Mitcham Town Cluster School-based Research Projects

Theme 1 – Reconceptualising Teaching - New Models of Professional Learning

Gillian Boyd – Deputy Head, St Peter & Paul's RC Primary School, School Mitcham

*Gillian has designed and is evaluating a new model of collaborative school based CPD that focuses on developing expert skills in teachers and impacts pupil attainment. The project aim is to trial and evaluate an approach to teacher support in order to improve learning. The project foci include evaluation of 1) the effects of coaching; 2) the efficacy of feedback on teaching quality; 3) the effectiveness of data to inform design for learning and planning. The four elements of expert teaching that the new model will seek to develop are a) challenging learning; b) deep representation; c) tteacher monitoring of learning; d) use of targeted feedback to support learners. The project Vision is to bring about meaningful change by developing teacher skill sets and a collaborative learning community (Hattie, 2003, 2012; Fullan (2013) The 'wicked Issue' is that teaching as formerly defined by Ofsted as good or outstanding is an unreliable predictor of pupil progress and attainment. The challenge is to develop teacher capacity around designing learning and expert teaching within a PLC that generate meaningful impact on pupil learning. Her research draws on the work of John Hattie (2003, 2012, 2014) and other academics working in the area of design for learning and visible impact. In its current pilot phase the focus is on evaluating the stage 1 of the new CPD model, linked to an approach to managing and evaluating complex change across a whole school. The big strategic focus is identifying those factors that enable expert teaching that translates into pupil gains. Gilian's presentation at the Innovation in Practice Conference on Oct 11th was entitled **Learning Together, Achieving Together – enabling expert teaching within a professional learning community.***

Theme 2 – Reconceptualising Learning - Curriculum Re-Design

Emily Watt – ICT Coordinator, Cricket Green School, Mitcham

Emily has designed an approach to teaching functional skills and literacy through Shakespeare at Cricket Green School that focuses on metacognitive processes and facilitates SEN learners in understanding how they learn. Emily's research is focusing on evaluating the effectiveness of this new pedagogical approach and assessing how well the new model of curriculum design facilitates the development of transferable life skills for SEN students. The project aim is to raise attainment in for pupils with varying degrees of SEN at KS4 so that SEN pupils are able to work at a functional level that corresponds to their National Curriculum literacy levels. The focus I Phase 1 of the project was to trial different teaching methods to develop a new scalable pedagogical model to inform planning across the school and a scheme of work to be used across Year 11. The intended Impact of the research is to gain an understanding of how KS4 SEN students learn and need to be taught, by exploring the relationship between meta-learning (Biggs, 1985), functional skills development and engagement with Shakespeare. The research is located within the interpretivist paradigm and influenced by design thinking (Brown, 2009) and complexity theory (Gleick, 2011). The key finding from Phase 1 is around the need to address students' perception of literacy through incorporating metacognition skills within literacy lessons. Related findings are that SEN students learn best and advance in literacy when 1) they understand why they are learning something; 2) they can relate their learning to a range of different scenarios; 3) they are given opportunity to leave the basics skills behind and look at meaning and inference; 4) they are given the opportunity to make sense of their learning. In Phase 2, the project focus is on taking a design thinking approach to literacy and learning that is holistic and recognises that the individual learner is part of a wider community or social system of families, homes, parents, teachers, schools. This approach will be evaluated to assess whether the students develop greater capacity for self-organization and self-determination (Casti, 1997; Merry, 1998). The expectation is that a design thinking approach to literacy for SEN students creates challenges that focus on developing empathy, promoting action, fostering ideation, developing metacognitive awareness and encouraging active problem solving. The research will test these assumptions through reviewing performance data and student work, observation of students, discourse analysis, and a range of data collection tools that include interviews,

questionnaires and surveys. Emily's presentation at the Innovation in Practice Conference on Oct 11th was entitled **SEN, Shakespeare and Metacognition.**

Theme 3 – New Pedagogical Models and Technology

Patricio O'Brien – Sixth Form Tutor, Cricket Green School, Mitcham

Patricio is developing an approach to learning and assessment that takes account of student voice and student perspectives on learning, collated through self-managed e-porfolios. This research explores wider issues around SEN students having a 'voice' in their own learning and also the use of new technologies to support emergent pedagogy premised on student voice, learner autonomy and learners as designers and leaders of their own learning. The project has a strategic focus in that it addresses policy and improvement priorities in Cricket Green School around the creation of 'assessment policies in all subjects to lead to robust tracking of pupils' progress' and 'improving the quality of formative assessment'. Underpinning the development of the e-portfolio will be transparency of success criteria, a combination of self-assessment, peer-assessment and teacher-assessment and a shared language for learning. The project is premised on a model of strategic and applied research that adopts an iterative cycle in data collection, analysis and project review. The research paradigm is interpretivist, recognising that there are multiple versions of reality and that knowledge is socially mediated and constructed. The research also takes account of both complexity theory and critical theory that recognise system connectedness and political dimensions to leading educational innovation or change. Research methods include review of e-portfolio content, semi-structured student interviews and lesson observations that allow for semantic analysis and address learning at the level of process and artefacts. In the pilot stage, the sample of students involved in the research will be food technology students with a focus group of 6 students. The learning from Phase 1 will inform project design in Phase 2 (January 2015 – Dec 2015). Patricio's presentation at the Innovation in Practice Conference on Oct 11th was E-portfolios: **Self-documenting SEN Learning***.*

Leighton Ledgister – Head of KS3 Maths, Prendergast Ladywell Fields College Lewisham (Formerly, St Marks' Academy, Mitcham)

Leighton is developing an approach to Maths homework that develops higher order thinking skills in Maths and engages students at KS3 who are eligible for Pupil Premium funding. The aim of this project is to improve attainment in Maths at KS3 by exploring flipped learning as a new pedagogy. The 'wicked issue' is student disinterest in doing homework. According to Bergmann and Sams (2012) the flipped learning model 'provides that bridge to a learner-centered classroom environment, thereby enabling deeper learning'. The project hypothesis is that differentiated scaffolding of children's homework in Maths alongside targeted feedback and flipped learning, improves students' quality and quantity of homework, leading to deeper learning. Leighton has designed and trialled a new homework structure to improve the quality of students learning in Phase 1. His pilot study focused on identifying unmet student needs around personalisation of support, targeted feedback and the development of scaffolding to enable problem solving in Maths. Relationships of trust between students and teachers linked to targeted, specific and timely feedback emerged as a key finding in Phase 1. In Phase 2, Leighton is evaluating 'Flipped Maths' as a pedagogical approach to enhance higher order skills development and accelerate engagement in productive homework that raises attainment in Maths. Leighton's presentation at the Innovation in Practice Conference on Oct 11th was **Flipping Maths Homework**

Theme 4 – Collaboration and Co-design of Learning (Maths)

Adam Ralph – Head of English, Ibstock Place School, Roehampton (Formerly head of ICT at Cranmer School, Mitcham)

Adam's project aim is to considerably improve attainment in Primary school maths by developing and evaluating a model of peer-learning and peer-support, within a co-created approach to planning and delivering maths lessons. The 'wicked issue' (Brown, 2009) that the project aims to address is underachievement in maths with high achieving and Gifted & Talented children often not being challenged regularly, while low achieving children struggle to 'close the gap' and keep up. The project methodology involves working as part of a local Research & Design (R&D) team (Bentley & Gillinson, 2006; Hargreaves, 1999) team in Mitcham, leading an Action Research project (Stenhouse, 1979) underpinned by a mixed methods (Cameron, 2011) that includes quantitative and qualitative data collection. The data is collected and analysed within an iterative process of data gathering, analysis of results, communication of work in progress to stakeholders and project re-design. The pedagogical model is designed according to the children's needs and input. Project impact indicators include increased pupil skill and confidence in maths, 3-sub-

*levels of progress over a year, and enhanced teacher skill in designing, delivering and assessing structured, supportive peer-learning. The model is linked to reward system for attainment and the development of a peer-assessment tool comprising 5 levels of attainment from Novice to Mastery across 4 categories of communicating; listening; supporting through modelling and supporting through praise. The statistical data analysed confirms that peer-learning and co-created lesson planning in maths significantly improve progress in low achieving and gifted & talented pupils. In addition, the research highlighted the creative ability of pupils to design maths games that accelerated skills development. The pupils developed 2 new games Round the World Maths and Duck Splat Maths radically improving knowledge of times tables. In Phase 2, Adam will be adapting the key elements of this pedagogical model to the teaching of English and Maths in the Primary school. Adam's presentation at the Innovation in Practice Conference on Oct 11th was **Communication - the fifth mathematical operation.***

Paul Best – Leader of PE and Teacher of KS2 Mathematics, Bond Primary School, Mitcham

*The aims of the research project are to enable pupils to work collaboratively to improve their capacity to think, to promote pupil exploratory talk, to develop mathematical understanding and build self-esteem and confidence, which will lead to improved progress in maths. The intended impact of the project is to raise attainment in mathematics whilst designing a pedagogical model for the development of thinking, reasoning skills and exploratory talk in year 4 maths. The research is underpinned by Vygotsky's work (1978), which suggests children learn to think individually by learning to use dialogue through reasoning with each other. The project methodology is strategic action research using mixed methods (Cameron, 2011) and design thinking (Brown, 2009). The research project is premised on a design thinking approach (Brown, 2009) that identifies a 'wicked issue' of practice and aims to address it by defining the issue, inquiring into it, developing a prototype pedagogical model, testing and evaluating the model and applying the learning. In essence, the methodological approach is construed around strategic action research (Stenhouse, 1981) that is context relevant and aligned to school priorities for improvement. The sample in the research pilot in Phase 1 are be six Year 4 mixed ability pupils, including EAL, pupil premium, minority ethnic groups and white British. The project will assess the type of talk occurring in the classroom and the impact of dialogic teaching. The data collected from this research will inform curriculum design, lesson planning and interventions to address any issues identified. The project will provide a case study for practitioners interested in understanding of the needs of KS2 learners, in engaging them and improving their progress in Mathematics. It aims to develop and evaluate collaborative working relationships in the classroom to empower pupils to take ownership of their own learning. This research project has the potential to be replicated in Mitcham consortium of schools. Paul's presentation at the Innovation in Practice Conference on Oct 11th was entitled **Promoting collaborative dialogue in Primary Maths***.

Stella Gbolonyo – Head of KS3 Maths, St Marks CE Academy, Mitcham

*The aim of Stella's project is to research how students best achieve Mastery in Mathematics at Key Stage 3 whilst developing peer collaboration. Maths Mastery is about acquiring core skills that enable Mathematical thinking & conceptual understanding demonstrated through Mathematical language and communication. The intended Impact of the project is to improve students' skills & understanding of Maths leading to improved attainment. The emergent findings suggest that one size does not fit all in the teaching of Maths skills and that both personalisation and scaffolding are required to address specific skills gaps in Maths. Another finding has been that possession of advanced skills in oral communication of Maths concepts and problem-solving does not always translate into high performance in SATs tests. There has been a positive correlation between attendance at Maths Enrichment classes focusing on core skills development in Maths and positive performance in SATs. In Phase 2, Stella will be researching the effectiveness of teacher modelling of problem-solving and evaluating the effectiveness of scaffolding to support collaboration in Maths alongside development of core skills though Maths Enhancement compulsory provision. Stella's presentation at the Innovation in Practice Conference on Oct 11th was **Mastering Mathematics at KS3.***

Theme 5 – Enhancing Learner Engagement and Attainment (Maths)

Serena Strain – Head of Maths, St Peter and Paul's RC Primary School, Mitcham

Serena's research project has focused on building learner capacity, independence and success at KS1 by developing a new pedagogical model to support the teaching of literacy and Maths. In designing the new model, Serena reviewed and adapted the learning outcomes (LO) and success criteria (SC) enabling the pupils to co-design the success criteria so they were meaningful, simple and accessible. Linked to this, the focus was on developing peer-coaching relationships in class, premised on a common language for learning in Maths and literacy that enhanced pupil self-review and self-reflection, linked to targeted feedback and group conversations on how to address feed-forward. The initial evaluation of the pilot indicated that pupils welcomed the transparency of the new 'steps to

success' and also were eager for challenge in learning. The review also highlighted the need for additional support in developing collaborative approaches to Maths, given variable skills in problem solving and core Maths skills. The current focus of the project is now wholly on developing and evaluating an approach to Maths that builds learner success and leads to increased attainment. The learning from the earlier pilot around the critical importance of 1) common language for learning, 2) transparent and co-created success criteria, 3) suitable levels of challenge linked to 4) targeted feedback and feed-forward all inform the second phase of the project which is researching the introduction of Singapore Maths to develop core Maths skills and problem solving. The research project is inquiring into the development of key concepts including visualisation, generalisation and decision-making as core maths skills, linked to improving dialogue about Maths concepts, developing higher order Maths skills around thinking and questioning and addressing levels of challenge. The project methodlogy for data collection and analysis is aligned with the development of teaching and feedback tools on quality of learning. *Serena's presentation at the Innovation in Practice Conference on Oct 11th was* **MathmeCHATical: D***eveloping independent & reflective learners in Primary Maths*

Dinah Davis – Learning Support Tutor, Cricket Green School, Mitcham

Dinah is researching the 'wicked issue' of SEN girls' achievement in Maths. The project aim is to investigate why mathematics appears to be a challenge for girls with special needs. The project objectives are to determine how motivation affects the attitude of SEN girls to Maths and to design and evaluate effective teaching approaches that improve girls' interest and attainment in math. The project vision is to create the conditions in which SEN girls can excel in Maths. The project will introduce and trial the Singapore (CPA) method of teaching Taths addressing concrete, pictorial, abstract thinking skills. The intended impact is 1) improved attainment arising from improved motivation; 2) core skills development through the bespoke Singapore approach to teaching and 3) the design and evaluation of a fit for purpose scheme of work in Maths for SEN girls. The project methodology is premised on a pragmatic and design approach to research that makes the 'wicked issue' the core focus, determining the approach to understanding the issue (Creswell, 2003). Data collection and analysis methods are chosen as those most likely to provide insights into the 'wicked issue' with no philosophical loyalty to paradigms per se. In the current pilot phase In-depth interviews will be used as they allow for inquiry into the attitudes of students, staff and parents. Documentary research and analysis of past class records of the students will be used alongside student observation. The design of the new scheme of work will be informed by data that signals learner need and relevance. This will be implemented and evaluated in the Spring 2015. Dinah's presentation at the Innovation in Practice Conference on Oct 11th was **SEN girls and Maths – reversing a trend in underperformance.**

Theme 6 – Collaboration and Co-design of Learning (Literacy)

Caroline Henry-Ledgister – Year 6 Class Teacher, St Francis Primary School, Wandsworth

The aim of Caroline's project is to ascertain whether the combination of experiential learning in drama and the structuring of creative writing through co-designed scaffolds improves literacy at KS2. The 'wicked issue' is improving literacy whilst inspiring pupils to write. The project hypothesis is that role-play and dramatic conventions have the potential to engage children in deep learning that translates into improved literacy and writing skills when followed up with the use of co-designed writing scaffolds that target specific literacy skills development. In Phase 1 the focus has been on collecting baseline data and on co-design of scaffolds with pupil input. The theoretical base of the project is informed by the work of Tarlington (1985) who propose that drama can act as a powerful pre-writing activity because it develops a meaningful context for writing. Similarly, the work of Bliss & Askew, (1996) on the role of scaffolding informs the project based on their claims that scaffolds enable the transition from assisted tasks to independent performance. The project methodology incorporates design thinking (Brown, 2009),strategic action research (Stenhouse, 1981) and complexity theory (Capra,1986). The project design is premised on a balance between the development of teaching interventions such as drama in the classroom and co-design of writing scaffolds evaluated through pupil writing perception surveys, ethnographic observation and teacher questionnaire's. The feedback from the pupils included the use of technical language derived from the scaffolds. The emergent findings from Phase 1 suggest that drama has motivated the children and improved their self esteem. The sample children's writing improved as evidenced by external moderation of writing standards. The correlation between engagement in drama and improvement in writing is not robust. There is a need for intervening support that combines drama with structured, targeted writing skills development through personalised design of scaffolds. The priorities for Phase 2 include deepening the theoretical base to project; co-design of scaffolds & evaluation of effectiveness; design of report cards; define of the case study within the research project; collection & analysis of further feedback from pupils & staff; interrogation of data and identification of the case for change; report interim

*findings to key stakeholders; achieve buy-in for proposed change agenda. Caroline's presentation at the Innovation in Practice Conference on Oct 11th was entitled **The Missing Link - enhancing literacy through KS2 drama & scaffolding of writing.***

RESEARCH INTERESTS OF YEAR 1 STUDENTS COMMENCING MA IN LEADERSHIP & INNOVATION

Name	School	Initial Research Focus
Ebony-Odette Alexander	St Thomas of Canterbury School	*Exploring pupil attitude and behaviour on progress and attainment. How the teacher can influence this and inspire pupils to raise attainment.*
Jeremy Barnes	Melrose School	*Researching the impact that sport has on students within SEBD schools.*
Meighan Curran	Cricket Green School	*Transitioning pupils with SEN between year levels, focusing on pupils with SLD.*
Klayre Hearn	Cricket Green School	*Researching what the 6th form should look like specifically looking at whether the 3R's (reading, writing and arithmetic) are relevant, or how you measure confidence and make judgments about progress.*
Paul Morgan	St Mark's Academy	How improved accountability of middle leaders within a school can raise standards and improve the quality of education in a school.
Takalani Ranwashe	St Mark's Academy	Literacy development through mentoring