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Effective Integration of IT in Singapore Schools: Pedagogical and Policy Implications (2001 – 2003)

Lim Cher Ping

Headed by Lim Cher Ping, the main objective of the study is to examine and analyse where and how IT is integrated in Singapore schools to develop students' higher order thinking skills. The specific objectives for the research are:

- + To identify, describe and interpret the sociocultural setting elements that promote or inhibit the successful integration of IT in Singapore schools.
- + To synthesise and interpret data from the Organisation for Economics Co-operation and Development (OECD) and Second Information Technology in Education Study (SITES) studies to provide a more holistic view of IT integration for pedagogical and policy recommendations.
- ◆ To construct models of IT integration for Phase I, II, and III schools based on relationships and patterns identified.
- ◆ To engage in an active dialogue of IT integration issues, problems and models with our external collaborators.

Research questions at both micro and macro-levels can then be generated, some of which are:

- ◆ What are the pedagogical practices of teachers & students that promote or hinder the integration of IT?
- ◆ What are the roles of the human participants, activities and tools in such an environment!
- ◆ How does a change in the curriculum promote a culture that aids in the integration of IT?
- ◆ How does a change in the mode of assessment affect integration of IT?

Based on the implementation progress, this study is well timed as the integration of IT in Singapore schools has reached a considerable level of maturity and stability for

evaluation purposes. By studying and documenting both the "successful" and "unsuccessful" integration of IT in schools with particular learning environments and their broader sociocultural context (education system and society at large), the implications and potential applications are at three levels:

Constructing IT Integration Models for Singapore Schools

Singapore will continue to refine and further develop the use of IT in schools. The construction of models for the IT integration for Phase I, II, and III schools based on relationships and patterns identified from the synthesis and interpretation of data will enable effective integration of IT into the Singapore schools

Making Policy Recommendations

Exploring the different levels of the sociocultural-historical context will enable the research team to make policy recommendations on IT integration. This will include areas such as potential changes/reduction in the curriculum; changing the mode of assessment (for example, interdisciplinary projects); instilling the culture of thinking school, learning nation, school autonomy and the professional development of teachers.

Establishing Singapore at the forefront of international research on IT integration

Providing a descriptive and interpretative account of the pedagogical practices of teachers and students, the role that IT plays in these practices, and the contextual factors that support and influence them, the results of the study should be of interest to the international educational community.

Singapore is one of the few countries in the world **that is engaged** in a significant national effort to implement IT in schools and use these resources to improve education. The proposed research study **will** put us in the forefront of international research **study of IT** integration at the national level, and hence, serves as a model to other countries as they plan for the integration of IT in their education **systems**. The **theoretical** framework for the study is based on activity theory which inform the design and methods of the **two-phase** study: This research study consists of two phases. Phase one **is an** analytical study of IT-integration data that has been collected by the Ministry of Education (**MOE**) and the team. It also draws upon the data collected by both the **OECD and SITES** projects. The team will work closely with the officers from the **Research and Testing Division** as well as the Educational Technology Division of the Ministry of Education. Phase one serves 3 main purposes

- ◆ It **is** a screening phase to identify the case studies for phase two – integration and non-integration of IT in the school.
- ◆ It provides a descriptive and interpretive account of the degree of integration of IT in Singapore schools, and hence, situates the case studies in phase two within a broader context.

- ◆ It refines and guides the direction of phase **two** of the study,

Phase **two** is a collective case study of 10 schools (5 primary, 3 secondary and 2 junior colleges). The sample of schools at each **level is** chosen based on their degree of IT integration (such as the materials and activities supporting and being supported by IT resources, and their integration into the curriculum). **The** case study is the most appropriate methodological tradition, given the aims of the study that emphasise the context of use. To gather accounts of different realities that have been constructed by various groups and individuals in the learning environment, both qualitative and quantitative methods will be used. The research will involve the observations of IT and non-IT based lessons, face-to-face interviews with principals and IT-coordinators, focus group interviews with students **and** teachers, questionnaires for teachers and students, and samples of students' work.

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