

The Information Search Process (the ISP) and the research essay. How one school library supports student learning by using the ISP as the framework for the Extended Essay.

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Abstract

Queensland Academy for Health Sciences (QAHS) is a senior secondary high school offering the International Baccalaureate (IB) Diploma Programme (DP). As part of the Diploma, students are required to complete a referenced research essay of four thousand words. For most, this will be their first experience of such a challenging undertaking. Problematic are the varying levels of student information literacy expertise, especially in the area of research. The challenge is to provide students with the tools to enable them to complete the essay within the guidelines set down by the IB Organisation. Kuhlthau's ISP (Kuhlthau 2009) has been adapted to provide students with a research structure.

Introduction

QAHS is a co educational government senior secondary school located on the Gold Coast in Queensland Australia. It is now entering its third year, 2009 seeing the first cohort completing the DP. The school was purpose built with the emphasis being on the health sciences operating within the framework of the DP. The school library is staffed by a teacher-librarian who is also the Extended Essay (EE) coordinator and who, in cooperation with subject teachers, ensures the embedding of information literacy skills in the curriculum. The Library has .6 library aide support.

The EE is a fully referenced research essay of 4,000 words on a topic of the students' own choosing. It is criteria assessed external to the school. The EE is an exacting piece of research, a major piece of formally presented, structured writing (IBO 2009). It is the responsibility of the school to provide students with the required support in order for them to be able to complete the essay. Students begin their EE journey whilst in year eleven, completing it in their final year of school.

It was recognised by the school that in order for students to experience success in their EE, it would be essential that a research framework should be developed, one that would guide the students through their EE journey. A number of existing frameworks were considered. Kuhlthau's Information Search Process (Kuhlthau 2009) was selected as it fulfilled all the necessary criteria.

The school

Entry to QAHS for prospective students is by a general academic test and then by interview. During interview, students have to demonstrate a commitment to support the requirements of the IB before being accepted into the Academy.

The background of the students is diverse; they are drawn from both government and non-government schools, locally and state wide. This diversity has inherent problems; students come with varying levels of expertise in information literacy and research skills. Some have competency in these areas whilst others have had little explicit instruction.

The extended essay

The EE journey is taken over a twelve month period. Students are required to demonstrate an in- depth knowledge and understanding of their chosen topic. Although working under the direction of a supervisor (usually a teacher at the school), students are primarily responsible for their own essay.

The aims of the extended essay are to provide students with the opportunity to:

- pursue independent research on a focused topic

- develop research and communication skills
- develop the skills of creative and critical thinking
- engage in a systematic process of research appropriate to the subject
- experience the excitement of intellectual discovery. (IBO 2009)

Assessment

There are eleven general and subject specific criteria for assessment of the EE.

A: the research question

B: the introduction

C: the investigation

D: knowledge and understanding of the topic studied

E: reasoned argument

F: application of analytical and evaluative skills appropriate to the subject

G: use of language appropriate to the subject

H: conclusion

I: formal presentation

J: abstract

K: holistic judgment

The general criteria are more heavily weighted than the subject specific.

Why a framework for research

The experience of both the teacher-librarian and teachers at QAHS concluded that student learning outcomes were more successful when a framework was followed. This is supported by Stripling who states “learning is deeper when supported by a learning framework” (Stripling 1995) and by Klopfenstein “in this age where change is constant, the teacher’s role cannot simply be to fill students with information. Although basic content knowledge is important, there also needs to be a focus on process” (Klopfenstein 2003). Our students who were attempting such a complex undertaking as the EE would need a scaffold that would act “as a piecemeal puzzle, reducing a seemingly unmanageable, oversized assignment into a manageable tasks that, once accomplished, encourage the student and provide motivation for the next task” (Schmidt 2008).

With this in mind the teacher- librarian began to research existing frameworks within which the EE could be structured. Due to the nature of the EE it was vital that this framework was student centred and sequential, guiding the student through their enquiry. The framework needed to take students step by step through a logical progression that allowed them to develop and reflect on their learning.

A number of frameworks were investigated and rejected as they did not explore explicitly enough the need for students to base their investigations on their prior knowledge and their background reading. Kuhlthau’s Information Search Process (Kuhlthau 2009) was selected as it fulfilled all the required criteria. It encouraged students to follow a logical progression in their research but also allowed the school to embed into the framework timelines, tasks and other requirements.

The Information Search Process

The Information Search Process (ISP) presents a holistic view of information seeking from the user’s perspective in six stages: task initiation, selection, exploration, focus formulation, collection and presentation (Kuhlthau 2009). These explicit six stages allowed for the embedding of tasks into each step of the information process. The six steps are used to support students when beginning their EE journey and are adapted to encompass all EE requirements in the early stages of research. These steps allow students to track where they are up to in their journey, keeping them on task and for teacher checkpoints at vital stages. Data collected from surveys of participating students on the success of this framework is discussed later in this paper.

Students are introduced to the framework of the ISP through the student EE handbook which is distributed to students at the beginning of their journey. The handbook is a comprehensive guide to the EE, containing

information and timelines. The adapted ISP features predominantly here, providing the step by step research framework.

In figure 1 appropriate student tasks are incorporated into Kuhlthau's Step One - Initiation. In following the process, the outcomes here for students will be their ability to make informed decisions regarding possible subject areas and likely supervisors for their EE. Important dates are also embedded into the process. The information listed under the dot points at each step of the ISP also forms the basis of teacher checkpoints when a student meets with their supervisor. These meetings occur each time the student completes a step in the process.

Figure 1 Step One – Initiation

<u>Kuhlthau</u>	<u>QAHS EE handbook</u>
<u>Step one – Initiation</u>	<u>Step one – Initiation</u>
<p>At 'initiation' when a person first becomes aware of a lack of knowledge or understanding, feelings of uncertainty and apprehension are common.</p> <p>At this point the task is merely to recognise a need for information. Thoughts center on contemplating the problem comprehending the task and relating the problem to prior experience and knowledge.</p> <p>Actions frequently involve discussing possible topics and approaches.</p> <p>(Kuhlthau, 1991)</p>	<ul style="list-style-type: none"> • Investigate & understand requirements of the EE - read the appropriate sections of the Extended Essay guide found under EE on the Learning Place, including the subject specific information • Clarify the expectations and different tasks needed to complete the EE • Relate the task to your personal knowledge – this frequently involves discussing with others possible avenues of approach or topics to pursue • Select your general subject area – do your EE in a subject area you are interested in & that you study at school (HL preferable) <p>DATE: July 31st 2009 - Supervisor selection & subject expression of interest due to EE coordinator</p> <ul style="list-style-type: none"> • Establish & map your prior knowledge • Develop an understanding of the real world relevance of your investigation • Task organisation – when, where, and how to get help and guidance • Recognise what information may be needed <p>DATE: August 7th 2009 - Supervisor assigned</p>

Implementing the framework

Due to the diverse backgrounds of QAHS students, it is deemed vital by the school that in the year of student intake, year ten, every effort is made to 'skill up' students so that they will be able to manage the demands of the academically stringent DP.

Year 10 science

In term one of each year the year 10 cohort are asked to complete a 'practice' EE. Here students are required to identify and research an area of interest and design and implement an investigative experiment. The ISP is used as the framework for the research component of the assignment, dates and task requirements are embedded into the six steps of the process.

The unit of work is introduced to classes by the teacher- librarian and classroom teacher. They work cooperatively to introduce the concept of a research framework, and guide students through the initial stages

of the process. The teacher- librarian demonstrates how the student driven ISP is a more effective framework to follow than the teacher driven Information Process (NSW Department of Education 199?) that students may have used in previous schools. Time is also allocated for basic student instruction in the location of information and referencing. All material presented to classes is available from both the school intranet and online for access at home.

Library tutorial sessions

During this period of the school year the library offers to the whole school community (students, parents, staff) weekly tutorials on location of resources and referencing. Topics covered include accessing resources from local, university and state/national libraries and online journal databases and internet sites. Instruction in correct referencing and preparation of reference lists are also included. These tutorials are again offered at the beginning of semester two, when year 11 begins their EE journey.

The Extended Essay and year 11

Here the framework of the ISP is used in a similar manner as in the year 10 practice EE, although slightly modified to allow its use by subject areas other than the sciences.

The ISP is used in the EE student handbook as the framework around which all necessary requirements of the EE sit.

At this stage of the year 11 journey, Kuhlthau's model of the search process (Kuhlthau 2004), is explicitly introduced to EE students. This initiates discussion between students and staff, identifying likely feelings, thoughts and actions as students progress through both the steps of the ISP and the EE. It also acts as a reminder to supervisors and the teacher-librarian that there are specific times in the process when students will need to be supported in a more active way. These times coincide with timetabled supervisor meetings and a re-visiting of the ISP with individual students by the teacher-librarian.

Data from year 10 & 12 student surveys

Year 10

At the end of the unit of work year 10 students were surveyed about their perceived success when using the ISP.

- 75% of respondents reported that using the framework of the ISP helped to keep them on task
- More students began to follow the framework once they recognised the benefits of its use. In step one - initiation only 63% said they followed it, while by step 3 exploration this had risen to 91%
- Of those students who said they did not use the process, the most cited reason was they forgot (highlighting the necessity for the revisiting of the process when students have begun their EE journey).
- 88% of students agreed that by following the steps of the process they would experience success in their research

Year 12

At the time of writing this paper the 2010 year 12 cohort have yet to finish their EE. This cohort was the first where the ISP was explicitly used as the research framework. They will be surveyed when their essay is completed and these findings will be reported on in the workshop.

The 2009 cohort were not explicitly taught the steps of the ISP when beginning their EE journey. The students were shown the outline of the ISP early in their year 11 but there was little time spent on investigating it in more depth. Even so 69% said that they followed the steps when doing their EE. Some students from this cohort have volunteered to be a focus group when they finish their first semester at university this year. They will be questioned about their use of the ISP in their university life and this will also be reported in the workshop.

Conclusion

At the time of writing this article, survey data reflects that students perceive the use of the ISP as a framework for their EE either has, or will, improve their chances of success. Anecdotal comments from the teaching staff support this. The framework allows for the incorporation of deadlines, the recording of structured student/teacher progress meetings and provides guidance for individual student progress.

One of the requirements of the EE is for students to pursue independent research on a focused topic and engage in a systematic process of research appropriate to the subject. Using the ISP as a framework allows QAHS to support student learning while also providing students with the tools to complete this task and experience success in their EE.

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Statement of originality

This statement certifies that the paper above is based upon original research undertaken by the author and that the paper was conceived and written by the author alone and has not been published elsewhere. All information and ideas from others is referenced.