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Building Information Literacy Through Project Work: A Case Study in Singapore

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Background



- Vision: "Thinking Schools, Learning Nation"
 - *Aims to nurture all students into active learners with critical thinking skills while developing a creative and critical thinking culture within schools* (Ministry of Education, 1998)
- Expansion of information literacy among students

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Project Work (PW)



- Launched in 2000 in all non-national examination years
- Achieves the twin goals of learning and assessment of thinking
- Employs the interdisciplinary, project-based approach

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Learner Outcomes of PW



Students will be able to:

- make links across different areas of knowledge
- generate, develop and evaluate ideas and information
- communicate effectively
- present ideas clearly and coherently (written and oral forms)
- work in a team
- Learn on their own
- Reflect on their own
- Take appropriate actions to improve their learning
(Ministry of Education, 2005)

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Developing information literacy through PW



- Refers to information literacy (IL) outcomes broadly
- Lacks the richer definition and understanding of IL concepts
- Omits explicit references to IL standards and indicators in the learner outcomes
- To overtly enshrine these standards and indicators in the PW strategic document

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Raffles Girls' School (Secondary)



- An independent school in Singapore
- Implemented the "Raffles Programme", an integrated programme
- Ensures rigour in learning
- Student population comprises the top 3% of their PSLE cohort



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Research Studies (RS)



- A modified version of the PW
- Focuses on independent self-directed learning and be empowered in the learning process
- States explicitly the development of information literacy

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Purpose of Study



- To investigate the perceptions of students and teachers regarding effectiveness of information literacy in PW as integrated into the Research Studies (RS) curriculum

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Monitoring & Assessment



- Adopts a developmental approach towards assessment
- Tracks students' progress through rubrics (outcomes of an information literate student are embedded in the various rubrics)
- Provides qualitative feedback
- Encourages students to reflect on their performance and contribution to the project, and the lessons learnt from working on the project

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Participants



- Involved 293 Secondary Two students
- Embarked on a group project
- Spanned across approximately five months
- Underwent classes on the research process and skills
- Introduced to the learner outcomes of RS, including those of IL
- Briefed on the use of rubrics for assessment

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Data Collection: Survey



A questionnaire of 57 items was developed.

- designed to study the students' assessment of their own information literacy competencies
- assessed in 4 areas:
 - ability in the research process;
 - ability in the creation of products and/or artefacts;
 - personal growth through the process;
 - working with others
- used the first person singular

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Data Collection: Text Analysis



- Evaluated 70 projects
- Extracted evidence of learning experiences highlighting information literacy from the students' written reflections
- Students were functioning at the cognitive level with reference to IL and practising information problem-solving

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Students' Self-Assessment



- Confident in being able to:
 - identify a variety of information sources
 - examine and compare information
 - communicate effectively
 - synthesise appropriate information
- Less confident in being able to:
 - define the purpose of the research problem
 - set clear and realistic goals and objectives
 - apply appropriate research methodology
 - define and execute a realistic plan and set schedule

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Students' Self-Assessment



- Agreement in:
 - having sharpened their critical thinking skills
 - being able to overcome problems encountered
 - being aware of ethical behaviour
 - collaborating well with others (peers and teachers)

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Teachers' Assessment



- Confident and satisfied with students' abilities to:
 - define the problem
 - identify the information need
 - synthesise and organise knowledge
 - manage time
 - evaluate information
 - reflect
 - collaborate with others

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Teachers' Assessment



- Has reservation with students' abilities to:
 - generate alternative ways of approaching tasks;
 - analyse how the alternatives affected those tasks
 - adapt where necessary

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Research Process



- Tend to exhibit information sources and evaluation, rather than knowledge/information creation conceptions of information literacy
- Able to examine and compare information from various sources but can still further improve on their ability to synthesise main ideas to construct new concepts
- “doing” of project takes precedent over “doing with understanding”

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Discussion Skills



- Lacks discussion skills to facilitate and manage small groups
- Were not able to help their groups stay focused and be on task

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Skills Build-Up



- Low percentage of students felt that they were able to apply the research skills learnt
- Merrill (1995) echoes that instruction needs to be transmitted at the time when students need the research skills
- Possibility of differing entry levels of IL competencies

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PW: A Tool



- Ensures that students have become information literate before they graduate from secondary school
- Creates student-centered learning environments which requires IL competencies
- Requires careful planning of instructional activities

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