literature review trawled papers from 2015 onwards, across several disciplines, exploring the relationship between different attitudes and values and competences defined by the E2030 Learning Framework. Papers from before 2015 are included where they are definitive or 'classic' contributions to the field. Within the four competences, Sense of purpose towards well-being, Respect for diversity and tolerance of uncertainty, Creativity, and Sense of responsibility, the search first explored the relationship within each category of the various values to each other and to the overall defining concept. The purpose of this is to find out the extent of coherence within the broadly-defined competences of the E2030 Learning Framework. Second, the search explored relationships across categories, in particular the relationship to the overarching concept of Well-being.

Isaacs, T.

FUTURE OF EDUCATION AND SKILLS 2030: CURRICULUM ANALYSIS.

FOR OFFICIAL USE. 17 October 2018 34 pages

http://www.oecd.org/education/2030-project/contact/

Policy_review_on_designing, planning_and_implementation.pdf Abstract

This report examines issues concerning the gap between curriculum development/ implementation processes and outcomes (and the renewal of curriculum in schools in general), as reported in the responses of various countries to the OECD Policy Questionnaire on Curriculum Redesign in 2016-2018. The aim is to find curriculum innovations and educational strategies that countries have used or plan to use in confronting these issues. Differences in strategic approaches of countries are examined. A wide variety of issues were discussed, of which three groupings were particularly important: issues emerging as a result of the structure of the education system; issues related to preparedness; and issues related to achieving "buy-in". Strategies for dealing with these issues fell, for the most part, into three categories: preparation of supporting materials, training and consultation, though more unique issues occasionally inspired more unique strategies. The discussion at the end of the report discusses the main results of the analysis

Lippman. L.

WELL-BEING AS PART OF 21ST CENTURY COMPETENCIES.

13 November 2015 10 pages

www.oecd.org/education/2030-project/contact/Well-

being as Part of 21st Century Competencies.pdf

Why include well-being among 21st century competencies for 2030?

Luckin, R. & Issroff, K. (draft I) Berkowitz, M. & Miller, K. (draft II) EDUCATION AND AI: PREPARING FOR THE FUTURE & AI, ATTITUDES AND VALUES. 24 October 2018 55 pages

http://www.oecd.org/education/2030-project/about/documents/Education-and-Al-preparing-for-the-future-Al-Attitudes-and-Values.pdf

Abstract

In this paper, we review the existing literature to find out what knowledge and skills will remain for human in a time of increasing Al. We address some of the issues surrounding the use of Al in education, and we discuss how Al can be harnessed to improve the education and opportunities of students as they prepare to enter the workforce.

We also stress the need for students, employees and society to develop the awareness and understanding that they will need in order to be effective,

engaged and active citizens in a world in which AI will play an increasing role.

Oates, T.

TRANSNATIONAL COMPARATIVE METHOD REGARDING CURRICULUM. 3-4 May 2016, 11 pages

http://www.oecd.org/education/2030-project/contact/

Transnational Comparative Method Regarding Curriculum.pdf introduction

1. This paper outlines key assumptions and theoretical bases for the approach to transnational comparison which has been developed by Cambridge Assessment.

2. It is a working paper designed to support the OECD's project to undertake comprehensive transnational curriculum analysis as a means of providing information and support to domestic policy formation on educational improvement, focused particularly on issues related to curriculum.

3. Cambridge Assessment is a non-teaching department of the University of Cambridge. It employs over 2 400 staff, and operates in over 170 countries. The Group includes three exam boards – Cambridge English, Cambridge International Examinations, and the OCR board. It has the largest assessment research team in Europe.