OBJECTIVE: To demonstrate the usage of a systems thinking tool, the SystemiTool. In this application of the tool, I will show the successive development of a Systemigram for modeling the selection process of a panel of members (teachers) to advise and support a group of pre-teens working on a science project for a Science Fair.

To bring together a team of teachers to guide students in a science project can be a difficult task. Since each individual adult has a set of competences and some communication skills. The competences represent what that individual can accomplish on her own without recourse to any other person. When you have a team the knowledge each person brings to the table will be enormous. What competencies need to be present? How do we select a team with a 360 degree span of the required skills? What kind of communication exchanges do we envisage? What conditions are likely to promote the enhancement competence and the improvement in communication skills? What kind of balance between competence and communication is most likely to be successful, or does it all depend? What are the kinds of errors and misconception that you foresee emerging among the individuals that may seriously inhibit the group’s achievement? Are there any lessons to be gained from this exercise that could be successfully transferred into other group activities within the classroom and outside?

The paper will be written in the format specified and will also provide a Systemigram. This will give the audience a chance to “view” and understand how the Systemigram can provide an intuitive mode of representation – easy to learn and comprehensible at a glance.

Target audience: K-12 teachers

Reference:

The SystemiTool was developed by Dr. John Boardman (he and Dr. Brian Sauser have also recently published a book on Systems Thinking). SystemiTool is the name of the software tool developed to support the creation, editing and portrayal, in the form of a storyboard of scenes, of systemic diagrams or systemigrams. It is designed to enable the simple expression of complex relational structures. The tool provides an interesting way to think about and 'draw' a complex system (which can be anything from an online learning system to a depiction of global warming) by focusing the developer on the relationships between components of the system and the system's interaction with external components of other systems.

Below is a Systemigram that my team (3 of us) created for a graduate level Systems Thinking course with Dr. John Boardman that we recently completed. This systemigram depicts a University Course Registration System that we proposed; it may seem difficult to create but it is very simple compared to similar tools I have used in the past.