LEARNING INTELLECTUAL WORK METHODOLOGY: IT'S A MATTER OF TRANSVERSAL COMPETENCIES

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INTELLECTUAL WORK METHODOLOGY IS PRESENT EVERYWHERE

Methodology is inherent in the study of all subject matter, whether in elementary school or working on a doctorate. In fact, the study and conscious application of intellectual work methodology (IWM) will favour students' intellectual progress. Serious and rigorous IWM training should also help students free themselves from the world of spontaneous perceptions and opinions. It enables them to realize that the methodological gathering of information, reading, and reflection is what makes it possible to study a question in depth. Developing IWM will better equip them for reasoning and debating, while fine-tuning their critical thinking.

However, methodology does not make the grade with everyone. Some see it as tedious and boring, for others, it is stifling. Few people would willingly register for a 45 to 60 hour course called *Intellectual Work Methodology*. Fact is, few students are motivated to study methodology for its own sake because they seldom see its relevance. Not only is it considered difficult or too demanding, but it is also associated with the idiosyncrasies of certain teachers, each with their own particular favourite methodology or methodol ogical requirements. It is important to demystify this perception. To do so, it is important to build coherent teamwork among teachers to ensure the coherence of messages and consistency of approaches needed to sustain student interest.

Methodology becomes relevant in the eyes of students when they recognize that applying certain rules and respecting certain stages in carrying out their research allows them to accomplish more complex intellectual tasks. Becoming more effective also reassures them as to their learning progress. The student will recognize the relevance of IWM when he realizes it will improve the quality of his assignments and help him reach his academic objectives. IWM will be perceived as more and more useful to the student with each new success. Becoming aware of this acquisition will be an opportunity for further learning: developing systematic and critical thinking.

IWM AT COLLEGE

There is no doubt that all levels of education call upon cognitive skills that become more and more specialized the closer one gets to postgraduate university studies. Therefore, learning certain intellectual work methodologies at college is an important issue. The following text was written in the hope of contributing to this reflection.

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It is important to mention straightaway that the ideas discussed in this article are founded on concrete expertise and supported in essence by our practical work, both as an administrator and philosophy professor in the case of one, and as political science professor in the Humanities program for the other. This text makes no scientific claim. It is but a reflection we hope will shed some light on the on-going discussion on intellectual work methodology in study programs.

To begin with, we will define essential concepts and then formulate rules so IWM instruction can be implemented within a program of studies. Following this, we will use an example to illustrate a sequence of learning activities in the Humanities study program.

METHOD OR METHODOLOGY?

Are we talking about a *method* or *methodology*? It is important to distinguish *intellectual work* from other related concepts such as *method* and *scientific method*.

What is a method? History reveals that the definition has seen a number of modifications over time. Among Greeks, *methodos* meant "road, pathway", and the "direction leading to a goal". In the 16th century, the term took on the meaning of "the thought-out procedures upon which teaching rests, the practicing of an art". In the 17th century, René Descartes associated *method* to "procedure" and "means" i.e. "a way of doing things" (*Dictionnaire historique de la langue française*, page 1235). Today, the term *method* relates to an *orderly procedure that results in greater work effectiveness and better results*. More specifically, it is a process made up of several stages applicable to various contents for the purpose of achieving a specific result.

IWM is the study of general training methods common to intellectual disciplines such as the art of documentation, reading, oral communication, and the writing of analytical texts.

The *scientific method* (quantitative or qualitative) refers to a clear grasp and application of all the stages in scientific research. It consists of the rules inherent in scientific demonstration. In effect, IWM deals with the general and prerequisite conditions for the achievement of scientific research.

Generally speaking, intellectual work methodology refers:

> […] to *all* the means, procedures, and rules intended to facilitate learning. Among the most useful *work and research methods* in the pursuit of studies, are study strategies, preparation for examinations, documentary research, detailed study of writings, organization, and presentation of various written assignments, preparation for an oral presentation, using a computer, teamwork, and data analysis (Ministère de l'Éducation, Québec, 2002, page 3. The authors added Italics).

We believe that intellectual work methodology deals with the *general operations* of an intellect as it discovers and learns; it is therefore applicable to many disciplines in both general and specific educational programs. IWM is the study of general training methods common to intellectual disciplines such as the art of documentation, reading, oral communication, and the writing of analytical texts.

INTELLECTUAL WORK METHODOLOGY AND COMPETENCY

We have no hesitation when it comes to linking intellectual work methodology to a set of competencies[1], within the contemporary sense of conditional knowledge to act. Possessing a competency means solving problems within a given context by mobilizing relevant knowledge and know-how. The competencies that make up IWM are *transversal* in nature (cross-disciplinary) and *transferable* (adapt easily to other disciplinary contexts).

The area covered by the set of competencies connected to IWM is vast and includes facets that are not strictly technical in character, such as *note taking*. On occasion, know-how deals with a more abstract dimension, such as the ability *to argue critically and rationally*. The set of competencies can be assimilated, in some respects, to expert knowledge that is proper to specialists in Humanities. We can concur that a specialist in Humanities and Social sciences does not practice his art in the same way as a specialist in the language of numbers and symbolism or visual and plastic arts! For example and more specifically, a competent student of Humanities should be able to express himself in the classroom just as he would in public. He should be able to direct his own leaning process by taking courses that correspond to his expectations and aspirations. He should be motivated to study and complete his assignments and solve problems in creative ways. He should know how to manage his time, demonstrate a real ability to structure his thoughts and express them orally and in writing, use accurate terminology and finally, put forth logical arguments, i.e., with documented and rational data, without renouncing his ability for critical thinking. In short, a competent student should master or be in the process of mastering several transversal competencies, some of which clearly belong to the field of IWM.

HOW TO MAKE IWM LEARNING EASY

Our teaching practices show that when it comes to learning and teaching IWM, as with other types of training, it is important to stress the following aspects: Use a

1 Further to the thoughts of Perrenoud, we define competency as the "ability to mobilize a set of cognitive resources (knowledge, abilities, information, etc.) and process a whole family of situations with relevance and effectiveness." PERRENOUD, P., Construire des competences, a translation of "A arte de construire competências", *Nova Escola*, Brazil, September 2000, p. 19.

program approach, integrate IWM learning within concrete and meaningful tasks, and establish progressive learning stages.

USE A PROGRAM APPROACH

Connection and complementarity

Using a program approach implies not only that methodology learning must be present in all program courses but also that proposed learning activities be interconnected and reinforce each other. The success of this type of approach implies a real dialogue between teachers in the program. Ideally, such a dialogue will provide an *equitable and judicious distribution* of required IWM tasks to ensure that no teachers are required to give up too much of their time and that the acquired learning is *complementary*.

Transfer and metacognition

Moreover, once the basic principles of methodological learning are taught, they *must be transferred successfully and authentically* from one course to another and from one session to another. The successful integration of learning means that students are able to evaluate their strengths and weaknesses in IWM. If we want them to become fully autonomous relative to intellectual work methodology, they must carry out a conscious critical reflection on the subject. This is an essential condition if metacognition is to take place during a lucid and critical period of reflection on strengths and weaknesses for the development of learning strategies that overcome identified weaknesses. The students must recognize the competencies associated with IWM act as a *comprehensive whole*.

CONCRETE AND MEANINGFUL TASKS

Since few students are interested in learning IWM for its own sake, *the teaching of IWM must be linked to concrete and meaningful tasks: the study of know-how designed to favour competency development.*

The study of know-how is not an end in itself, but it is essential just like it is essential for a musician to play scales! In order to facilitate student acquisition of IWM, the latter must be used to achieve concrete and meaningful tasks. Intellectual work methodologies must also be formally defined and the tasks that characterize them should be taught along a continuum ranging from simple to complex: Begin by teaching students how to find information, then read it, summarize and analyze it… It is important for students to know the various stages that characterize know-how proper to IWM–the *procedures to follow*... Moreover, students will greatly benefit if they are given models to apply and examples to imitate. These models and examples can be used for inspiration when doing practical exercises and during examinations.

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PROGRESSIVE LEARNING

In addition, the concept of progression is an essential component in the integration of IWM learning. This is *because IWM cannot be taught in one simple course; rather, IWM must be learned in a structured manner by focusing on progression within the framework of the study program*. By adopting such an approach, we can avoid situations in which the students receive contradictory instructions or overly detailed directives. Since the learning of IWM is part of the program framework, we are dealing with transversal and transferable *competencies at the very heart of the program.*

More precisely, the teaching of IWM within a program-based approach implies a distribution of the subject matter among courses and a graduated learning approach that goes from simple to complex. Thus, relative to written work, students will have to produce assignments with contents governed by guidelines that become increasingly flexible. We would like to add that it is initially necessary to provide the students with the certain recipes they need to apply–i.e. clearly identified stages of learning–before they become completely autonomous as concerns IWM. We suggest that learning be carried out progressively. In other words, that learning activities include a review, from one session to another, of previously taught techniques as well as an ongoing review of certain elements that specifically characterize the reasoning derived from expert knowledge.

IWM, A PREREQUISITE IN THE DEVELOPMENT OF EXPERT KNOWLEDGE

Accordingly, it is important to remind students that sometimes, behind

what they erroneously attribute to the whims of meticulous professors, is a framework based on the application of common principles inherent to the rules of demonstrating expert Knowledge. The methodological rules taught by IWM specialists are based on *a method* that divides a process into concrete tasks for the achievement of a more global objective. In this instance, *a system* proper to the learning of expert knowledge! The latter targets the development of skills that can be useful in all types of professions.

The progressive and graduated character of this learning explains why these objectives cannot be assigned to one course only, or to a small number of courses. Assuming responsibility for the development of intellectual work methods is a collective task that must be connected to other learning within the program, to culminate in autonomous learning, which translates into learning to learn. Methodological competencies must be spread out over various courses, and the student must be encouraged to perfect his training autonomously by testing various methods.

A CASE IN POINT: THE HUMANITIES

To reinforce our remarks, let us emphasize that the ministère de l'Éducation expects every student enrolled in Humanities to achieve, at the end of his academic journey, the following objective: *To use work and research methodologies required for the pursuit of his studies*[2]. The tables presented on pages 20 and 21 summarize our reflection with regards to our personal experience of teaching IWM in the field. They represent a proposed graduated structure in the development of IWM competencies over four study sessions in a college Humanities program, relative to the following learning.

1. Know how organize oneself
2. Know how to research documentation
3. Know how to read
4. Know how to take notes
5. Know how to study
6. Know how to write
7. Know how to write various types of text
8. Know how to present assignments
9. Know how to do an oral presentation
10. Know how to work in teams

COMBINING METHOD, PLEASURE AND UTILITY

Logically speaking pleasure and method can only come together through the discovery of the *pleasure of method*. However we want to avoid having the means become the end. We must not forget that the real meaning of *method* is merely the logical progression of reason moving from a formulation of doubt to the resolution of a problem.

Work methods have no meaning per se; they are only means to achieve an end. The methodology of intellectual work is useful only if it allows for the construction of tools to learn and discover. Consequently, in order to *learn*, one must be adequately equipped.

The teaching of competencies inherent to IWM offers a real opportunity for concerted cross-disciplinary activity centered on the progress and deepening of certain basic transferable competencies, progressing from simple to complex and from concrete to abstract.

The teaching of IWM deserves to be done under conditions that enable full student development. It is necessary to demonstrate to students that IWM develops ways of learning and of transmitting knowledge; it is not only the boring application of technical rules; IWM also contributes to the development of learning and knowledge in general. It is imperative for students to know that if they want to *share and publicize* what they have discovered, then structuring and presenting their knowledge and research results based on IWM principles can greatly facilitate the overall comprehension of their work. We believe that in order to learn, to understand, and transmit knowledge, students must be placed in situations where they learn to accurately assess their own cognitive skills.

The true purpose of method is to develop rigorous thinking and exact expression, and it is far from opposed to the pleasure of words, reading, or writing; rather it is a prerequisite to this pleasure. *It is the price we must pay to access meaning and learn how to transmit it*. Choosing this path will likely open the door to a world of even more subtle pleasures where eloquence of thought and beauty of reasoning stimulate our aesthetics with as much forcefulness as do recognized literary works. *The joy of understanding and transmitting knowledge becomes the greatest motivator of all.*

2 GOUVERNEMENT DU QUÉBEC, *Sciences humaines*, [...], p. 1.



When looking at these tables, we see that the majority of com-petencies involved are transversal and transferable from one discipline to the other. Some have an integrating nature. It also appears that Session 1 is particularly vital for the structured integration of IWM in the learning of subject matter. Although repetition is frequent, it involves increasing difficulty.

N. B. The order of competencies shown corresponds to the chapters of the following work: TREMBLAY, R. R. et PERRIER, Y., *Savoir plus : outils et méthode de travail intellectuel*, 2e édition, Montréal, Chenelière Éducation, 2006, 230 p.

1. **Know how to organize oneself:** Know how to manage one's time and workspace, learning how to plan

This consists of teaching, in a course within the first session, the importance of managing one's time (using appropriate tools), and then consolidating these skills in a course of each subsequent session by reminding students of the importance of organization and the methods to use to be and stay organized..

SESSION 1: Presentation of the academic calendar in the classroom; Development of the weekly schedule; Planning of work activities; Production of a work schedule. **SESSION 2**: Reminder of the importance of preparing a schedule and of adequately planning work assignments. **SESSIONS 3 and 4:** *Idem.*

2. **Know how to research documentation:** To become autonomous in handling traditional files and computerized databanks at the library.

It is important that students, in all first and second year courses, be constantly reminded of the importance of diverse and extensive documentation for successful research work.

SESSION 1: Visit to the library; Use of traditional files and databanks; Contents of a press kit; Assessment of reference works. **SESSION 2**: Thorough use of traditional files and computer databanks; Review of the importance of diversified documentation; Visit to specialized documentation centres. **SESSION 3**: Review of components from Sessions 1 and 2; Production of an annotated bibliography for a critical essay required in a research methodology course in Humanities. **SESSION 4:** *Idem.*

3. **Know how to read:** To be skilled in reading and know how to card index data

Students must be informed during Session 1 that there are at least five known types of reading. The three types of reading common to all courses must be practiced throughout the study program–basic, selective, and diagonal reading–and time must be scheduled during specific courses for practicing active and analytical reading.

SESSION 1: Reading of reference works: books (monographs), articles in specialized journals and newspaper articles; Distinguishing between five reading types (asic, selective, diagonal, active and analytical); Practical exercises for the first three first types of reading during Session 1; Production of reading reports: reference cards and quotation cards. **SESSION 2**: Review of components seen in Session 1; Exercises involving active and analytical reading; Production of the following: summaries, comment cards, personal information cards and reflection cards. **SESSION 3**: Review of components from Sessions 1 and 2. **SESSION 4:** *Idem.*

4. **Know how to take notes:** To develop and integrate good note-taking techniques.

It is important that a professor, in addition to teaching his disciplinary subject matter, assume responsibility for teaching students the basics of note taking and creating networks of concepts, through his use of relevant examples. Review the importance of taking useful notes in at least one additional course per session, and recommend the creation of networks of concepts that are a little more complex with each session.

SESSION 1: Training in basic note taking in class and the creation of networks of concepts (using relevant examples); Emphasize the importance of adding a commentary to course notes after each course. **SESSION 2**: *Idem* with increased complexity in network of concepts. **SESSION 3**: *Idem.* **SESSION 4**: *Idem* with synthetic diagrams to assist integration.

5. **Know how to study:** To adequately prepare for exams and better assimilate knowledge and procedures.

Beginning in Session 1, the professor teaches various methods used to study (memorization, studying in groups, revisions, etc.) in an explicit manner. Then, the procedures are reviewed during the preparatory stages for an examination.

SESSION 1: Training in the various methods used to study (memorization, group study, revision, etc.). **SESSION 2**: Review of components from Session 1. **SESSIONS 3** and **4:** *Idem.*

6. **Know how to write:** To be able to produce a written document with clearly identifiable sections; to be able to synthesize, comment on, assess critically, etc

Professors in general and specialized training must work together to diversify and increase the complexity of the types of writing and development–comparative, chronological, inductive, deductive, etc.–that students will be asked to achieve during their years spent in the Humanities program.

SESSION 1: Definition of the various types of writing and training on the preparation of writing plans; Clarification of the role of each section of a written text: Introduction (three parts), development (three or four parts), conclusion (three parts); Definition of the various types of development: comparative, chronological, inductive, deductive, etc. **SESSION 2**: Review of components from Session 1. **SESSION 3**: Preparation of a preliminary draft for a research project covering the following components: research topic, definition of the problem, research hypothesis, enumeration of key concepts present in the research, identification of research methods that will be used, initial draft summary plan, annotated bibliography. **SESSION 4**: Achievement of integration activities.

7. Know how to write a variety of texts: Draft dependant and independent texts that use reasoning and critical thinking.

It is important that teachers, within the scope of a group effort, agree among themselves on writing skills that will be distributed over various courses spanning two years. For example, we can ask students to draft the following texts during year 1: informative abstract, report, detailed study of writings, analytical summary, explanatory comments, and critical assessment. Resumption of these types of written assignments in the courses during year 2 with the addition of a critical essay in literature and humanities, while increasing the length and complexity of assignments.

SESSION 1: Identification and synthesis of principal and secondary ideas in certain texts; Training on how to draft the following: Analytical essay, critical assessment, informative abstract. **SESSION 2**: Drafting of an explanatory essay, a comparative critical assessment; a report, and explanatory comments. **SESSION 3**: Detailed study of writings; Production of a preliminary draft for a research project; Drafting of a critical essay in literature; Drafting of a critical essay in humanities. **SESSION 4**: Achievement of integration activities: logbook, assessment of acquired knowledge, preliminary draft of research project, drafting of a critical essay in humanities based on a clearly defined problematic and connected to at least two disciplines of the program; critical synthesi..

8. Know how to present assignments: Use word processing software; apply rules in effect regarding the presentation of work.

It is important in all Session 1 courses to insist on the basics of adequate text presentation. Thereafter, the teacher gradually introduces more diversified and more complex forms of reference, and requires the use of tables, diagrams, graphs, and figures for specific assignments.

SESSION 1: Compliance with the rules of material presentation of written assignments using word processing software (cover page, table of contents, text, bibliography); Production of quotations and references according to the author-date or author-heading method (depending on the discipline or the model in use at the institution.) **SESSION 2**: *Idem* with the addition of tables, diagrams, graphs and figures; Production of an annotated bibliography **SESSION 3**: *Idem* according to presentation and writing standards for drafting a document intended for publication. **SESSION 4**: *Idem.*

9. Know how to do an oral presentation: To be able to do an oral presentation that is clear, relevant, and interesting to the class.

Progressive learning from the first to the last session: To present a brief subject in ten minutes, then gradually increase the length and complexity. Diversify tools gradually: simple oral presentation, tables, and diagrams, electronic presentations and later, Web sites. Always encourage interaction.

SESSION 1: Presentation of a short subject in 10 minutes, alone or as part of a team. **SESSION 2**: Repeating the exercise at every subsequent session while gradually increasing the length and complexity of the presentation. **SESSION 3**: Solo communication of personal research results (30 minutes including Q&A period). **SESSION 4**: *Idem.*

10. Know how to work in teams: To be able to collaborate in a team that is focused on a task, by playing a specific role and accurately decoding the intentions of others.

Learning from the first to the last session: Recommend evaluation activities to students that are carried out in a context of teamwork. For example, ask students to work in teams on the summary of a press article for a 30-minute period. Subsequently, plan for more complex tasks, such as the accomplishment of group research, with specific roles for each member of the team, followed by an oral presentation in class.

SESSION 1: To propose evaluation activities within a teamwork context. For example, drafting an abstract of a newspaper article in class (30 minutes). **SESSION 2**: *Idem.* **SESSION 3**: Collective research accomplished by splitting up tasks among team members. Schedule a presentation of research results by the team in class. **SESSION 4**: *Idem.*

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