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## **Educational design pattern: A strategy to support group-work – the Jigsaw**

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### **1. The educational problem**

Triological Learning Approach activities are fundamentally based on group work aimed at creating concrete objects. Yet, organizing collaborative work and ensuring that everyone contributes, feeling responsible for the group, is not easy.

### **2. The solution**

*Therefore*, we use an adapted version of the Jigsaw method. In the original wording proposed by Aronson (1978), the Jigsaw is a technique inspired by the idea of the puzzle: the groups are formed, they work separately, then break up and reform, following a procedure at different step which allows, in the final stage, to fit the skills acquired by each member in the previous steps. Here we describe the adapted version of these steps:

- a) *Brainstorming*. The goal is to bring interest and curiosity on the subject proposed by the teacher. In the classroom sticky notes can be used to be distributed to participants asking them to write their own ideas
- b) *Formation of the core concepts*. This phase involves a group discussion around the themes that have emerged in order to identify the main themes. Post-it from brainstorming can easily be grouped, after having arranged them on a wall or a whiteboard. In any case, we recommend to the teacher to have already in mind the number of subgroups to be formed and to point to determine a number of themes corresponding to the number of groups. In this way, at the end of this phase a topic could be assigned to each group. For example, if in a History course the theme was "The Ancient Egyptians" and groups that to be formed were three, the ideas generated by the participants should be grouped in three nuclei - eg. customs, the economy, the reasons for the Egyptian empire's decline. By doing so, each of the core themes identified can be assigned to each of the three groups.
- c) *Expert groups*. At this stage, each participant chooses the topic to work on and, consequently, the group to join, as a way to enhance motivation and interest. The

components of the groups thus formed will have to become experts in the topic assigned to them. They are temporary groups, working in function of the next stage, during which students will have to offer their contribution as experts.

- d) *"Jigsaw" or Learning Groups*. In this phase, the expert groups are dissolved and form new groups, composed of at least one member from each of the expert groups. Each participant will contribute by making the "piece" on which he worked in their expert group. This time, example of group products could be a concept map that contains the connections between the analyzed content, or a multimedia product - blogs, video, interactive presentation - or a more technical tool, depending on the nature of the course and the teaching objectives, for example an observation grid, or a questionnaire.
- e) *Comparison between products*. This phase may be added to favor a collective work in which comparing the product groups in order to analyze the differences and similarities and, if appropriate, to process a single final product in which the various groups are synthesized, processed and further redefined.

### **3. The context**

This technique has been widely used in e-Learning courses of Psychology, University of Bari, with appropriate adaptations (Ligorio & Samson, 2016). It can be easily introduced into High Schools, by choosing the most suitable means by which to realize the different steps (in-classroom and online), individual and group products, comparing and linking groups.

Through this technique, the various participants are empowered, since it promotes the creation of objects that support the knowledge-building process. In particular, to form groups, beyond the formal aspects and content, it must also take into account that the cohesion within the group can take place spontaneously between people who already know each other, but when it comes to form ad hoc groups, it can be useful to introduce some specific mechanism. For example, inviting the groups to give themselves a name has proved to be an effective step.