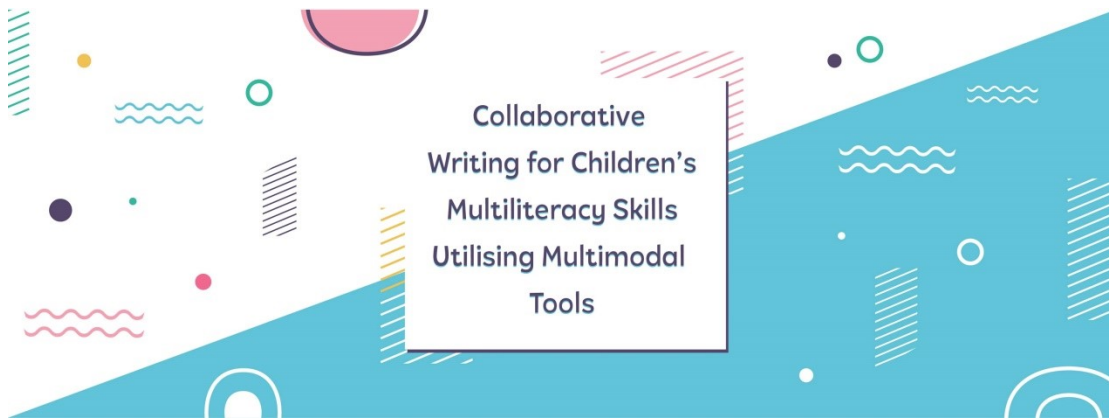


STORY LOGIC NET



METHODOLOGICAL REPORT

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INTRODUCTION

This document reports on the unique and innovative SLN methodology which was translated into a tool. The SLN methodology and associated SLN tool are anchored in the ‘design’ of the classroom to promote the active participation of students in teaching and enables them to internalize and handle a variety of language structures and meanings. Thus, this report provides evidence about the effectiveness of both the initial methodology on the SLN steps translated into features as well as the ways these steps and tool features support Multiliteracies. It also reports on the research and the ways the results mirror the effectiveness of the tool.

Following the project proposal, the analysis on the methodology proposed by the project based on the pilot testing experiences, sheds light and advances knowledge, skills and competences to all learning participants and also connects everyone working in pedagogy. It includes:

1. The overall StoryLogicNet Methodology for Multiliteracies
2. Review of the pilot testing results
3. Description of good practices
4. Summary of the descriptions and lessons learned and final conclusions

The research was conducted while evaluating the SLN main deliverables, via the LTTA and the Pilot Studies carried out by the participating teachers. Four questionnaires were designed and distributed in order to evaluate LTTA and its content, the SLN Digital Platform and Community (both by the teachers and the students) and the implementation of the pilot studies. The document is structured as follows: the first section refers to the SLN methodology, one section reports on each of the questionnaires, followed by an overall concluding discussion.

The StoryLogicNet Methodology

StoryLogicNet (SLN) is an initiative from a group of European organisations - universities, schools and companies in Portugal, Greece, Poland and Romania -, supported by the EC, which intends to improve children’s Multiliteracy Competences. SLN is for students between 8 and 12 years old and can be used in formal, non-formal and informal contexts of learning, with the support of educators and parents. SLN allows children to create their own stories in a collaborative way, with their friends and class mates.



Literacy is a complex phenomenon that combines multiple cultural, social and cognitive aspects and addresses a multifaceted content as with storytelling, as well as different versions and perceptions of the story and its meaning. Thus, nowadays we do not address literacy, but literacies as a social and cultural practice. The meaning is now shaped with methods that are increasingly multimodal, since the written-linguistic ways of producing meaning are combined with visual, acoustic, and other meaning communication types (Cope & Kalantzis, 2000). Learning is considered a process of constructing meaning as a multifaceted and multimodal process through which students are constantly reshaping themselves (Katsarou, 2011). As a pedagogical methodology, Multiliteracies constitute a framework, the Pedagogy of Multiliteracies and aiming to help learners approach learning dynamically with the use of tools (multimodality).

The SLN methodology and associated SLN tool are anchored in the ‘design’ of the classroom to promote the active participation of students in teaching and enables them to internalize and handle a variety of language structures and meanings.

Therefore, the SLN tool supports this ‘design’ that in Multiliteracy competences includes the *designed*, the *designing* and the *redesigned*. According to Cope & Kalantzis (2000), the *designed* refers to the range of available socio-cultural resources for the production of meaning, the *designing* refers to the process of forming meaning through new combinations of elements of the designed and the *redesigned* is the result of design, a new, hybrid, intertextual and intercultural meaning. In other words, it seems that the transmitter produces text - speech, designs (eg writes, reads) from the designed (eg the grammatical structures of its language), while the receiver during the reception process, redesigns, creates or reproduces based on what he has understood.

The innovative nature of the SLN project and tool supports the overall ‘design’ of classroom activities for meaning construction. It is anchored in the initial synthesis of existing narrative storytelling structures and the ways these can become aware, support and enhance Multiliteracies competences.

The Project successfully achieved the initial aim which was the designing, developing and implementing an innovative online tool to support collaborative writing in order to develop and advance children’s Multiliteracy skills (8 -12 years old) for inside and outside and classroom, in formal, non-formal and informal education settings. The Multiliteracy Education Framework includes the:

- European Multiliteracy Education programmes
- Linear and non-linear Story Logic Net for Digital Storytelling and Computer Supported Collaborative Writing (CSCWriting)
- Multiliteracy Education competences

These initial Multiliteracy competences framework and storytelling steps were translated into specific steps/features for the SLN actual tool. As such, Multiliteracies and

storytelling competences were supported by community technology enhanced learning and also teaching. As such, the SLN directly responds to the initial idea and the methodology with the successful reports of the study discussed in this document. In addition, the community roles assigned can take the acquired competences even further to a European and global community level.

Multiliteracy Education in Europe aims to ensure that young people become competent in using multimodal representations of language capable of communicating and contributing to the development of social futures and well-being of the society in which they live in.

Multiliteracy is the ability to identify, interpret, create, and communicate meaning across a variety of visual, oral, corporal, musical and alphabetical forms of communication. Beyond a linguistic notion of literacy, Multiliteracy involves an awareness of the social, economic and wider cultural factors that frame communication. Multiliteracy aims to make classroom teaching more inclusive of cultural, linguistic, communicative, and technological diversity. The consortium advocates this so that the participants will be better prepared for a successful life in a globalized world.

In the following pilot Multiliteracy competences as part of the project development and tool features are addressed and evaluated.

The StoryLogicNet LTTA

For evaluating the tool and methodology as part of the LTTA, a questionnaire comprising 5 sections and a total of 35 questions (open and closed ones) was designed. A total of 19 participants filled in the questionnaire. The main demographic information (Section 1) is displayed in Figures 1 and 2.

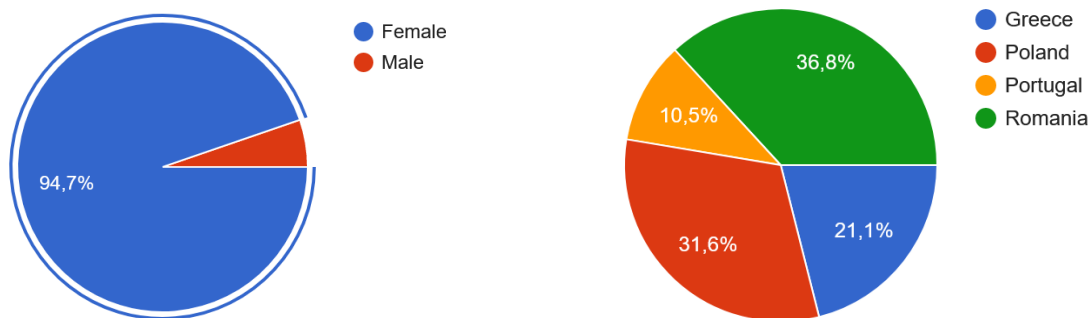


Figure 1. Participants' Gender and Country of Origin

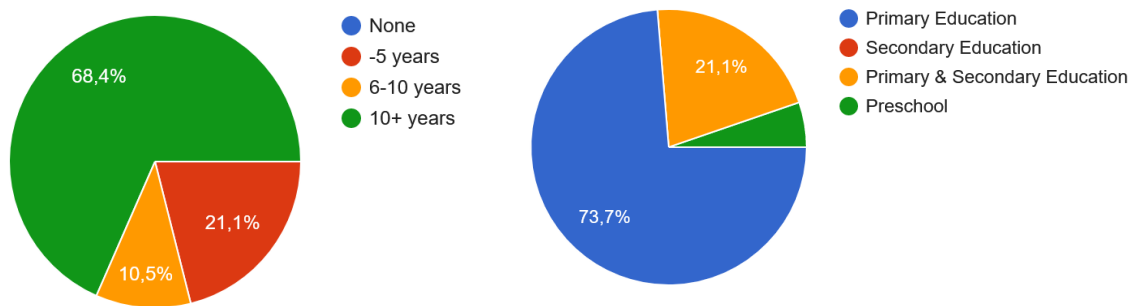


Figure 2. Participants' Years and Level of Service

Section 2 of the questionnaire intended at recording the participants' expectations from the LTTA. As displayed in Figure 3, the majority expected to acquire new or update existing knowledge, focusing on the notion of multiliteracies. About half of the participants stated that they were interested in receiving teaching material for their classes.

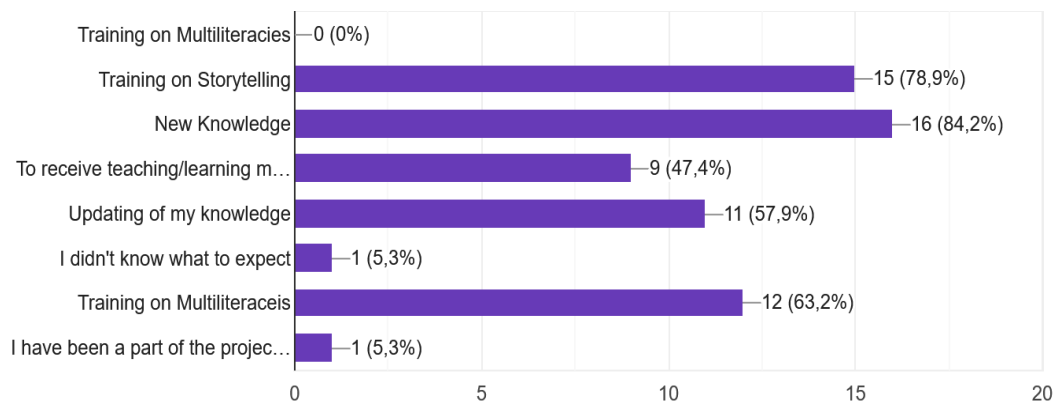


Figure 3. Participants' expectations from the LTTA

All the participants evaluated the description of the LTTA positively (89,5% selected 4 or 5 in a 5-point Likert scale). When asked why they signed up, they mainly highlighted that they found the topic interesting and expressed their positive attitude towards continuous training.

Following, the participants were required to describe their ideas on the main concepts of SLN, those of Digital Storytelling and Multiliteracy. For the former, the collected answers indicated that their knowledge was rather superficial or non-existing (e.g. several answered just "Storied via digital apps" or something similar). For the latter, apart from 3 participants the others were not able to provide a correct answer, indicating that indeed they were unfamiliar with the term. As displayed in Figure 4, they think of various notions when considering multiliteracy as a term. Interestingly, "technology" and

“multimodality” (which are tightly connected to multiliteracy nowadays), along with “school” and “significant” are their last choices.

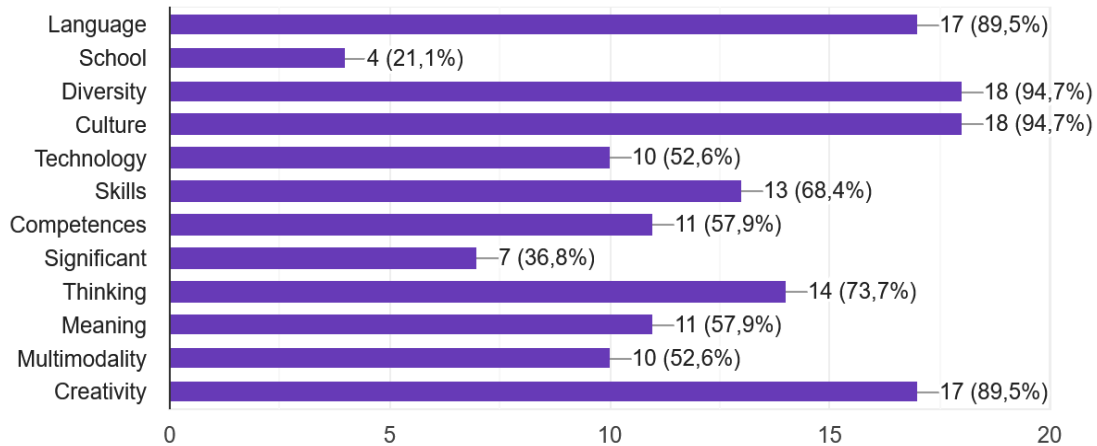


Figure 4. “What did the word multiliteracy bring to your mind?”

A similar distribution was followed when they were asked “what digital storytelling brings to mind” (Figure 5)

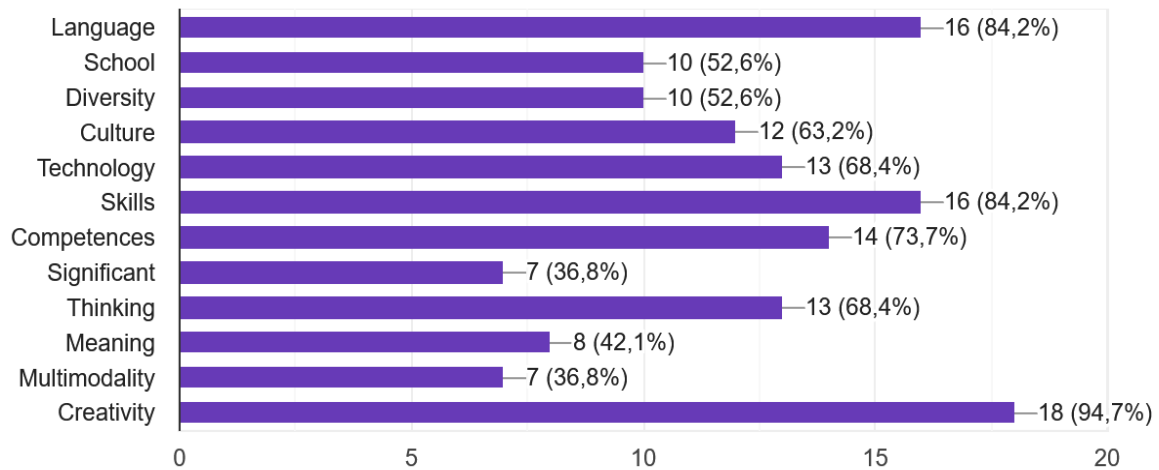


Figure 5. “What did the word (digital) storytelling bring to your mind?”

Regarding their interest in storytelling activities, they expressed a positive attitude, but it was rather vaguely justified (e.g. “it sounds interesting”).

The next section concerned the LTTA evaluation. The majority (89.5%) graded it with 4 or 5 in a 5-point Likert scale and the same percentage stated that the LTTA met their expectations. About 2/3 (68.4%) reported that they had never participated in something similar, enhancing the innovative nature of the SLN project.

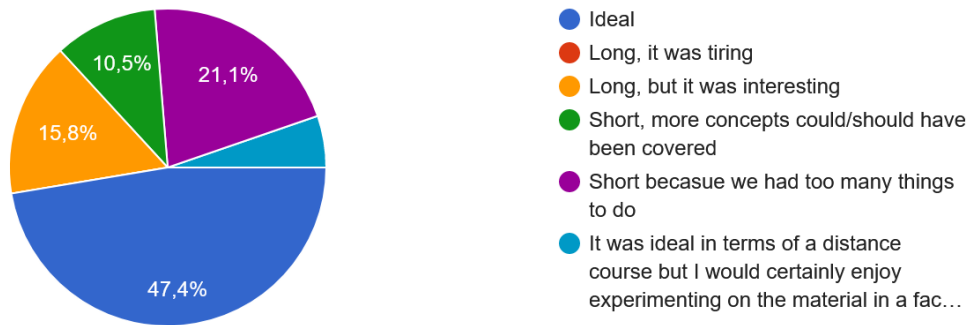


Figure 6. Comments upon the LTTA duration

Regarding the duration, the overall evaluation was positive (Figure 6). When asked about the strongest point of the training, the answers were distributed among various aspects, with the toolkit (one of the main deliverables) standing out over the rest. Regarding the weakest points, none was mentioned.

Considering the activities within the LTTA, the participants referred to many of them as being interesting, but the overall conclusion is that they valued the practical nature of many of the activities. Similarly, they didn't report activities being not interesting. Lastly, all the participants very definitely declared that they were willing to utilize the proposed approach and tools in their future teaching.

Section 4 of the questionnaire concerned the personal perspective of the participants. At first the participants were asked to consider their perceptions after the LTTA. About 70% stated that they had either the same or some alterations occurred. When asked to justify their answers, they all provided positive comments (e.g. their knowledge expanded or was clarified). Considering the disciplinary areas of application, various ones were mentioned by the participating teachers, including language, history and science, highlighting a diverse set of areas. Concerning their participation in the LTTA, 85% of the teachers selected 4 or 5 (in a 5-point Likert scale) to declare how much the expression "I left the LTTA wiser" represented their thoughts. Similarly, negative statements were graded mainly with 1/5. Specifically focusing on the toolkit, all the answers valued its usefulness and the teachers stated that they would use it in their future teaching. Likewise, the video recordings were valued. This led the consortium to refine the videos



in order to build the digital course, especially as the participants stated that it would help other teachers self-train in the future.

Section 5 included only 1 question about further comments and none were made.

The Pilot Studies

A total of 18 participants filled in the Pilot Studies questionnaire: 7 in Romania, 4 in Greece, 6 in Poland and 1 in Portugal. The settings varied. Specifically, the participating pupils were from 8 to 14 years old and the formed groups were from 5 to 15 students. Thus, the distribution among ages but also class sizes covers and goes beyond the target age group of the project. In total, over 100 children participated, both in face to face and online settings (due to the pandemic).

Regarding the topics of the created stories, depending on the time each the pilot was implemented, they included: Winter, Christmas, Family, Nature, Travelling, Friends, etc. The most chosen topic was Christmas.

As far as children's collaboration is concerned, the teachers reported very positive insights. Of course in the case of online pilots it was not possible to actually observe the collaboration and it was evident only from the results. Only minor problems, especially at the beginning of some pilots (obviously until they got into a steady pace) were mentioned.

Considering the quality of the created stories, all the teachers reported their satisfaction. Furthermore, they highlighted some technical issues (e.g. the initial lack of an eraser for the illustrators in the SLN tool), but also some positive aspects (e.g. how the empathy map templates helped children build their characters).

Within the SLN tool, the role of a reviewer is foreseen. In most cases it was described as interesting or useful, commenting upon the significance of the aspects that the reviewer was obliged to examine. In only 1-2 cases it emerged as important that the role of the reviewer should have been explained at the beginning to all the students, as some were complaining for the delay of the review (e.g. the students participating in ACT 1 had to wait for the completion of the whole story). But overall, the teachers provided very positive comments regarding the reviewer's role and so did the students (based on the teachers' comments)

Then, the teachers were asked upon their role which turned out to be that of a facilitator, following the contemporary collaborative teaching approaches. All of them formed the

groups, provided explanations and assisted (especially the younger children) at the beginning (e.g. showed them how to login, etc). Furthermore the teachers commented upon the usefulness of the SLN Manual and the explanations for the activities proposed in the toolkit. Specifically, 5 teachers mentioned that the platform was user-friendly.

Also, the teachers reported minor technical issues that they faced, in order for the consortium to address for the final versions of the tools and material. All were taken into account.

The overall evaluation of the actual use of the provided tools and material was very positive.

SLN Tool & Community Evaluation (teachers)

A total of 20 participants filled in the corresponding questionnaire, which comprised 3 sections. The first section included demographic questions, which were the same in all the questionnaires (same participants).

Section B comprised 10 questions which were designed according to the SUS model of evaluating software for educational use. Using a 5-point Likert scale, 5 of the questions are of a positive and 5 of a negative formulation. Then a very specific algorithm is applied which leads to a score (with 100 being the maximum value. If a software receives a score of over 68 then it is considered as a good one with the need for minor adjustments and 20 participants is an adequate sample to reach a safe conclusion. If the score is over 80, then it is considered as a very good software which needs no further improvement. If the score is under 50, then the software needs significant improvements. In the case of the SLN platform, the average value from all the participants was 72. Consequently, it was evaluated as a good software.

In order to further verify this result, a multiple choice question at the end required from the participants to describe the tool. 17/20 selected the choices “excellent”, “good”, “the best” for the tool. Thus, overall the SLN tool was a good one

SLN Tool & Community Evaluation (students)

A total of 126 participants filled in the corresponding questionnaire, which comprised 3 sections. The first section included demographic information (Figure 7, 8).

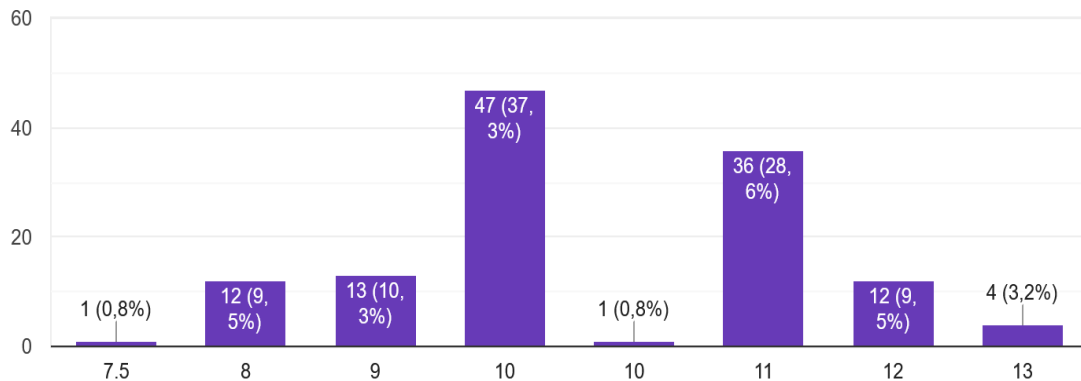


Figure 7. Participants' age distribution

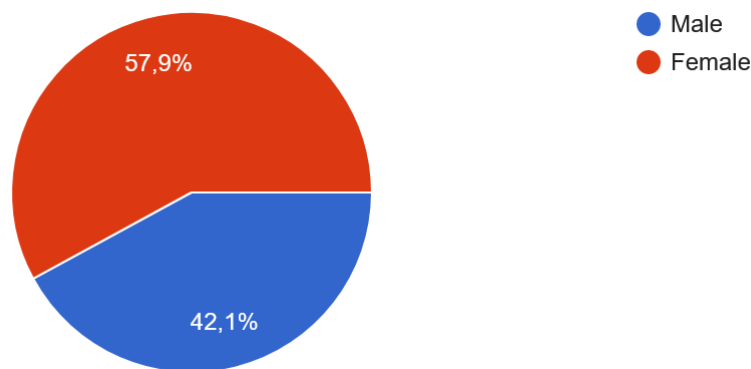


Figure 8. Participants' Gender

Section B comprised 10 questions which were designed according to the SUS model of evaluating software for educational use. Following the same approach as in the case of the teachers, the average score was 59. Consequently, it was evaluated as a good software which needs some improvements. As can be seen in the Pilot Studies' Reporting section, mainly some functionalities were either missing or not working properly for the students. For example, when illustrating they needed to be able to delete a drawing. They asked for a specific way of choosing the drawing color (with a rainbow-like sample). Also they required to be able to draw on paper and be able to upload their drawings (at the time this functionality was not working properly). Thus, taking into consideration all the comments, several improvements were introduced to the SLN tool.

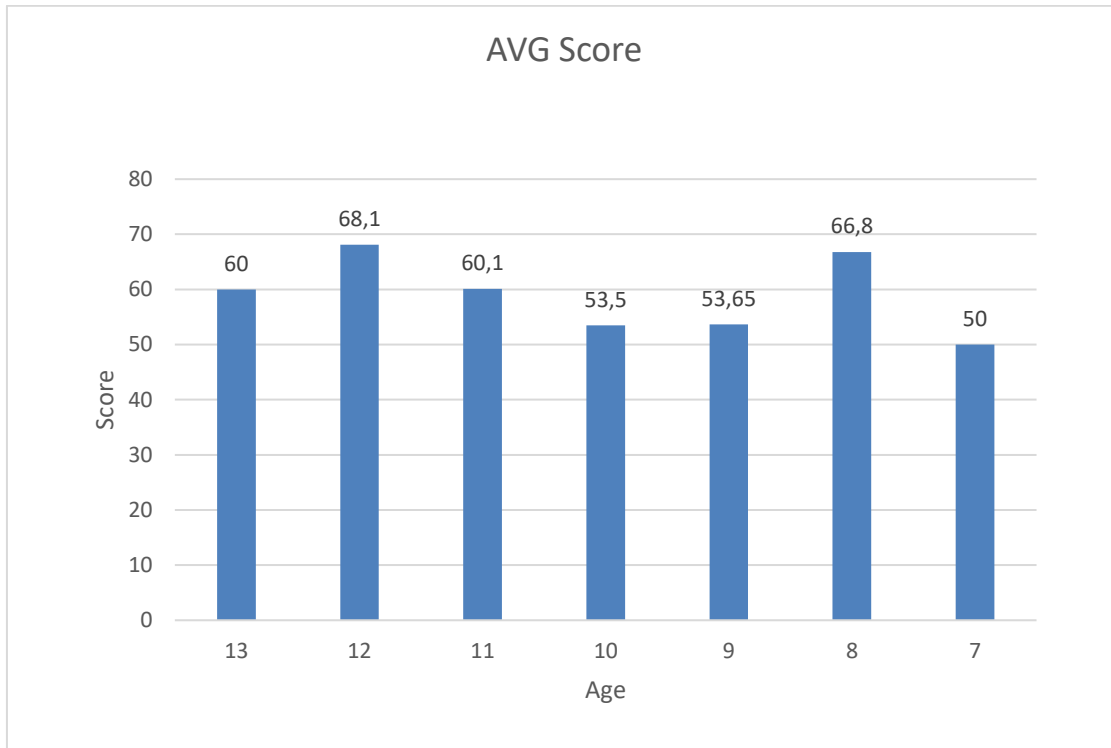


Figure 9. Average SUS Score per age category

In order to further verify this result, a multiple choice question at the end required from the participants to describe the tool. 114/126 selected the choices “excellent”, “good”, “the best” for the tool. Thus, overall the SLN tool was a good one and possibly the choices in Section B were not that accurate, also considering the ages of the children. Interestingly enough, the 9-10 age groups provided the lowest scores (Figure 9), apart from the 7 y.o. age group (which was in any case out of the scope of the study). There is no clear interpretation of this, especially as the younger students (8 y.o.) provided a higher score (66.8). Possibly some of the students were slightly confused when providing their scores, as can be concluded by the last, multiple choice question which described the tool as a good one.

DESCRIPTION OF GOOD PRACTICES

The StoryLogicNet project and SLN tool advanced Multiliteracy Education by connecting all learning participants, the students, the teachers and beneficiaries connected to the project. The participants’ knowledge, skills and competences via using the tool as well as the educational material provided proved to:

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- develop multimodal literacy by using the several tool features
- develop digital storytelling knowledge, skills and competences by following the suggested storytelling and narrative structures developed specifically for the project
- develop 4Cs skills: communication, collaboration, co-creativity and critical thinking in digital storytelling and collaborative writing, More specifically in the following:
 - one-way and two-ways of communication via suggestions, explanations and interaction between the students as well as their teachers
 - collaborative skills and activities convergence skills to agree in the used and uploaded material and stories
 - co-creativity skills: divergent, convergent and metacognition skills in order to develop the agreed version of the story and upload it
 - critical thinking levels (e.g. in argumentation) to work from the initial idea story generation, characters, settings, plot etc as well as during the evaluation and decision making processes towards the final story.
- develop certain values, attitudes and behaviours as for work in teams, acceptance, work towards a bigger goal, negotiation, agreement and value diversity
- encourage active participation and engagement at school and community levels
- empower productive diversity in digital storytelling onsite and online
- develop multi-layered identity working with students from other countries as well as on diverse stories

As for the usage of the SLN tool, the initial steps that were wrapped up and translated into the unique SLN tool features specifically for the project are the following:

1. ACT 1: Opening
2. Inciting Incident
3. End of Act 1 Twist Point
4. ACT 2: The Protagonist's New World
5. Midpoint
6. End of Act 2 Twist Point
7. ACT 3: Climax
8. The End
9. Review

As the steps are not linear, the students were able to change the story at any step and the final review is available for evaluation and feedback, the SLN tool is apparent in every





‘design’ process. The initial tools steps are elaborated via the features explanations and toolkit with additional cards, educational material and structures provided by the tool platform. On the second level, the community roles were also supported by the tool: administrator, class and community manager, pupil and reviewer.

The Multiliteracies competences supported and enhanced for each tool feature / step and roles are the following:

Feature 1 / Step 1 – Inciting Incident: EU diversity awareness, reading and writing for meaning creation, language and communication, communicating the meaning of a story, inclusive and digital storytelling, collaborative story ideas, collaborative decision on genre, type and theme story, world building and setting, evaluation and assessment of ideas generation, multimodality, and 4Cs: communication, collaboration, co-creativity and critical thinking, team working.

Feature 2-8/ Step 2-8: Language and communication, reading and writing for meaning creation, decision making and conflict management, communicating the meaning of a story, digital story development, story structures supported by the tool, collaborative writing, team working, evaluation and assessment, 4Cs and problem solving and finally, open and closed endings, multimodality, overall story writing and presentation.

Feature 9/ Step 9 – Review and Feedback: Language and communication, reading and writing for meaning creation, communicating the meaning of a story, digital story meaning deconstruction, understanding story structures supported by the tool, team working, evaluation and assessment and finally, multimodality, overall meaning making.

As for the roles, the Multiliteracy competences are the following: communicating the meaning of a story, 4Cs, evaluation and assessment, conflict management, collaborative decision making, presentation and communication, and transversal competences, multimodality and feedback provision.

The SLN tool aided in the organization, orchestration and re-design of the converging computer supported collaborative learning and writing activities both for CSCLearning as well as CSCWriting.

As such, all participants received Europass mobility document outlining the following:

ACTIVITIES / TASKS

- Develop multimodal literacy
- Practicing a new learning methodology based on online collaborative writing for communicating meaning via
- Digital storytelling
- Using StoryLogicNet online tool and platform

COMPETENCES ACHIEVED

- Understand and support the enhancement of students’ multiliteracy skills
- Create and manage class groups in the StoryLogicNet Platform
- Design teaching interventions utilizing the StoryLogicNet Platform and Collaborative Storytelling





- Support the participation of schools in the StoryLogicNet Community
- Access resources to update knowledge on storytelling, multiliteracies and collaborative writing
- Access resources which support his/her educational design and teaching interventions on the corresponding issues in online, face to face or blended settings
- Make use of administrative resources to support the use of the StoryLogicNet Platform on a classroom and school level.

The final section summarizes the methodological report and lessons learned.

Summary and Lessons Learned - Conclusions

The StoryLogicNet project methodologies, educational material and multimodal SLN tool appeared to advance Multiliteracies, this is the ability to identify, interpret, create, and communicate meaning across the students and teachers of diverse countries and backgrounds via a variety of visual, oral, corporal, musical and alphabetical forms of communication. This was evident in the LTTA evaluation.

In total, 4 data collection tools were used in order to evaluate the SLN tool and products. Multiliteracy aims to make classroom teaching more inclusive of cultural, linguistic, communicative, and technological diversity. From the LTTA questionnaire the concrete conclusion is that the participating teachers found the material, the outputs of the project, but also the overall training approach very useful, innovative and helpful. After conducting their pilot studies, their feedback was enthusiastic.

The majority of the participants acquired new or even updated their knowledge, skills and competences focusing on Multiliteracies. About half of the participants stated that they were interested in receiving teaching material for their classes. When asked why they signed up, they mainly highlighted that they found the topic interesting and expressed their positive attitude towards continuous training on both Multiliteracies and Storytelling. As far as children's collaboration is concerned, the teachers reported very positive insights. All the teachers reported their satisfaction about the students' story high quality, also reporting technical issues and positive aspects. The role of a reviewer was described as interesting and useful by both the teachers and the students. They all formed the intended collaborative learning and writing groups, providing explanations and assisted where and when needed. The teachers found the SLN Manual and activities description useful.

Considering the SLN tool, it is evident that it supported and enhanced the Multiliteracy competences including the classroom 'design' of the overall activities. The participants said that it was easy to use and easy to learn to operate. Also, the teachers reported minor technical issues that they faced, in order for the consortium to address for the final





versions of the tools and material. All were taken into account. The overall evaluation of the actual use of the provided tools and material was very positive. The SUS model provided higher scores from the teachers' side and lower from the students' side. At some extent that was expected, as most of the functionalities were addressed to the students as end users. As some of them were not finalized or working properly by the time the pilots were conducted, the scores are considered satisfactory by the consortium. Besides, comments reported from the teachers, based also on the feedback they collected after discussing with their students and observing them when collaborating, provided the consortium with concrete ideas on how to improve the tool. All of them were taken into consideration and integrated in the final product. But in any case, the initial scores were over the threshold which the SUS model considers as acceptable.

To conclude, all initial competences' areas were completed and successfully implemented about the Multiliteracy Pedagogy and Education, co-creation and more specifically the:

- **Multiliteracy Education** suggests that the school is taking on new roles including the transformation of the text from monotropic to multimodal (computers, videos, posters) (Kress & Van Leeuwen, 1996).
- **Digital Storytelling** develops and advances linear and non-linear storytelling structures (the Story Logic Net) for the pupils to inspire in order to create their own meaningful collaborative stories.
- **SLN Tool features** are anchored and respect the principles of digital storytelling and foster Multiliteracies, creativity and the 4Cs. Especially the toolkit supports the corresponding skills by allowing better design, meaning communication and expression of thoughts, all related to the 4Cs.

With the overall LTTA positive results, the SLN innovative tool and the associated design methodology were found to be appropriate and effective. The SLN tool fulfilled its initial design purpose, to support students' Multiliteracy competences via digital storytelling, improving the actual competences and furthermore, the awareness of the social, economic and wider cultural factors that frame communication. The students' diverse knowledge and skills can be identified and advanced by designing and shaping meanings in their own stories as well as the ways of this meaning representation via the transformation of the available and student-generated resources.

The StoryLogicNet project has advanced the innovative intercultural teaching and learning also reflecting the reality lived by the students themselves and connected in meaningful stories. StoryLogicNet advanced Multiliteracies Education in Europe



fulfilling its original purpose, this is young people to become competent in using language multimodal representations so to become capable of communicating, creating new inclusive identities, and contributing to the development of social futures and well-being of the national, European and international society in which they live in.

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