

TO DEVELOP THE CONCEPT OF  
INTEGRATED LEARNING AND EXAMINE  
HOW THIS CAN BE DRAWN ON TO  
EFFECTIVELY MEDIATE LEARNING AT  
JUNIOR CYCLE

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# Table of contents

Introduction	1
Overview or background to research	1
Research focus	2
Research aim	2
Research methodology	2
Discussion and recommendations/ outcomes	3
References	6

# Introduction

A focus on integrated learning is central to the Educate Together Blueprint for second level schools (Richardson, 2009). Whilst research shows that thematic, interdisciplinary curriculum improves students' learning outcomes, its implementation and the development of relevant assessment mechanisms is a challenge for teachers, particularly in the absence of clear external exam-based specifications.

As a new school evidence based data on teachers' and students' perspectives about integrated, project-based learning and on the assessment and evaluation of students' learning and academic performance as a result of integrated learning will be crucial for HETSS' future development. Therefore, the findings of the research project will be 'actioned' in a manner that has long term practical benefits to the school.

## Overview or background to research

A review of relevant research suggests that previous studies focus on classifying different types of curriculum integration, teacher perceptions, or on student motivation. A dearth of research discusses integrated learning and assessment of student learning in relation to each other. Little research chronicles teacher perceptions, provides detailed discussion on implementing an integrated thematic, interdisciplinary curriculum, or offers an analysis of student learning. Many researchers discuss integrated learning (used interchangeably with curriculum integration) as an end result in and of itself. Drake (2000) proposes that students need to learn the skill of making connections between subject areas so they may apply their knowledge in different situations. Meier et al (1998) refer to curriculum integration as a means whereby students come to understand the world they live in by examining real world problems that are not governed by subject specific boundaries.

Several studies describe curriculum integration as a range of approaches organised along a continuum, ranging from identifying connections between subject areas to a problem or project based approach. Berlin and Lee (2005) describe these differences as the *various degrees* of integration i.e. the degree to which subject areas overlap. Similarly, Drake and Burns (2004) describe curriculum integration as a progression, moving from a mixing of subject areas to a curriculum restructuring: multidisciplinary, interdisciplinary, and transdisciplinary.

Teachers' practices at HETSS primarily focus on the multidisciplinary model – the curriculum is theme based, teachers identify objectives and outcomes pertinent to their discipline and plan activities to meet these. Each discipline remains identifiable. Connections between different subjects

remain tacit. The interdisciplinary model where explicit connections are made between disciplines to solve problems in and beyond the school setting will become stronger later. The transdisciplinary process where distinctions between subject disciplines are irrelevant and learning or problem-based learning requires the curriculum to be reconstructed (Drake, 1998) will also be explored. Most research on teachers' perspectives focus on why teachers choose to implement an integrated curriculum rather than what they believe integration to be. Exploring teachers' perspectives of curriculum integration in subject-specific schools, Hargreaves et al (2001) found that middle school teachers noted that *"the strong subject focus in secondary schools runs contrary to.....teachers' efforts to integrate the curriculum and develop cross-curricular skills through it"* (p.109).

## Research focus

The focus of this research project is on evaluating student learning in an integrated learning situation and assessing their associated academic performance. However, what constitutes learning can be challenging to define. According to Bransford et.al (2005:23) recognition (i.e. ability to remember when provided with a cue or context) differs from retrieval or recall (i.e. ability to generate ideas without prompts) in the basic learning processes. Ross and Hogabaum-Gray (1998) raise student learning to a more complex thinking skill, referring to it as knowledge transfer i.e. the ability to apply knowledge in new situations.

Having reviewed literature in relation to our research questions the next section describes the methodological choices made to explore integrated learning at HETSS.

## Research aim

The aim of this research project was to evaluate teachers' and students' perspectives and understanding of integrated learning and how student learning and academic performance could be evaluated in an integrated learning setting.

## Research methodology

A mixed-methods, action research approach characterised by cycles of problem identification, systematic data collection, reflection, analysis, data-driven action and problem redefinition was chosen for this project. While the project was yearlong, two cycles of research was implemented over 16-weeks. Modelled on Coughlan and Brannick's (2010) system of action research, each cycle involved four steps – constructing, planning action, taking action and evaluating data. Dick (2000:13) suggests two guidelines for the action researcher. Firstly, the action researcher uses the cyclic (or

spiral procedure) to challenge in later cycles ‘the information and interpretation from earlier cycles’ thereby helping the researcher refine their ‘understanding of the situation’. Secondly, he emphasises the need for the action researcher to ‘...at all times try to work with multiple information sources...’. He calls this ‘... creating a dialectic’, and to achieve this the researcher has to use ‘different informants...’ (Ibid.,15).

Cycle One drew on the analysis of data gathered from a survey of students, teachers and parents, and resulted in the collaborative agreement and planning on the implementation of a thematic, multidisciplinary curriculum. The use of the questionnaire as a research tool is beneficial in that it can survey a large sample at a time convenient to the respondents. However, it can be limited in the degree in which it can probe perceptions. Data was also collected from conducting semi-structured interviews with the Co-ordinator and Drama teacher as well as eight pre-selected students. According to Stake (1995) interviews give “multiple views of the case”. The purpose of the teachers’ interviews was to elicit their perspectives and understandings of integrated learning, the activities they planned to use in the forthcoming unit as a result of the experience gained, and how they planned to assess students’ performance (globally and subject-specific) in terms of academic and skills-based outcomes. The aim of the interviews with the students was to establish their perceptions of integrated learning and their knowledge of the academic content to be covered as identified as the key learning outcomes. Analysis of this data informed the planning and implementation of the programme in Cycle Two.

Cycle two was completed after a further eight weeks. Final semi-structured interviews were conducted with teachers and students. The focus of the teachers’ interviews was on their assessment of the key learning outcomes (discipline-specific and global) initially identified and, how their perspectives regarding integrated learning might have changed and why. The focus of the student interviews was on their perspectives regarding the unit and, their acquired knowledge and skills related to the academic and skills-based outcomes initially identified and their comments on the activities completed.

## Discussion and recommendations/ outcomes

The two questions that guided this research are:

1. What are teachers’ and students’ perspectives and understanding regarding integrated learning?
2. How can we evaluate student learning and academic performance in this integrated learning setting?

In relation to question one and in common with other research on integrated curriculum (Bintz et al., 2006; Hargreaves et al., 2001) teachers in Cycle 1 and Cycle 2 viewed integrated learning as having a specific purpose i.e. to make links between distinct subject areas to maximise student learning, *'where students get the opportunity to explore knowledge, skills and concepts by making explicit cross-curricular links'*. What was particularly evident in the post-interviews was that neither teacher spoke of different models of integration. For them integration simply involved blending subjects together and their teaching practices and activities were influenced by their reasons for integration, resulting in maintaining integration at a multidisciplinary level. Adler and Flihan (1997) noted that the implementation of integration varied despite the common perception of integration as a merging of subjects. The Drama teacher viewed students' ability to be apply their knowledge more important than subject specific knowledge ...*"real-world projects that are practical, can be applied and relevant"* whereas the Co-ordinator focused on the way that students demonstrated their learning in more than one classroom *"reinforcement via cross-curricular links"*. Both teachers' practices offered a perspective of integration as curriculum and integrated learning as the end result i.e. an entity to be "covered", rather than a method of learning. The development of an integrated learning unit in the absence of a text book i.e. course delivery highlighted issues in terms of teachers' self-efficacy in course development, the challenge of identifying realistic course parameters and valid assessment methods. However, similar to the findings of Flowers et al. (2003) despite the teachers' differences for implementing an integrated learning unit and their concerns about the considerable time and effort required to design and deliver an integrated unit in relation to existing curriculum requirements, they were agreed on the value of curriculum integration for students. They noted improved motivation, engagement and collaboration and were keen to continue using integration. Despite this, very few studies explore and report on the value of integrated learning for student academic learning, and teacher assessments of their units.

One of the main observations from this study is that teachers need to understand how their reasons for integrating learning influences their practices and in turn affects results regarding student academic learning. The post-interviews with teachers indicated that they continued to view integrated learning as a linking of subject areas and implemented a curriculum-bound content rather than a restructured curriculum based on student questions and concerns regarding the subject of study. Limited accommodations were made to provide for the more democratic process of students' voice in the shared curricular development and co-construction (Boville et al., 2011). Furthermore teachers found the development of relevant and valid assessment mechanisms challenging in the absence of clear exam-based requirements. I would therefore argue any future study of integrated learning and student performance requires detailed discussion of purpose and assessment in

relation to teacher practice and the importance of student voice and expertise on what it is to be a learner.

In terms of analysis of student data - only a minority of students in Cycle 1 articulated an understanding of integrated learning ...'Where we learn about something through different subjects and make the link between them'. However, by the end of the integrated learning unit in Cycle 2 all pre-selected students interviewed understood what integrated learning was. They described it in terms of a "*mixing of subjects*". Consistent with the work of Czerniak (2004), the students of this study were very positive about integrated learning and reported that they found it easier to learn in an integrated learning setting describing it as "*a lot of fun because we learn themes through different ways*" / "*we can look at a theme from different aspects and learn about it in interesting and fun ways*", and they really enjoyed the collaborative opportunities to "*work in groups*" that the unit's student-centred activities provided.

Regarding question two of the research project, the majority of students in the pre-unit interviews in Cycle 2 indicated little baseline knowledge in relation to the curriculum outcomes. In contrast in the post-unit interviews, students were more successful in demonstrating academic and skills-based knowledge related to the outcomes. For this study the comprehensive measurement of pre- and post-unit knowledge demonstrated that students did improve their academic performance and learning over the course of the unit. However, it is also to be acknowledged that this study focused on evidence of student recall rather than evidence of connections and thinking across subject areas.

## **Recommendations**

In conclusion, facilitating effective mediation of integrated learning at junior cycle will require a number of considerations:

- Allocation of sufficient time for teachers to plan, develop and reflect on course development and assessment methods.
- Timetabling on a whole-school approach to make provision for effective implementation of integrated learning and innovative teaching approaches.
- Development of sustainable school structures to facilitate easy access to resources and information.
- Staff training in course development, teamwork and assessment methods.
- Development of a comprehensive model for examining and reporting on student learning with particular attention paid to gathering information of student recall, recognition, and transfer of knowledge.



- CPD on techniques to include students' voice in shared curricular development and co-construction.

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