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### Applying Futures Literacy through Storyline

Ann-Catherine Henriksson

#### *Futures literacy – learning in and from different futures*

As an answer to the question of purpose in education Biesta (2009) presents a three-part model containing I. Qualification (knowledge, skills and understanding), II. Socialisation (that the student is brought up to become part of an already existing culture with its norms) and III. Subjectification (that the student gets the opportunity to grow and create, to try new paths and make their own contributions). All three parts above are also central when we discuss teaching around different aspects of sustainability. Different questions about sustainability often lead us to different future scenarios. We reflect the current situation against various alternative futures. “Exploring alternative futures leads to the identification of new pathways as an important step towards sustainable development. This process draws upon scientific evidence, uncovers current beliefs and assumptions that underlie our choices and encourages creative thinking about a wide range of possibilities.” (UNECE, 2012, p. 17.) Futures literacy, the capability to ‘use-the-future’ for different reasons and in a variety of ways (Miller et.al, 2018) requires the ability to identify future assumptions that guide our own thinking and actions.

#### *Green comp, a framework for sustainability competences*

GreenComp is a reference framework for sustainability competences (Bianchi et.al., 2022). The framework is created in or to provide a common ground for learners and guidance for educators, advancing a consensual definition of what sustainability as a competence entails. GreenComp consists of 12 competences organized into the four areas *Embodying sustainability values*, *Embracing complexity in sustainability*, *Envisioning sustainable futures* and *Acting for sustainability* (See Figure 1). The area Envisioning sustainable futures includes the competences *Futures literacy*, *Adaptability* and *Exploratory thinking*. Futures literacy is described as follows “[T]o envision alternative sustainable futures by imagining

and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.” (Bianchi et.al., 2022, p. 23).

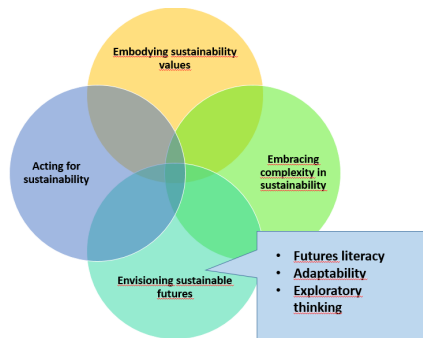
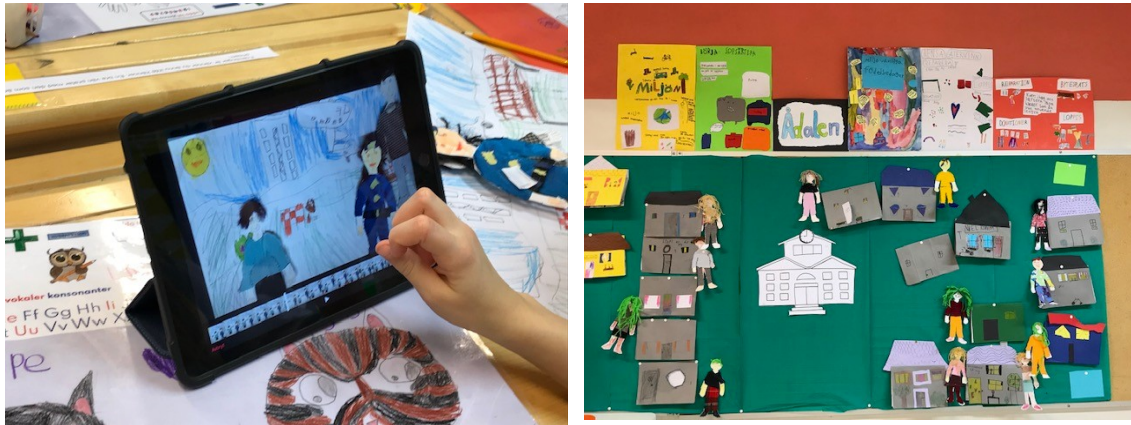


Figure 1. GreenComp, the European sustainability competence framework (Bianchi, Pisiotis & Cabrera Giraldez, 2022) comprises four interrelated competence areas

### *Storyline and Futures Literacy*

Each Storyline theme takes place at an agreed location and during a predetermined time. The predetermined time may well be somewhere in the future. During the work, with the help of various key questions, the students are challenged to work with problems that affect all or any of the three subgroups of sustainability, i.e. ecological, economic and social issues. By the students examining the problems in role, i.e. through their characters, different aspects of the problem can be made visible and the students have to take a position on the pros and cons of different actions and scenarios. The students are challenged to search for facts about the topic and review the reliability of various sources of facts.

Knowledge acquisition should not be separated from work focusing on intentions and emotions, but rather integral to both of them. Likewise, emotions should be grounded in both knowledge and a sense of action competence. (Sterling, 2014). The students practice different social skills in the actual work in the groups, but different social future issues can also advantageously be included as focus areas for the key questions. The older the students are, the more they also are able to critically review and reflect on alternative scenarios based on the concept pairs, likely/not likely and preferable/not preferable. Since the entire Storyline work is documented with various visual tools, people in the environment also get to share the results of the work. The students' action skills can be trained during the Storyline work, and the students, via the work and various actions in the fictional society, get tools for how similar democratic decisions and processes can be implemented in real societies.



### *Formative assessment of futures literacy as a part of Storyline-working*

Assessment and evaluation are generally often challenging for teachers and students, and often the evaluation is mainly focused on factual knowledge. The assessment of more difficult-to-measure attitudes, values and competences is given a lower status. Biesta (2009, p. 33) presents an important question educators need to address: “Valuing what we measure or measuring what we value?” Various sustainability issues are very much about attitudes, values, and competences in combination with various scientific facts and subject knowledge. Sustainability issues are complex and also include various socio-economic factors and emotions.

Exploring alternative futures includes creative thinking about a wide range of possibilities (UNECE, 2012) and creative thinking is also central within Storyline. In this manner, the assessment of the student's future literacy is preferably formative, i.e. with the support of the teacher, the students can make their own attitudes and values visible and reflect them against other attitudes and values. During the course of Storyline work, with the support of different results from their work, the students have the opportunity to make different changed attitudes and values visible. An example of such learning progression in the student (in line with the Green Comp framework in figure 1) could be that the student identifies different actions, values these actions and finally reflect on the actions based on knowledge on how sustainable these actions are. Such formative assessment opportunities can be placed throughout the Storyline, supporting teachers and students in assessing futures literacy development in the students.

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