

The Open University Partnership in Wales PGCE Programme

Research Bulletin
Special Issue
December 2022

Welcome to the first special issue of the PGCE Programme's research bulletin. Special issues will focus on a range of topics of interest to teachers and teacher educators. In this issue curriculum design is explored. If you have any requests for future special issue content please get in touch.

We are planning a special issue on implementing the Curriculum for Wales that will include examples of effective practice in partner schools. If you would like your school to feature in this special issue please contact Alison Glover (alison.glover@open.ac.uk).

In this special issue on curriculum design



Curriculum design capability: What Wales can learn from international curriculum reform, includes the challenges and opportunities for curriculum design capability. Accountability, professional learning and social network context all require attention.



Curriculum design in teacher teams: Four paradigms for curriculum design are presented. There needs to be importance placed on the active teacher role and recognition of their wisdom of practice.



Conditions for successful teacher design teams: Some of the critical success factors include protected time, with funding for development and the contribution of an external coach/facilitator.



The curriculum design coherence model: This model provides a way to avoid the limitations of content-list and skills-based approaches. Generalisability is the power of concepts and is why they are placed at the heart of a successful curriculum.



Cross-curricular learning: The different environments learners encounter impact attitudes towards learning. These environments overlap and are interdependent. There are a range of cross-curricular approaches.



Developing student-centred approaches to curriculum: When teachers exercised forms of transformative agency, they significantly shaped both the content of new curriculum materials and the design process itself.



Curriculum design orientation preferences: Educational beliefs influence teachers' designing teaching environment, teaching methods and techniques they apply in the classroom. An educational belief scale and a curriculum design orientations preference scale were used.



OECD Future of Education and Skills 2030 project: links to curriculum redesign aspects of the project and curriculum implementation with many international examples published.



Curriculum design capability

'Opportunities need to be maximized [...]to treat curriculum reform as a vehicle for wider educational improvement through professional learning.'

There are lessons to be learnt from other curriculum reforms. A critical element of curriculum reform is 'sense-making by teachers', however, this is often neglected. In Scotland it was found that there was a lack of understanding of the core ideas for the new curriculum and/or a mismatch of this with teachers' beliefs and existing practice.

In the Netherlands, concerns were raised focusing on the lack of confidence teachers felt in their

curriculum knowledge and design skills, and that support is needed for curriculum making at school level. Also, maximising school networks offers potential to enable expertise across schools.

Although networks within a school can be densely connected, between schools there can be less connectivity. Therefore improvement in collaboration and effective use of social capital is critically important.

Sinnema, C., Nieveen, N. and Priestley, M. (2020) 'Successful futures, successful curriculum: What can Wales learn from international curriculum reforms?'. *The Curriculum Journal*, 31, pp. 181-201, doi.org/10.1002/curj.17



Curriculum design in teacher teams

'Curriculum design [...] aims at bridging the gap between curriculum intentions and implementation.'

Curriculum design is an iterative process, in which knowledge about design procedures and knowledge about indicators of curriculum quality are intertwined with socio-political interests and the realities of many stakeholders, particularly teachers. Curriculum design and teacher learning are interdependent.

The instrumental paradigm can emphasise the student behaviour – what students should learn, what are their needs? Whereas the communicative paradigm is focused on what people do when they design curricula and how they arrive at the answers. Curriculum designers' values and beliefs need to be acknowledged. The process can start with open discussion and once consensus is achieved there are deliberations on the course of action and design decisions made.

The starting point in the artistic paradigm is the individual process of construction of meaning where knowing is rooted in social activities, context and culture. This approach views designing a curriculum as an open-ended process. For the pragmatic paradigm the focus is on whether the design works in practice. There can be limited attention on analysis. The process is very iterative, leading incrementally to a final design.

An active role for teachers is important, not only because consensus and shared understanding about what the curriculum comprises is needed for the implementation of the curriculum, but also because teachers' wisdom of practice results in curricula that are more realistic and practical to implement.

Voogt, J., Pieters, J. and Pareja Roblin, N. (2019) 'Collaborative curriculum design in teacher teams: Foundations', in Pieters, J., Voogt, J. and Pareja Roblin, N. (eds.) *Collaborative Curriculum Design for Sustainable Innovation and Teacher Learning*. Switzerland: Springer Open. pp. 5-18.



Conditions for successful teacher design teams

'Teacher design teams can be helped when a coach facilitates their group process.'

This account focuses on a professional community developing innovative methods of instruction. Much detail of the school's experience of implementing design teams is provided. It is preferable to have teams that consist of participants from different but related subjects.

It is important for teacher design teams to have time to design and learn that is scheduled together; have a suitable workplace for joint work; are buffered from outside disruptions; are aware of knowledge resources and opportunities for learning (inside and outside school) and there is budget for these.

Senior staff have an essential role as integrators and synthesisers. They can help staff to attack incoherence, make connections, and focus on continuity from one program to another. There must be diverse and regular communication with all staff about decisions being made, developments in the process, and progress recorded.

External support and involvement can also be key to success. Coaches are important in creating context for engagement and sense making. Collaborative teacher learning by cyclical design is central.

Handelzalts, A., Nieveen, N. and Van den Akker, J. (2019) 'Teacher design teams for school-wide curriculum development: Reflections on an early study' in Pieters, J., Voogt, J. and Pareja Roblin, N. (eds.) *Collaborative Curriculum Design for Sustainable Innovation and Teacher Learning*. Switzerland: Springer Open. pp. 55-82.



The curriculum design coherence model

'It is a way to ensure that the knowledge taught to students is reliable and not merely the opinion or beliefs of the teacher.'

There are four elements to the curriculum design coherence model, created in the united operation of generalising concepts and materialised content in 'knowledge-that' and in the subsequent connection of 'knowledge-that' to 'know-how-to', both of which are then evaluated.

Patterns of generalising concepts serve as the mechanism for coherence in a subject's topics. To begin with there is a statement as to what the topic means to the students. Evidence is then required to provide the content. It is not enough to be able to 'do' something; students should understand the 'what' and the 'why'.

Some research findings: teachers found it difficult to think about 'knowledge-that' subject concepts and content; some bypassed the knowledge itself and went straight to the visible (and measurable) competencies in 'know-how-to'. Teachers were able to focus on the concepts as the means by which students think.

One conclusion reported is that the model may assist teachers in maintaining their vocational commitment by ensuring that their work is intellectually fulfilling. However, it is critical that teachers understand the theory behind the model.

Rata, E. (2021) 'The Curriculum Design Coherence Model in the Knowledge-Rich school Project', *Review of Education*, 9(2), pp. 448-495.



Cross-curricular learning

'Creative learning happens where new and imaginative ideas arise from bringing together different materials and mindsets.'

This article considers how teachers should think about the environments they create and use: i). The values environment – teachers are in a position to create a shared system of values, the values context within which the curriculum is based needs to be considered.

ii). The physical environment – the more displays and exhibitions enhance the classroom, the more children work outside, the greater the chances of engagement. iii) and iv). The social and emotional environment – the wealth of social knowledge that children bring to school must not be ignored. Rearranging classroom furniture can help to accommodate different learning preferences. Inclusive teachers choose tasks that feel authentic and relevant to the children.

v). The cultural environment - learners are better-motivated, better-behaved and better learners

when exposed to real sites, real individuals and new situations.

vi). The curricular environment – a range of approaches are suggested for cross-curricular learning – each operating in the above environments and each approach will have a unique impact on the school environment: double focus – only two subjects (plus always English), applying more than two can result in confusion; thematic – themes related to life skills; tokenistic – a gesture towards simultaneous learning in two subjects that fails to add anything new for one of them; hierarchical – new learning in once subject to enhance learning in another; multi-disciplinary – a single experience provides learning in two subjects; inter-disciplinary - new knowledge and skills in two subjects is combined to make something new; opportunistic – this allows children to dictate what they want to know.

Barnes, J. (2019) 'Across the curriculum', *Osiris Staffroom*. Available at: <https://osiriseducational.co.uk/staffroom/article/across-the-curriculum>



Developing student-centred approaches to curriculum

'Working together is important because solutions to educational problems require diverse forms of expertise.'

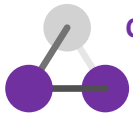
This paper focuses on a study that was part of a research-practice partnership that developed and tested the efficacy of new curriculum materials over a year. The process began with a 5-day workshop; over the year participants put in more than 100 hours of joint working. Interpretive perspectives were drawn upon to understand how people participate and make sense of their participation in design activities. Teacher reflective essays, and feedback surveys formed elements of the data set.

The focus was on the actions taken to influence the shape of curricular materials and the design process. Interactions during the group design meetings allowed for a record of the development and co-ordination of teachers' collective agency.

Using small teams meant more opportunity for teachers to contribute. Teachers selected the phenomenon to anchor units, thus exercising their agency.

Teacher proposals at the end of the project suggested more collaborative, face-to-face working for them so that they could engage more deeply with the ideas under discussion over a continuous block of time. It is concluded that there is a need for theories of design methodology in the learning sciences to structure collaborative design in ways that simultaneously promote the agency of participants within the design process and expand possibilities for what new forms of activity are possible in classrooms.

Severance, S., Peniel, W.R., Sumner, T. and Leary, H. (2016) 'Organising for Teacher Agency in Curricular Co-Design', *Journal of the Learning Sciences*, 25(4), pp. 531-564.



Curriculum design orientation preferences

Identifying the relationship between the educational philosophies adopted by the teachers and their curriculum design orientation preferences will guide them in preparing and implementing the curricula since curricula are designed by considering what knowledge, skills and competencies the individuals must have.

This study used the correlational survey model; the relationship between the primary school teachers' educational beliefs and their preferences for the curriculum design orientations was analysed using statistical techniques.

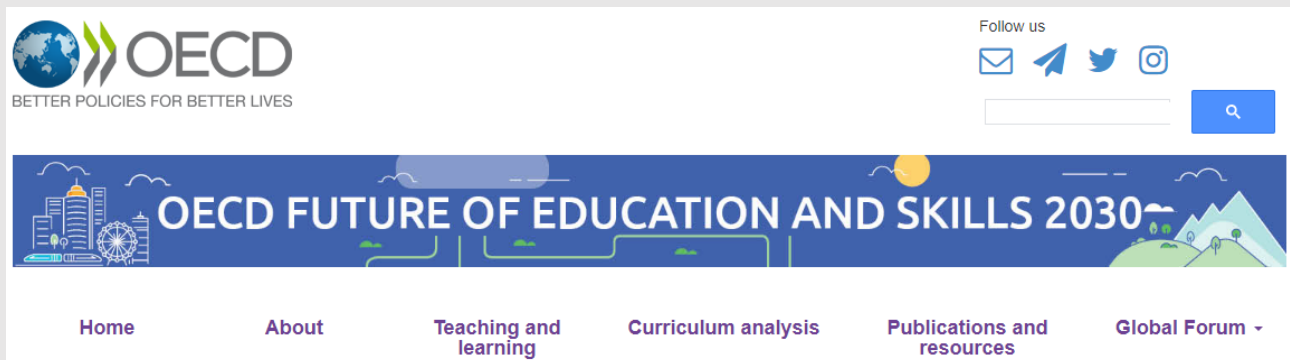
An educational belief scale and a curriculum design orientations preference scale were used

'Educational beliefs influence teachers' designing teaching environment, teaching methods and techniques they apply in the classroom.'

with more than 500 primary school teachers. The results of the study revealed a moderately strong and significant relationship between the educational philosophies of progressivism, reconstructivism, and existentialism, known as the contemporary educational philosophies, adopted by the teachers, and their preferences in student-centred and problem-centred curriculum design.

Thus, primary school teachers may be expected to design and implement student-centred and problem-centred curriculum designs if they adopt contemporary educational philosophies. Likewise, they will design and implement a subject-centred curriculum design when they adopt traditional educational philosophies.

Aslan, S. (2022) 'The Predictive Role Of The Primary School Teachers' Educational Beliefs On Their Curriculum Design Orientation Preferences', *International Journal of Psychology and Educational Studies*, 9(3), pp. 765-781.



How can we prepare students for jobs that have not yet been created, to tackle societal challenges that we can't yet imagine, and to use technologies that have not yet been invented? How can we equip them to thrive in an interconnected world where they need to understand and appreciate different perspectives and world views, interact respectfully with others, and take responsible action towards sustainability and collective well-being?

Many interesting publications and resources are available:

Phase I of the project focuses on **curriculum redesign** and developing a conceptual **framework for learning 2030**.

Phase II focuses on **curriculum implementation** and creating a conceptual **framework for teaching 2030**.