From Data to Implementation: A Case Study of Integrating ATL in the Extended Essay Process

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Session overview - we will share:

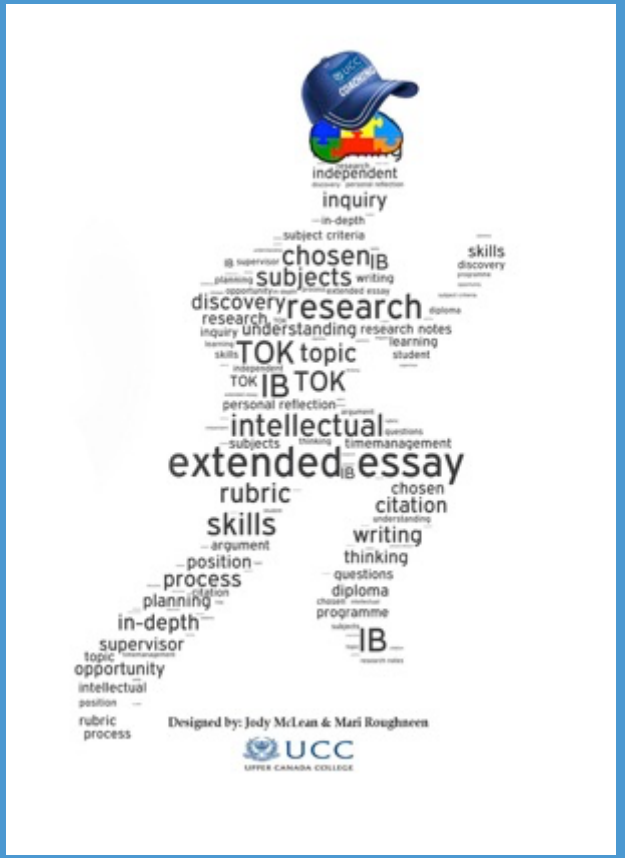
1. our experience with mixed-methods data-gathering about our school's EE process

2. our school response to the data - a collaboration involving the DP Coordinator, Teacher Librarian, Student Support Coordinator, Department Chairs, Theory of Knowledge Teachers and EE Supervisors

3. our example as a case-study in the implementation of ATL for the DP, focused on the EE and on nurturing metacognition and personal epistemology in our students

4. a resource package

5. time for questions and discussion



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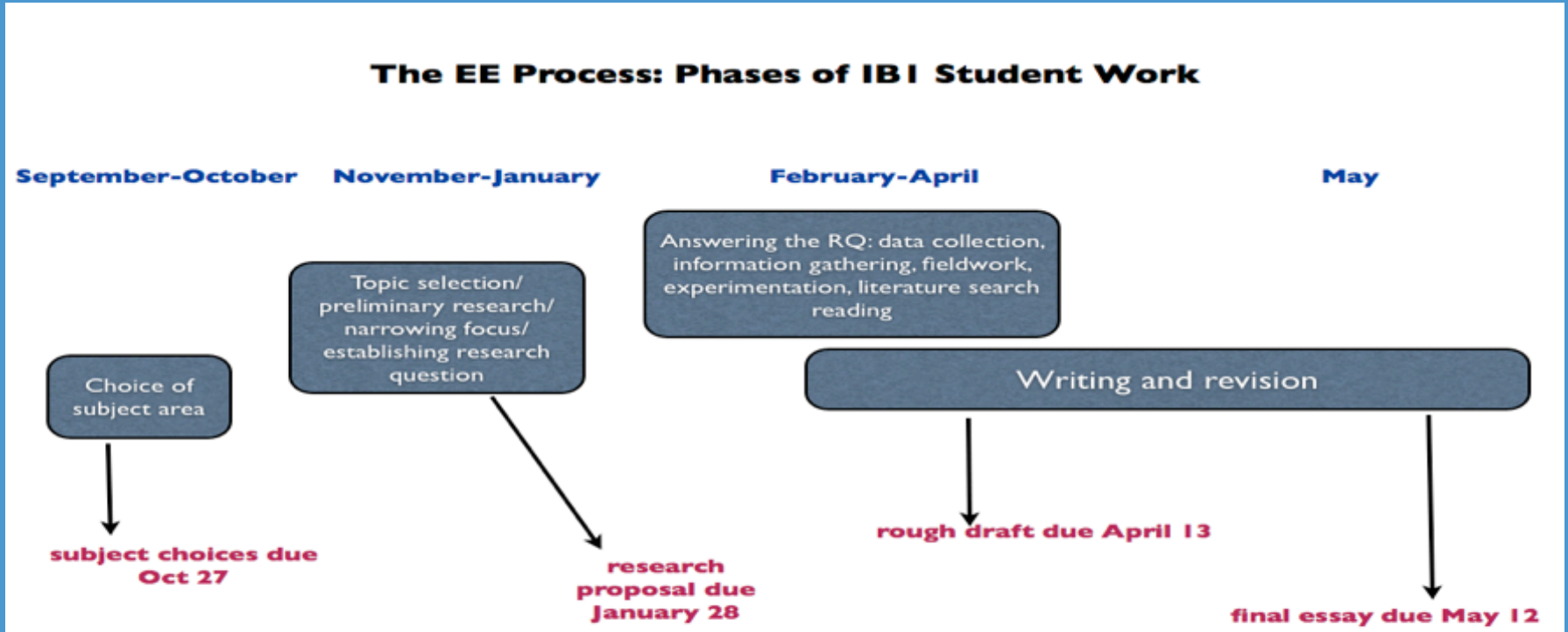
Some context: Extended Essay at our school



Celebrating the Core: A sampling of research questions (2014)

- Apocalypse Now and Then: In what ways do the narratives in both *The Road* and *The Last Battle* echo the understanding of good and evil presented in the book of *Revelation*? **(English)**

- The Underlying Factors in the Enactment of Prohibition: To what extent was political apathy amongst Americans a factor in the enactment of prohibition in 1919? **(History)**

- Spatial Analysis of Primary Care Physicians in Toronto: To what extent does regional socioeconomic status relate to the distribution of primary care physicians in Toronto? **(Geography)**

- The effect of caffeine on the enzymatic activity of catalase **(Chemistry)**

- How are advertisers increasingly blurring the gender divide by shifting archetypal representations of men? **(Visual Arts)**

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Refining our school's approach to Extended Essay: What has guided our work

- observations of DP coordinator, teacher librarian, student support coordinator and teachers
- faculty self-identified priority via the DP Self Study
- school data
  - final IB results; EUR Cat 2a return of materials
  - teacher observations
  - analysis of student EE process work: proposals, bibliographies, frequency and nature of inquiries with student support
  - student surveys and interviews
- best practice in guided inquiry
- IB curriculum developments

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Our EE story as told by the data: Areas of student challenge

- Formulating research questions
- Navigating the research process, including using U of T libraries
- Time-management: creation of work plan, chunking, avoiding procrastination (seeing EE week as the time for “all of it”)
- Managing the technical pieces: the abstract, citation methods
- Feeling a lack of confidence, overwhelmed

Our school response to the data

- a focus on EE as a context for developing the Approaches to Learning: research skills, thinking skills, communication skills, social skills, self-management skills

- a focus on providing consistency in the EE experience for students by focusing on supports outside the EE supervisor

- a collaboration involving the DP Coordinator, Teacher Librarian, Student Support Coordinator, Department Chairs, Theory of Knowledge Teachers and EE Supervisors

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The EE Process: Supports

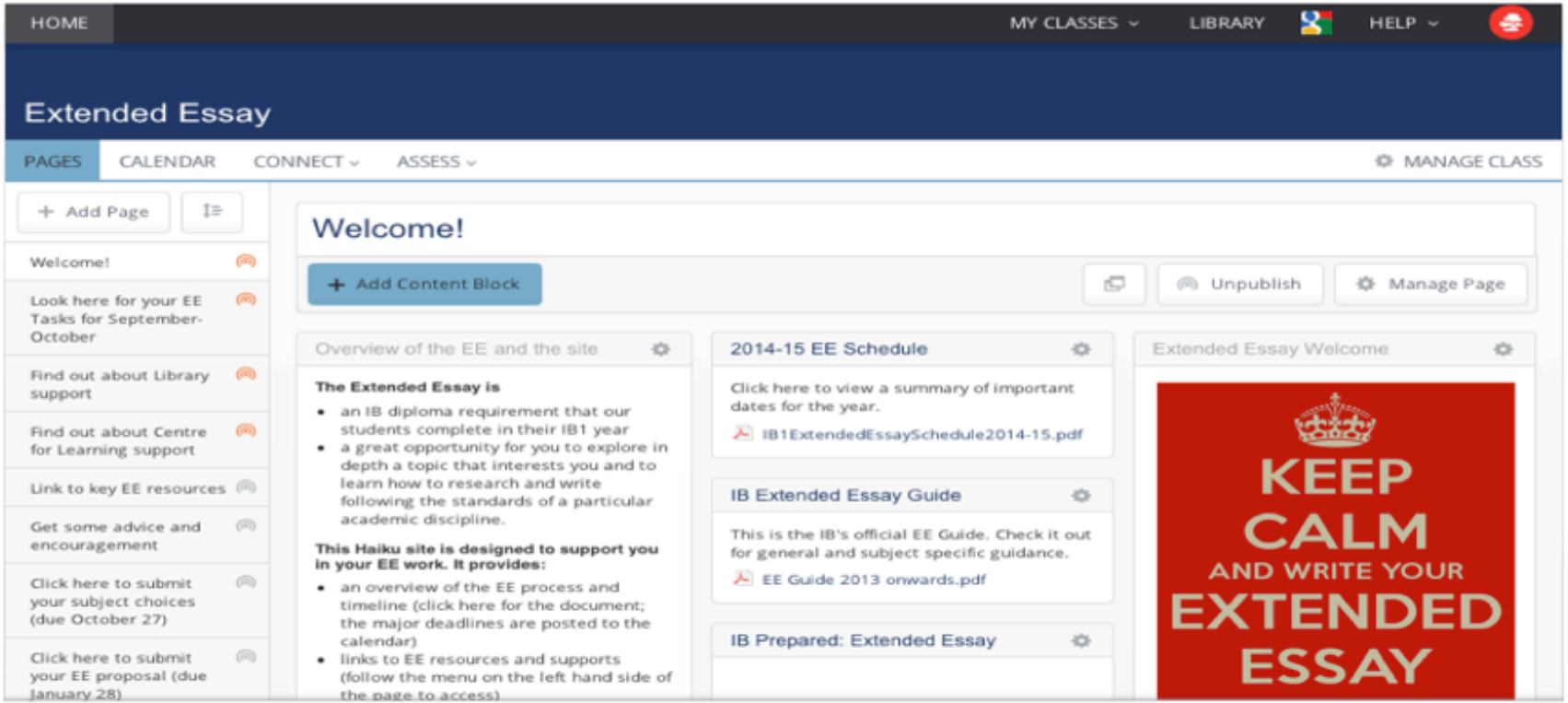
	September-October	November-January	February-April	May
Group	EE overview session (w/ Dr. K and Dept. Chairs)	CFL/Library workshops (subject-specific)	EE sessions on inquiry and the EE proposal (via TOK)	EE sessions by discipline (led by departments)

Individual

EE Supervisor: one-on-one meetings as needed, formal feedback on April draft

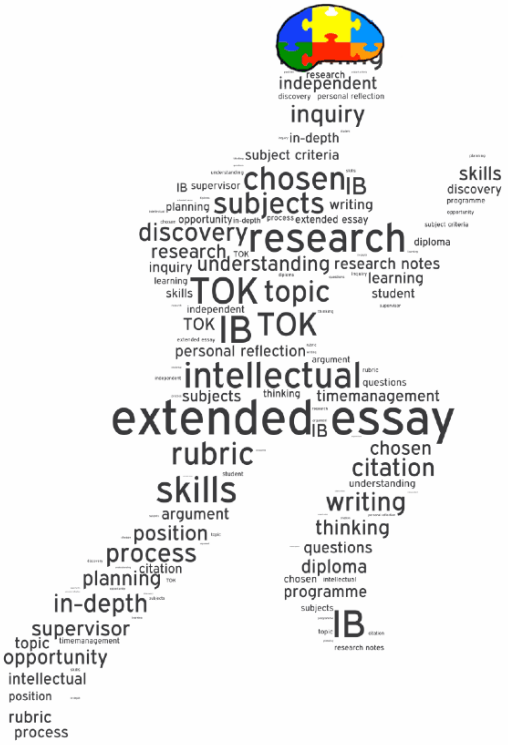
One-on-one library and CFL consultations as needed

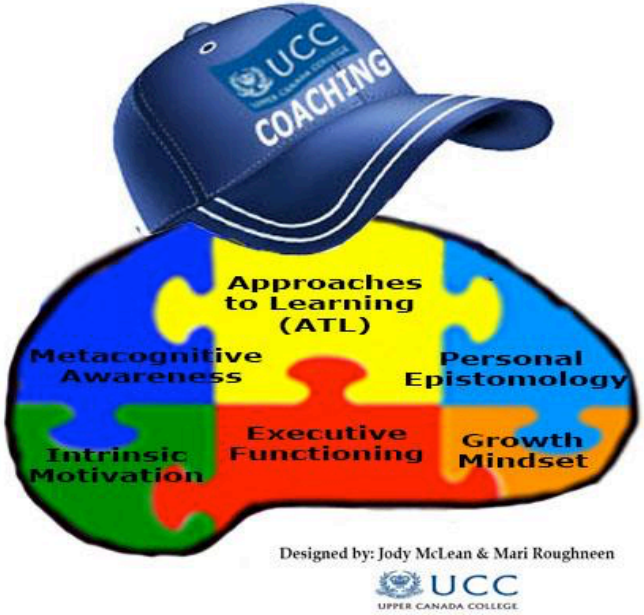
EE class in Haiku: a one-stop for information and support



Haiku class for Extended Essay

What does EE coaching look like at UCC?





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EE Coaching: Executive Functioning

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The 8 PILLARS that SUPPORT LEARNING and WORKING – Extended Essay

The eight pillars and their descriptions are from the work of Dr. Adam Cox in "No Mind Left Behind".

The "8 pillars" listed in the column below are all used to help us do our "best work". When we are too busy or stressed or less engaged, one or two of these pillars may not be as strong. Looking at the "8 Pillars" below…can you identify which pillars are strong most of the time and which ones may be more challenging for you when working on your extended essay?

PILLARS	INITIATION	ORGANIZATION	PLANNING	ATTENTION	WORKING MEMORY	FLEXIBILITY	SELF AWARENESS	REGULATING EMOTION
What it means.	The ability to get started on a task without having to be asked multiple times.	The ability to manage space and resources for learning. Without it, it is hard to get momentum to get work done.	The ability to manage time and the ability to prioritize.	The ability to control attention and focus in order to start and complete tasks.	The ability to remember information long enough for it to be stored in long term memory.	The ability to adapt by shifting one's focus and pace as needed.	The ability to understand how one is seen by others.	The ability to express one's feelings in proportion to the events.
EXAMPLES: What a weak pillar might "sound" like.	**"I could wait and do this tomorrow."**	**"I lost some of my research notes and I am not sure when the EE proposal is due."**	**"I thought it would only take 30 minutes to do this!"**	**"I wanted to finish research on this topic tonight but I kept getting up or playing video games."**	**"I knew the EE subject criteria but I totally forgot it when it came to writing my essay."**	**"I can't keep up with the TOK/EE lesson. I understood everything but now I am lost."**	**"I was only teasing…I don't see what the big problem is."**	**"I didn't hand in EE draft on time so I know my supervisor thinks I don't care."**
Identify your weak pillars in relation to the EE. Write								

Executive Functioning

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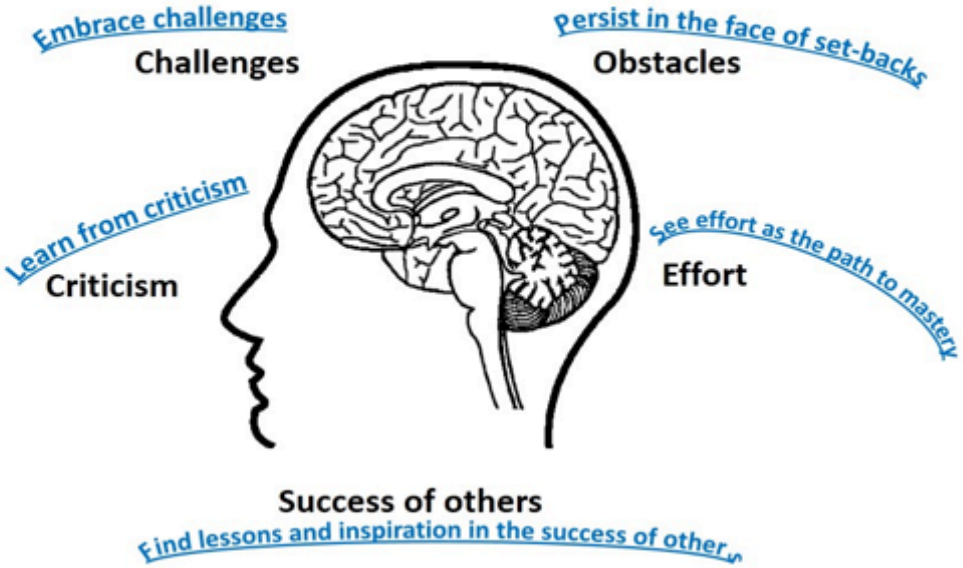
EE Coaching: Mindset

Growth mindset - leads to a desire to learn and therefore a tendency to:



Dweck, Carol S. *Mindset: The New Psychology of Success,* Random House Publishing, 2006 (245).

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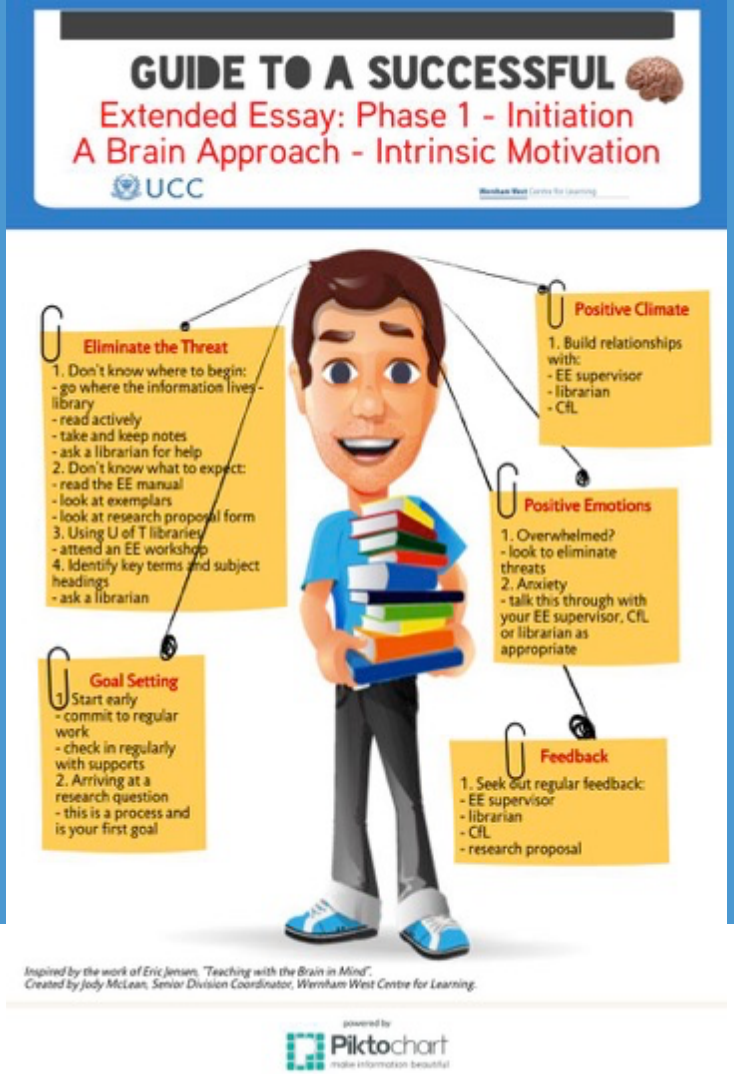
EE Guy



Approaches to teaching and learning in the Diploma Programme: International Baccalaureate: 2013, p. 9.

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EE Coaching: Guided Inquiry and Personal Epistemology

As we discuss these concepts, we have the following areas of ATL in mind: thinking, communication, self-management and research

- best practices in Guided Inquiry (Kuhlthau) in secondary and post-secondary institutions
- personal epistemology (Hofer, Romanchuk)
- self-directed learning pedagogy (Gibbons)

- observation made in ethnographic/qualitative post-secondary studies: students indicating that coming up with the research question is often the most difficult part of the process (*ERIAL, Project Information Literacy, Studying Students)*

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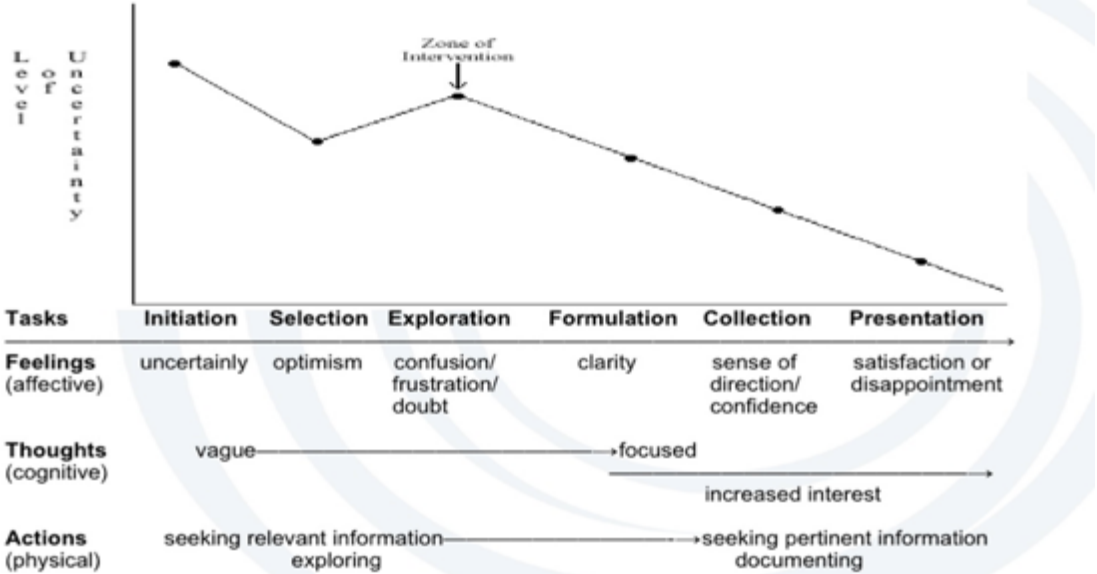
EE Coaching: Guided Inquiry and Zone of Intervention

- Our community is learning more about the ISP (Information Search Process) and the “Zone of Intervention” (Kuhlthau, Carol. *Guided Inquiry: Learning in the 21st Century)*



http://etec.ctlt.ubc.ca/510wiki/images/8/8c/Kuhlthau_Zones.pdf

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From the Data: Observed Zones of Intervention at Our School

- Topic Selection **Reading and Questioning, Self-Advocacy, Evaluation [Research, Thinking, Self-Management]**
- Topic vs. Research Question **Reading, Questioning, Synthesis [Research, Thinking]**
- Reading at all stages, reading for analysis **Reading, Questioning, Planning, Evaluation [Research, Thinking, Self-Management]**
- Anticipating challenges with access to sources, having to reframe research question based on this issue **Strategy, Self-Advocacy, Planning, Evaluation [Research, Thinking, Self-Management]**
- Application of prior knowledge to research and reiterative research **Strategy, Synthesis [Research, Thinking]**
- Approaching supports (multiple times) **Self-Advocacy, Communication, Planning [Self-Management, Communication, Social]**
- Citation **Planning, Self-Advocacy [Research]**

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Personal Epistemology: The EE/TOK connection

Monitoring your “metacognitive processes” (learning how to learn) and “*epistemic metacognition”* (Hofer) and judgement (knowing about knowing)

A summary of the examples Hofer gives of what to look for while you search and read:

- veracity (conformity to facts)
- authority (whose will you accept and why)
- justification for an action (which evidence documented in a text)
- truth (believability)
- reconciling your expertise with that of experts
- do you know enough?
- Is your understanding adequate?

Hofer, Barbara K. *Epistemological Understanding as a Metacognitive Process: Thinking Aloud during Online Searching.* Educational Psychologist 2004, 39 (1) 43.

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Student Attitudes about knowledge (Personal Epistemology)

“Students appear to ask: How long is it? How specific to my purposes? It is accessible online or will I have to go to a library to get it?...[practical concerns that have nothing to do with the value of the knowledge as such]

...the search process is so onerous that students are happy to just get a match between their search term and any material at all, [instant gratification]

...[students]seem to spend less time evaluating the material itself...the rapidity with which students viewed information and discarded it was startling…” [personal convenience]

Ask students: Is your personal epistemology about your comfort or is it about your willingness to know, to understand and to contribute? (knowledge construction)

Hofer, Barbara K. *Epistemological Understanding as a Metacognitive Process: Thinking Aloud during Online Searching.* Educational Psychologist 2004, 39 (1) 53.

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Thinking *about an action* or thinking *in action*: which do YOU do?

"...reflection on action is the process of thinking about an action after it has occurred, whereas reflection in action 'is thinking that serves to reshape what we are doing while we are doing it." (p.26)

Our job as coaches is to show them *how* to think as they do...*and* how to hone their ability to know about knowing

Schon, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.

Personal Epistemology

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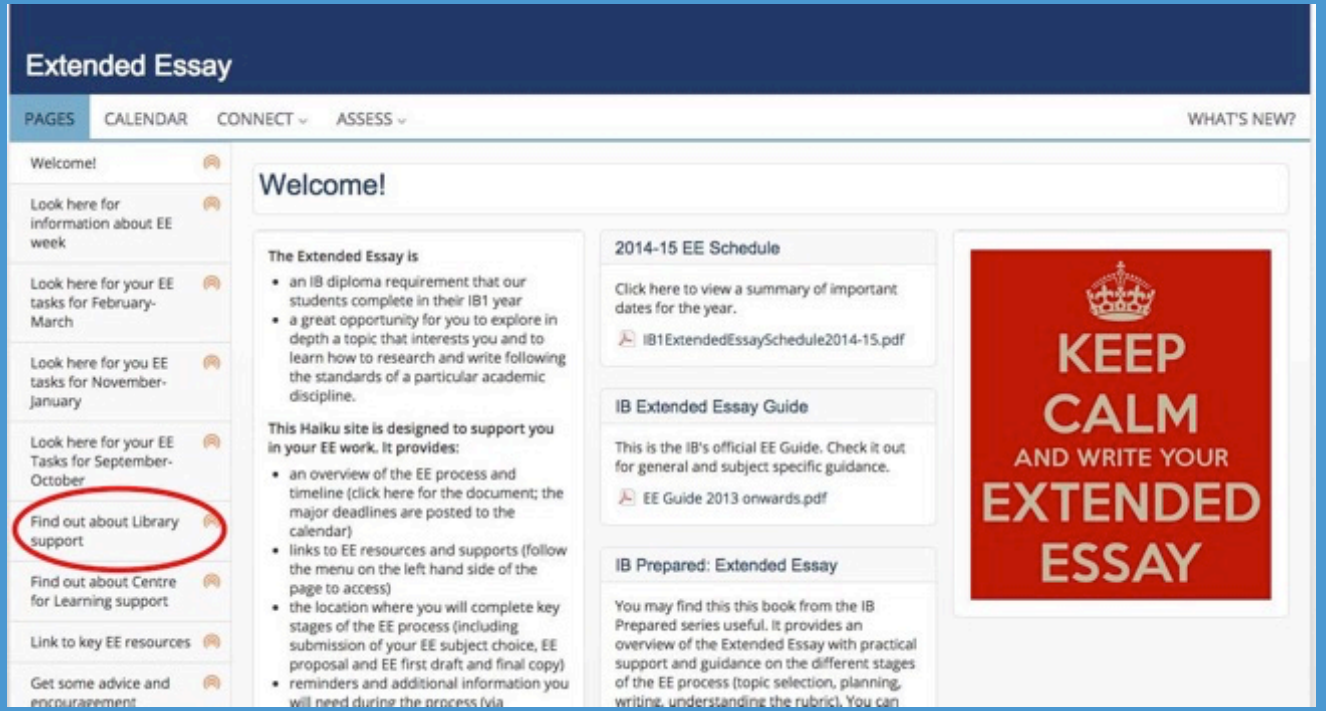
What support looks like 1 on 1: Macintosh Library

Bridging to self-directed use of external supports (U of T, TPL, TIFF, City Archives, organizations etc.) as *outcomes* of UCC support Context, Thinking, Strategy EE Libguide, searching external catalogues (Worldcat, Questia, university, public, school) Google Scholar, Google Book, advanced internet searching...



Approaches to Learning (ATL)

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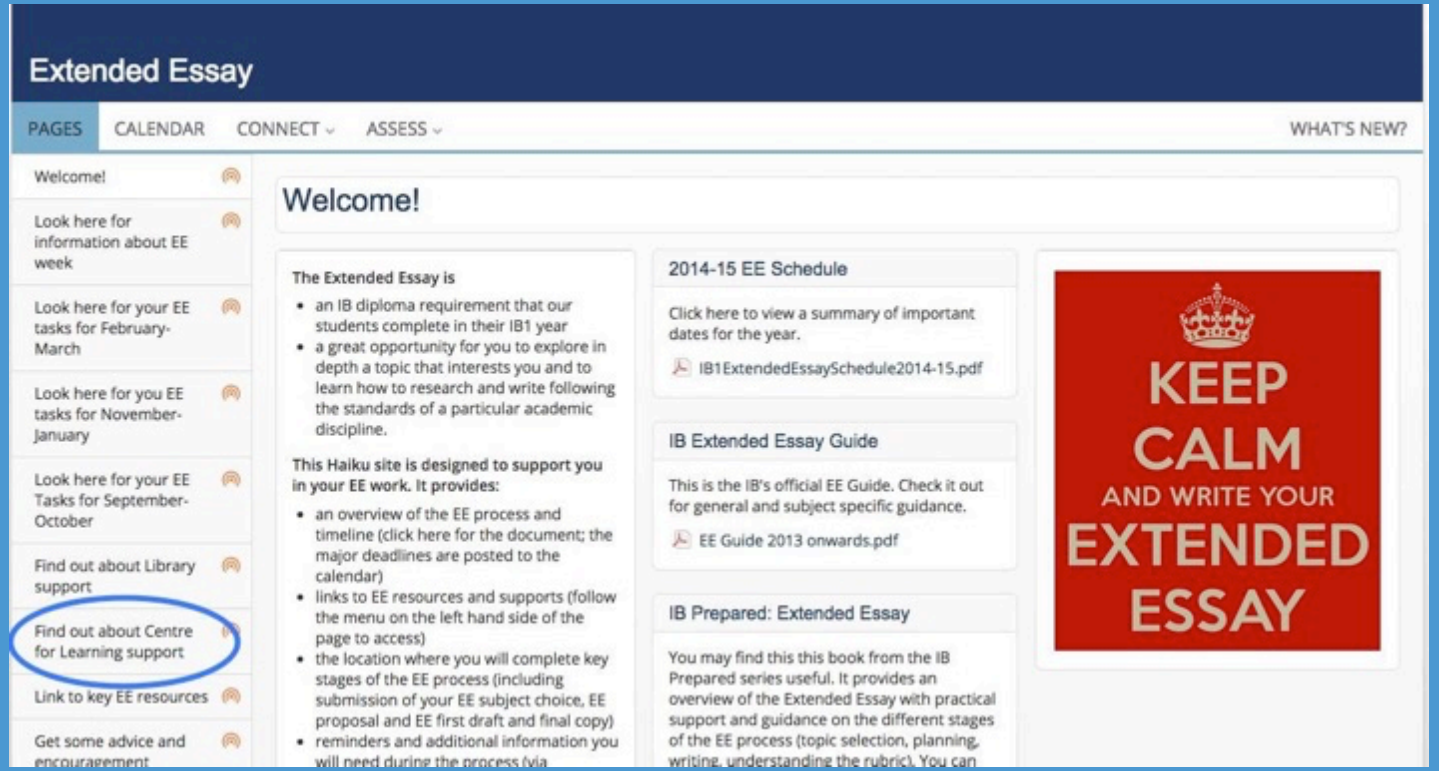
What does support look like 1 on 1: Wernham West Centre for Learning

8 Pillars frame the Centre for Learning support for coaching and working with students.



Executive Functioning

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EE in TOK

Why? before the lesson
Logistical challenges of making it happen

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The TOK Lesson: Chickens and Knowing
(With thanks to *Duke Writing Studio*)

Approaches to Learning (ATL)

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Exercise: Scholarly Sources on Chickens

Coaching: A blend of learning and knowing: *planning, shaping and evaluating your engagement with the knowledge community*

- am I in the right context, is there an alternative?
- do I have sufficient key terms, vocabulary, names of scholars
- **do I need to read more?**
- why isn't this search giving me what I need?
- what do I do if I have too much?
- is the terminology difficult? how do I find out what it means? can I adopt this terminology with authority in my writing?

Exercise: Choose a subject context (your EE subject) and search in one of the following locations for resources on chickens: ***Worldcat.org*** *and/or* *Google Scholar*.
Observe your approach as you search, noting challenges and successes. Base a preliminary research question on what you find (recognizing it will have limitations).

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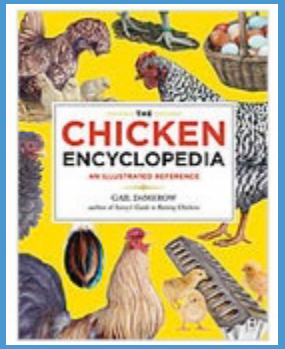
Chickens in the Library Catalogue...



animal husbandry
barnyard animals
beasts
domesticated animals
zoology
animal industry
poultry
animal culture--moral and ethical aspects
poultry as food
organic farming
livestock
poultry--breeding

poultry industry
chickens--juvenile literature
Cooking--chicken
Cooking in literature
chickens--laboratory animals
Broilers (Chickens)--housing--sanitation
Poultry--diseases
Chickens--housing
Meat industry and trade--environmental aspects; --moral and ethical aspects; --health aspects
poulets--Canada
chickens--hatcheries

Personal Epistemology

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Chickens in Opera! How would a searcher get here?

Personal name Lawrence, Stephen L.

Main title Fowl language : an opera for singing chickens and a six-pack of wolves : two-part (SATB) any combination of voices, accompanied / words and music by Stephen L. Lawrence.

Published/Created Miami, FL : CPP Belwin, c1990.

Description
1 score (14 p.) ; 27 cm.

Publisher no.
SV9012 CPP Belwin

LC classification (full)
M1552 .L

LC classification (partial)
M1552

Subjects
Choruses, Secular (Mixed voices, 2 parts) with piano.

Personal Epistemology

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Chicken Chicken Chicken: Chicken Chicken

Doug Zongker

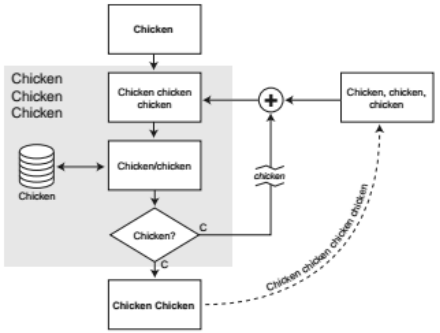
University of Washington

Chicken

Chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken *chicken* chicken chicken chicken chicken chicken. Chicken chicken chicken chicken chicken chicken chicken chicken. Chicken, chicken chicken chicken, chicken chicken, chicken chicken chicken "chicken chicken" chicken "chicken chicken" chicken. Chicken, chicken chicken chicken chicken chicken chicken (chicken chicken) chicken chicken chicken chicken chicken, chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken. Chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken, chicken chicken chicken, chicken chicken chicken chicken chicken chicken chicken.

CC Chickens: C.3.2 [Chickens]: Chicken Chickens—chicken/chicken chicken; C.3.4 [Chicken chicken]: Chicken chicken chicken—chickens; C.2.4 [Chicken-chicken chickens]: Chicken/Chicken, chicken chickens

Chickens: chicken, chicken chicken, chicken, chicken



Chicken 1 *Chicken chicken chicken. Chicken chicken, chicken chicken (chicken chicken chicken) chicken chicken-chicken.*

1 Chicken

Chicken chicken, chicken, chicken chicken chicken chicken, chicken chicken chicken chicken chicken chicken [4]. Chicken chicken chicken chicken, chicken chicken chicken: chicken chicken chicken chicken chicken chicken chicken chicken chicken. (chicken chicken chicken chicken chicken chicken, chicken chicken chicken chicken chicken chicken chicken!)

Chicken, chicken-chicken chicken chicken—chicken chicken, chicken chicken 95% chicken chicken-chicken chicken, chicken chicken chicken chicken—chicken chicken chicken chicken. Chicken, chicken chicken, chicken chicken chicken 1987. Chicken chicken

Chicken chicken chicken chicken chicken. Chicken-chicken chicken chicken chicken chicken chicken chicken, chicken chicken chicken chicken, chicken, chicken chicken chicken "chicken" chicken. Chicken chicken chicken chicken chicken chicken chicken, chicken, chicken chicken. Chicken chicken, chicken chicken chicken chicken chicken, chicken chicken chicken chicken chicken chicken (chicken, chicken-chicken chicken chicken chicken-chicken chicken chicken-chicken chicken). Chicken, chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken. Chicken chicken chicken chicken chicken chicken, chicken chicken chicken chicken chicken chicken chicken chicken (chicken). Chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken chicken, chicken chicken chicken, chicken, chicken chicken chicken chicken.

https://news.cs.washington.edu/2013/08/14/chicken-chicken-chicken-chicken-chicken/

Personal Epistomology

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Why Engage in this exercise with students?

"Whether we make such epistemological assessments as we learn will have significant consequences... and will contribute to the thoroughness, completeness and legitimacy of our knowledge."

Hofer, Barbara K. *Epistemological Understanding as a Metacognitive Process: Thinking Aloud during Online Searching.* Educational Psychologist 2004, 39 (1) 43.

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What do we do with all this?

What we learned from the experience of the TOK lesson:

The survey - feedback from students, teachers, our own observations

While we did the think aloud exercise we didn't capture it - we'd like to and code it, learn about best practice re think-aloud protocols

What would happen if you did this with your students?

What's next for us - some tweaks to our process next year

What's great about ATL - framework to operate in / endorses collaboration

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EE in Retrospect:
What our Students Say they Value

- excellent preparation for university
- satisfaction from deep independent work
- joy from reading and writing in-depth
- interest and motivation
- relationship with teacher/supervisor/ parent
    - student interview sample

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Discussion Time

[Presentation Libguide]

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