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On the Relationship Between the Achievement of 21st Century Learning Outcomes for Learners and the Cultural Script of Teaching

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In this paper we analyse the outcomes of a professional development programme designed to prepare teachers to implement a 21st century national curriculum. The teachers engaged in lesson study involving cycles of collaborative planning, teaching and review to develop lessons in core curriculum subjects that would achieve the intended outcomes of the curriculum. Six aspects of 21st century learning were operationalised using learning design rubrics to measure the power of the lessons. Most of the teachers reported that they were clearer about what is meant by 21st century learning and that they could see - and had experienced - what was needed to redesign lessons for their students to achieve 21st century learning outcomes. However, they were clear also in reporting that their everyday practice was dominated by the need to prepare their students for examinations through practices that were incompatible with these outcomes. The results show clearly that the development of teachers cannot occur independently of changing the practice of teaching and learning in schools, cannot occur independently of changing the cultural script of teaching.

Some implications for curriculum development and the role that lesson study can play in achieving effective change in the quality of education will be explored. The collaborative professional development in Brunei was an example of lesson study but as it progressed it became clear that the design resembled a learning study using variation theory as the design tool. The lesson designs planned in collaboration with the teachers were different from what many teachers were used to. To overcome the possibility that the outcomes were a fluke and would not work with other students in other schools, all agreed that the designs should be tried elsewhere, i.e. that the students should be varied. When similarly successful learning outcomes were revealed, the teachers could see that all students might benefit from the new designs and that the development of 21st century skills could result from a change in teachers' everyday practice. However, despite the teachers' overwhelming agreement on the relevance of what they had achieved together, there was also overwhelming concern among the teachers that the existing curriculum, assessment and appraisal system would not support the new practice.

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Developing a Culture of Professional Development in Teacher Education - Lesson Study as the Center for Interdisciplinary Collaboration

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The gap between theory and practice is a general challenge in teacher education (Hersom, 2014; Østergaard: 2016). To overcome the gap between theory and practice Lesson Study (LS) has shown to be important for prospective teachers to build relations between course work and field experiences (Fernandez & Zillio, 2011).

Teacher education culture has an impact of the preferred modes of learning. In this culture, the teacher educator plays a crucial role in the learning that occurs in doing lessons studies (Potari, 2011).

Our aim is to study how LS-interdisciplinary collaboration contributes to a professional culture in teacher education.

We designed an educational LS-programme for first year students containing relevant subjects associated with LS-culture and specific LS-activities (an ongoing project). In the programme connections between LS-related activities in three subjects: didactics, mathematics and psychology were explicit. Thus, the LS-culture was frequently articulated and transparent for students as well as for the teacher educators.

The teacher educators' collaboration referred to three common focal points: ways of participation, learning communities and professional development.

The teacher educators continuously worked with the students storying professional identity (Winslade, 2002). One of the significant parts of the programme is an open lesson in mathematics - the students first meeting with the profession at Teacher College. Another important element is the collaboration between the three subjects in exploring and developing a lesson study culture.

Data was collected primarily through short video-recordings, interviews and interview by a fellow student with a reflecting team of their peers.

One important finding is that the educational LS-programme enables students to engage in meaning-making (bridging theory and practice) that combine subject knowledge, educational values and ideas using storying for developing their professional identities. A new LS-culture emerges among the prospective teachers characterized by articulations and reflections. The LS-programme also contributes to the teacher educators' participation in the LS-culture, and the possibility for their own professional development.

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Orchestrating ICT-enhanced Learning Experiences in a General Paper Classroom

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This quantitative study aims to explore how Year 2 students respond to their teachers' collaborative orchestration of their learning experiences with answering the General Paper online comprehension accurately in 1 Junior College (JC) in Singapore. According to McClellan's Acquired Needs Theory, learning experiences can shape students' need for achievement. And this need for achievement can be enhanced with the appropriate use of motivators. Cognitive Evaluation Theory suggests that there are two motivation systems: intrinsic and extrinsic. Intrinsic motivators are achievement, responsibility, and competence. These motivators that come from the actual performance of a task. On the other hand, extrinsic motivators are rewards, feedback, and social surround -- things that come from a person's environment, which are uncontrollable by self. In this study, the students had to complete their online comprehension assignments, before submitting their works for teacher grading. 50% of the students in the control-experiment group could use the free and available Automated Marking Tools (AMTs) in the market 'pre-determined by their teachers' for instantaneous feedback prior to submission.

The 6 school teachers and 3 MOE officers in the Professional Inquiry Learning Community came together to conduct pre-lesson planning whereby they also collectively decided on the pitching level of comprehension quizzes and AMTs to be used, observed one member's 'live' delivery of their co-created lesson package for 4 classes of JC2 students, and participated in the post-lesson colloquium whereby they deliberated on the modifications to the lesson package. The lesson study cycle was completed when another member carried out the modified lesson package in his/her comparative class, and received constructive feedback on further refinements to the planned activities for a third round of enactment, if necessary. An online comprehension test, along with a questionnaire, were administered to all students prior to the start of the lesson study cycle and then at the end of the cycle. The questionnaire is a self-reporting instrument that was used to assess student motivation pertaining to the use of AMTs in the General Paper reading classroom. Findings from the 4-point Likert Scale questionnaire was correlated with the pre-post test scores to inform teachers that the youth learners prefer to engage in language lessons that incorporate the balanced use of extrinsic and intrinsic motivators.