

# Analysis of Effective Instructional Sequences in Upper Primary Education (11–12 Years Old Students) to Enhance Content-Learning through the Integrated Use of Reading and Writing\*

*Isabel Martínez, Mar Mateos and Elena Martín*

## 1 Introduction

The main aim of this e-chapter is to offer a detailed view of the Strategies for Writing Syntheses to Learn (*sWSL*) program designed to improve the use of reading and writing as learning tools by 11–12 years old students.

This educational program, as described in the chapter, is focused on the strategic teaching of the processes necessary to the task of synthesizing facts from several sources relating to the classroom subject Environmental Awareness. A detailed description of the three phases into which the *sWSL* program is divided is given below, including the used materials, the aims for each session, the justification given for the importance of working on these aspects and the methods that were used to reach these goals.

After the description of each of the phases in the *sWSL* program, four appendices are attached containing the following materials developed from the studies that were carried out:

1. A sample pair of source texts read by the students for performing their synthesis exercise.
2. A questionnaire to evaluate students' knowledge, including low-level items (students are asked to find specific text in a source text) and high-level items (students are asked to infer and integrate information distant from the source texts).

---

\* Martínez, I., Mateos, M. & Martín, E. (2017). Analysis of Effective Instructional Sequences in Upper Primary Education (11–12 Years Old Students) to Enhance Content-Learning through the Integrated Use of Reading and Writing. In R. Fidalgo & T. Olive (Series Eds.) & R. Fidalgo, K. R. Harris, & M. Braaksma (Vol. Eds.), *Studies in Writing Series: Vol. 34. Design Principles for Teaching Effective Writing*. Leiden: Brill. Retrieved from doi: 10.6084/m9.figshare.5217235.

3. A guide developed to support the writing process for an exercise in synthesizing from two source texts.
4. An example of synthesis text written by a student and its assessment based on the quality criteria defined in the studies.

The purpose of providing the above mentioned materials is to offer a complete and useful guide to facilitate the implementation of the *SWSL* program in diverse contexts and a variety of contents for students at this academic level.

## 2 Design of the *SWSL* Program

### **\*IMPORTANT PREVIOUS NOTES:**

- All the sessions take place in the classroom.
- The steps described above are not necessarily followed in a fixed and systematic manner, but with full flexibility.
- The underlying premise in this *SWSL* program is that reading and writing are a tool for boosting the learning process in schoolchildren.
- As students reach each objective, we move on to the next.
- Timeline: the *SWSL* program is implemented in approximately 12 sessions. However, it will be adapted to the prevailing conditions in each context.
- Students record all the group activities carried in their notebooks so that they are able to refer to their notes at all times and use them to help them in subsequent tasks.

### **GENERAL AIM PHASE 1**

Write a first synthesis task from two texts. The researcher provides modelling of the processes set in motion (Sessions 1–4):

#### ***Session 1***

##### **A Task Description**

**Goal:** Students learn what a synthesis is and its usefulness (Students will perform the task according to this description.)

##### **Procedure:**

Guiding questions (questions that can be asked by the teacher): The teacher asks different questions in an oral way and the students' answers are written in the blackboard.

- What is synthesis for you? What is a summary? What are they for? and, are they similar?
- Do you include all the information from a text in a summary? (Selection process)
- How do you arrange the ideas from the text? (Organisation process)
- Do you write them just as they are or differently? (Drafting process)
- Do you think it is better to use a single text or more than one? (Integration process)
- Do you think synthesis is an easy or a difficult task?
- Examples of past experiences (with their teacher, on pre-task synthesis)
- How would you explain what synthesis is to a new classmate?

#### B Activation of Prior Knowledge

Goal: Students learn to achieve real and significant content-learning and to integrate this with prior knowledge.

#### Procedure:

The teacher asks some questions in order to:

- Access to general knowledge: How did people live in the 18th and 19th centuries? What was the political system like? Was everyone equal?
- Access to more specific knowledge: Texts are handed out and students read the titles—the researcher models the process. What do I think this text is going to speak to me about?

### *Session 2*

#### C Global / Local Comprehension of Source Texts (STs)

Goal: Students learn to monitor comprehension. Comprehension includes the text content and structure.

#### Procedure:

The teacher:

- The teacher reads ST<sub>1</sub> out loud / a student reads ST<sub>2</sub> out loud
- Reading paragraph by paragraph (SELECTION OF IDEAS THROUGH UNDERLINING + NOTE-TAKING = step D). ST<sub>1</sub> by the teacher and ST<sub>2</sub> by students

**D Selection of Main Ideas**

Goal: Students understand the importance of distinguishing relevant from irrelevant information, to transform information into knowledge. Thinking about which ideas should be included in the student's text.

Procedure:

- Reading paragraph by paragraph selecting relevant ideas by students.

**E Linking Prior Knowledge to New Information**

Goal: Students make sense of the information presented to them and transform it on the basis of what they already knew.

Procedure:

- Students link the information in the text with the current situation in their own country (which they know better).

***Session 3*****F Organising and Drafting Ideas from STs**

Goal: Students understand that it is essential to think about how to organize and write up the ideas on the basis of what they already know.

Procedure:

- Starting out from the ideas students have selected, teacher use modelling to gradually explain how and why to organise ideas on the basis of prior knowledge.

**G Integration of Intra- and Intertextual Information**

Goal: To show that integration is the most characteristic process in synthesizing, although also the least familiar to students.

Procedure:

The teacher:

- Asks some questions: considering the ideas selected, organised and drafted, is there any connection between them? Why did the author write them in this order? Are some more useful than others?
- Writes ST1 and ST2 ideas on the blackboard and connecting them with arrows.

- Models for ST<sub>1</sub> and guided action for ST<sub>2</sub>.
- Draws concept maps (of ST<sub>1</sub> by means of modelling and of ST<sub>2</sub> by means of joint guided action). Which are the main ideas in the text? (See Figure 1.)
- Links the ideas from both concept maps by making thoughts and questions explicit (modelling).

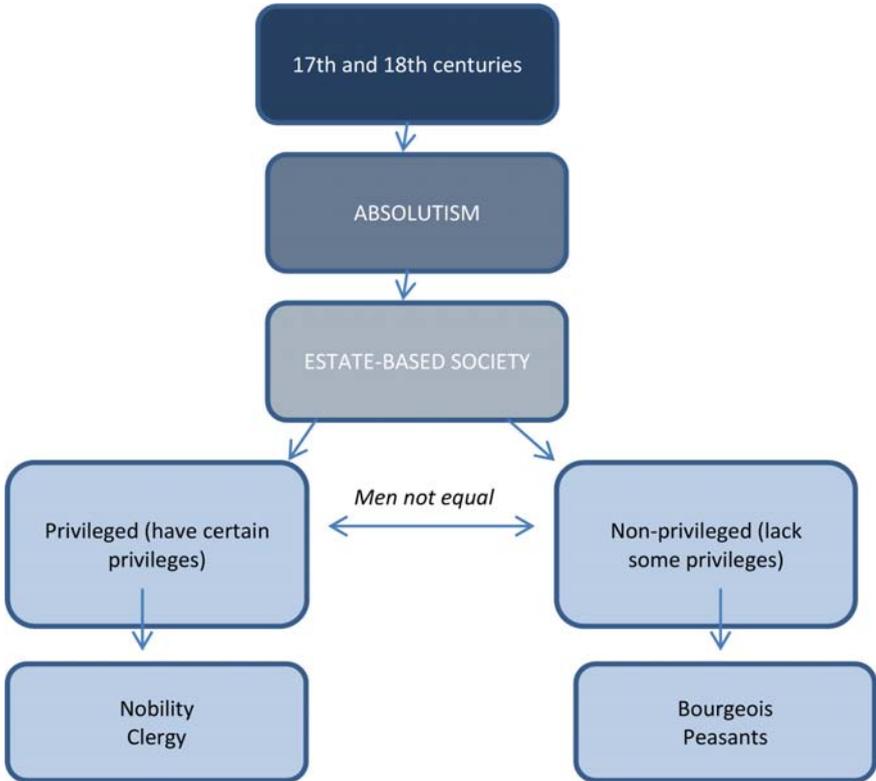


FIGURE 8.3 Example of concept map

#### Session 4

H Writing the Final Text

Goal: To write up the final text.

Procedure:

The teacher:

- Models the process of understanding the central ideas: selects “CENTRAL (pivotal) idea”, selects ideas to be included, order of presentation, discusses how to link them, and goes back to STs to see how they were organized.
- Writes conclusions on the blackboard and uses them to write the synthesis, explicitly expressing his/her thoughts, problems arising (revision process), etc.
- Revises while making his/her thoughts explicit: Have I included all the ideas? Can they be understood? Are there any spelling mistakes? Are the ideas in the right order? etc.

## I                    Construction of a Guide

Goal: Students learn to control the synthesis process and secure better results regarding time, situations and content with the aid of a progress checklist.

Procedure:

The teacher can ask questions as following:

- What have we been doing over the past few days?
- Write contributions on the blackboard.
- Complete ideas to gain a comprehensive view of the process.
- What did each step involve?
- Stress the usefulness of this guide for future situations with different contents.

**GENERAL AIM PHASE 2**

Second synthesis task in which students are allowed more autonomy than in the previous exercise, through group work and with assistance from the written guide (Sessions 5–8):

*Session 5*

## A                    Activation of Prior Knowledge

Procedure:

- Joint activity for discussing prior knowledge about the topic (4 student groups) and joint class reflection from groups’ ideas.

- Groups of 4 pupils work on activating knowledge (brainstorming) under supervision.
- Students share results and draw connections between them.

B and C Local / Global Comprehension of ST and Selection of Ideas

Procedure:

- Working in supervised groups, students read STs out loud straight through, and then paragraph by paragraph, selecting the main ideas by underlining and note-taking. After that, they share their results with the whole class and reflect on what has been selected.

*Session 6*

D Linking Prior Knowledge to New

Procedure:

- While the results of step D are being shared, students are encouraged to try to link the ideas from the texts with the prior knowledge activated in step A.

E Organising the Ideas in the Texts

Procedure:

- In groups of 4, students will think about the most appropriate structure for their texts and in what order they will put the ideas they have selected. They write down an outline with this structure.

*Session 7*

F Drafting the Ideas on the Basis of Goals and Knowledge

As in the previous step, we remind students that, in addition to thinking about the organisation of the information, they must reflect on how to express it in view of their goals. For example, so that a new classmate can understand it.

Procedure:

Sharing and discussion (stressing that there is no such thing as a uniquely “right” synthesis; each group will have to produce its own).

G Integrating Intra- and Intertextual Information

Procedure:

- Groups of 4 students make a concept map for each text (sharing it with the class group).

- On the basis of this exchange, each group then draws a single map integrating the information from both texts as well as any other ideas they consider appropriate. **INSTRUCTORS' ROLE:** offering help when necessary, acting as guides by asking questions that aid reflection.
- Each group corrects the concept map of another group. In doing so, students are reminded to check whether all the relevant ideas have been included, and whether they are well linked and organised.
- Sharing difficulties / comments (whole class activity led by the teacher).

### ***Session 8***

#### **H Writing Up the Final Synthesis**

##### Procedure:

- Students write their final synthesis in groups of four. To help them, teacher hands out guidelines at the start of the session and monitor the groups closely in case any difficulties crop up. Students also have the guide.

##### *Guidelines:*

1. Help from the written guide
2. "Pivotal idea"
3. Ideas to be included, order, how to express and connect them
4. Go back to the texts to check and revise
5. Revision both during and at the end of the process, focusing on formal and substantive aspects (organisation, drafting technique, etc.)

Each synthesis is read aloud to the whole class, and feedback is encouraged.

### **MAIN AIM PHASE 3**

Third synthesis task in which students, assisted at all times, perform the required activities individually (Sessions 9–12):

Purpose: Further work on the same steps as before. Students learn to write a synthesis individually following the instructions.

##### Procedure:

- Individual work with adult supervision.
- Sharing with the class and joint reflection.

\* In every session the teacher refer to what has already been worked on and to the written guide; students are allowed to use all the *SWSL* program material (maps, syntheses, etc.)

## Appendix 1. Source Texts for Synthesis Tasks

### *Instructions*

Below are two texts relevant to the classroom subject Environmental Awareness.

Read the texts carefully, as many times as you need, and write a synthesis of the information given in both texts.

You may underline, take notes or make rough drafts.

### *Estate-Based Society during the Period of Absolutism*

During the 17th and early 18th centuries, all men were not considered equal. A few, the members of the nobility and the Church, enjoyed privileges, whereas all the other inhabitants of a country were unable to attain high-ranking political, military or religious posts. **RELEVANT**

During the 17th century, society was grouped into estates: the privileged and the non-privileged. **RELEVANT**

The estate of the privileged was formed by the nobility and the clergy. **RELEVANT**

They were given this name because they had certain privileges **RELEVANT**, such as not paying taxes, occupying the most important posts in the army and the state administration, being able to bear arms, not working and different laws, etc. **IRRELEVANT (listing all, or most of, the examples)**

It was almost impossible for a person who was not born into a noble family to enter the group of the privileged. **RELEVANT**

The nobility possessed vast areas of land and lived on the rent. **IRRELEVANT**

Those among the clergy holding high-ranking ecclesiastical posts lived like the nobility. Friars, monks and priests led humbler lives. **IRRELEVANT**

The non-privileged were inhabitants of the towns **RELEVANT**, such as traders, bankers, craftsmen, and peasants. **IRRELEVANT (listing all the examples)**

The non-privileged worked, paid taxes, were unable to gain entry to important posts, could not bear arms, etc. **IRRELEVANT (listing all, or most of, the examples)**

In the countryside, most of the peasants worked for the big landowners and lived in poverty. **IRRELEVANT**

In the towns lived the bourgeois, who were differentiated from each other by the wealth they possessed. **IRRELEVANT**

Belonging to one estate or another was not only a matter of wealth. People belonged to an estate by birth and it was difficult to enter the estate of the privileged. **RELEVANT BUT REPEATED**

### *Society during the Period of Liberalism*

In the course of the 18th century an important change occurred in philosophical, economic and political ideas. **RELEVANT** These new ideas gave rise to a cultural movement that received the name of Enlightenment. **RELEVANT**

The enlightened stood for individual freedom and considered that all men are born equal and have the same rights. **RELEVANT** They believed in the progress of the human being and based themselves on reason and education to achieve it. **RELEVANT** Therefore, one of their biggest concerns was education.

In the 19th century, the social groups underwent some changes. **RELEVANT** The bourgeois bought land and accumulated greater power; the Church lost a lot of its properties, because they were expropriated by the State and sold to nobles and bourgeois, and also its influence declined; the peasants and the labourers continued to live in poverty and ignorance. **IRRELEVANT**

Estates-based society was followed by class society **RELEVANT**: all citizens were equal before the law **RELEVANT BUT REPEATED**, but the difference between the classes was in ownership of the factories and the machines, and therefore, in the level of wealth each one enjoyed **IRRELEVANT**.

The industrial bourgeois class was formed by the people who possessed sufficient money to invest **RELEVANT** in the creation of new factories, in means of transport or in commercial activities **IRRELEVANT** (mentioning the examples of what they invested in).

The labourers were the people who worked in the factories in exchange for a wage and their working conditions were very poor **RELEVANT**.

## **Appendix 2. Questionnaire for the Evaluation of High-Level and Low-Level Knowledge**

SCHOOL \_\_\_\_\_

NAME AND SURNAME \_\_\_\_\_

YEAR \_\_\_\_\_ CLASS \_\_\_\_\_ AGE \_\_\_\_\_ DATE \_\_\_\_\_

### *Instructions*

Below are a number of sentences on issues that are relevant to the classroom subject Environmental Awareness. Please circle the word **True** or **False** depending on whether you think the sentence is correct or incorrect.

#### Example:

My school is called Madrid.

True / **False**

1. Thanks to the modernization of agriculture, many peasants left the countryside to seek work in the cities (high-level). **True / False**
2. The Enlightenment defended the absolutist system of government (low-level). **True / False**
3. Increased agricultural production had nothing to do with the population increase (high-level). **True / False**
4. The Industrial and Agricultural Revolution made it possible to produce more in a shorter time (high-level). **True / False**
5. In the early days of capitalism, labourers worked at factories but many were dismissed due to the crisis caused by the surplus in production (high-level). **True / False**
6. The Industrial Revolution made transportation faster and cheaper (low-level). **True / False**
7. At present, Don Juan Carlos is the King of Spain, and his functions are similar to those of the kings that reigned during the time of absolute monarchy (all power was concentrated in their hands) (high-level). **True / False**
8. Absolute monarchs defended individual freedom and equality (high-level). **True / False**
9. The political system known as liberalism had major social repercussions (for example, all men were considered equal before the law) (high-level). **True / False**
10. During capitalism, social classes did not exist and all citizens were equal and enjoyed the same rights (high-level). **True / False**
11. Society was organized in the same way both under absolutism and liberalism (high-level). **True / False**
12. The capitalist system benefited the workers' social class (high-level). **True / False**
13. Technical advances in agriculture allowed great savings in hired labour (low-level). **True / False**
14. The steam engine had a great impact on industry and on transportation (high-level). **True / False**

15. The capitalist system caused many factories to close down and many workers became unemployed (high-level). **True / False**
16. In the early days of the capitalist system, the main objective of capitalism was to enable enterprises to make the maximum profit (low-level). **True / False**
17. During the 19th century there were few people living in the cities because most of the population lived in rural areas (high-level). **True / False**

***Instructions***

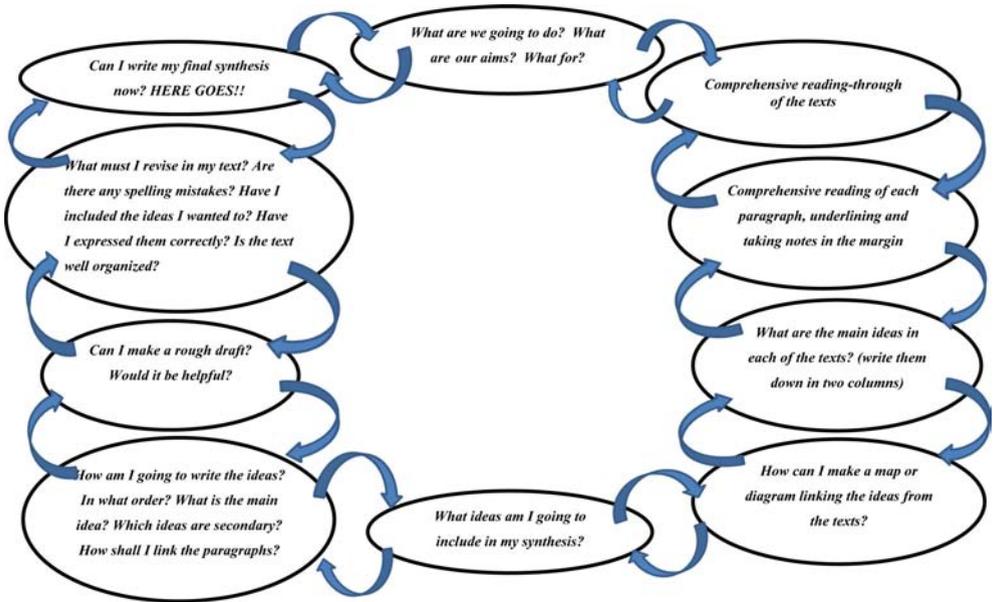
In the columns below, draw an arrow to link each technical innovation to its consequence.

TABLE 8.3

The introduction of crop rotation	(high-level)	The industrial age began
The use of large quantities of coal	(low-level)	Energy to move machinery and means of transport
The invention of the steam engine	(high-level)	Savings in labour costs
The appearance of massive factories	(high-level)	Increased agricultural yields
The spread of new farm machinery	(low-level)	Lower prices of industrial products

**End of the Test**

### Appendix 3. Guide for Drafting a Synthesis



### Appendix 4. Sample of a Student's Synthesis Task and Quality Assessment

During the 17th and 18th century, all men were not considered equal. The members of the nobility and the Church enjoyed privileges (privileged), the other inhabitants of a country could not gain access to great privileges (non-privileged).

The privileged did not pay taxes, occupied more important posts, could bear arms, did not work and were tried by different courts and laws.

The non-privileged were the traders, bankers, craftsmen and peasants.

The non-privileged paid taxes, could not gain entry to the major posts, could not bear arms, etc.

In the course of the 18th century an important change occurred in philosophical, economic and political ideas. These new ideas gave rise to the Enlightenment.

The Enlightenment stood for individual freedom and considered that all men are born equal and have the same political rights.

In the 19th century the social groups underwent some changes.

Estates-based society was followed by class society: all citizens were equal

before the law, but the difference between the classes was in ownership of the factories, and therefore, in the level of wealth each one enjoyed.

TABLE 8.4 *Sample of a student's synthesis quality assessment*

<b>Selection</b>	1.	No selection
	2.	Includes relevant and irrelevant ideas in an equal proportion
	3.	Includes more relevant than irrelevant ideas
	4.	Includes every relevant idea and no irrelevant ideas
<b>Drafting technique</b>	1.	Copy
	2.	Copy & paraphrase
	3.	Copy, paraphrase & some irrelevant or inadequate drafting
	4.	Copy, paraphrase & some relevant drafting
<b>Intratextual integration</b>	1.	List of non-related ideas
	2.	Ideas linked by copying connectors from the source text
	3.	At least one attempt to link ideas
	4.	Linked ideas
<b>Intertextual integration</b>	1.	Two separate texts
	2.	Two juxtaposed summaries
	3.	Integration of both texts with one idea
	4.	Integration of various ideas from both texts
<b>Title</b>	1.	No title or summary
	2.	Title copied
	3.	Integration of both titles
	4.	Integration of titles with some relevant contribution