Assessment of Transversal Skills ATS2020

Country Final Pilot Report: Slovenia

Zavod Republike Slovenije za šolstvo

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Assessment of Transversal Skills

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Assessment of Transversal Skills (ATS2020)

Country Pilot Report: Slovenia

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Content

1. Introduction

This report is a short description of a very intensive work and cooperation among a group of 140 Slovenian teachers from 27 primary and secondary schools, their students, a team of experts from National Education Institute Slovenia, representatives of Ministry of Education, Science and Sport, representatives of Educational Research Institute and representatives of National Examinations Centre. Slovenia has been one of the tenth pilot partners of international project Assessment of Transversal Skills 2020 (ATS2020), funded by European Commission.

The main objective of National Education Institute Slovenia (NEI) was to support students' learning and development of skills by means of new IC technologies. Looking from the Slovenian perspective, we searched for the answers to the following questions, grouped into three categories:

1) At a national (systemic) level: "Which transversal skills are the most important on a national level and could form a national model of transversal skills? How should teachers support and assess these skills in accordance with primary and secondary school curricula of different subjects? What kind of tools are most appropriate and useful for assessing these skills?"
2) At a NEI level: "How can we support schools during collaboration with school development teams to successfully implement teaching strategies focused on development and (formative) assessment of transversal skills by using ePortfolio?"
3) At a school level: "How can I as a teacher (or we as a school project team) support students in their planning, monitoring and evaluating their own learning process (self-regulative learning), focused on gaining knowledge and developing transversal skills, as well as their assessing of their knowledge and skills? Can ICT, especially tools for creating a developmental e-portfolio, be useful in this process? How can all members of a school project team cooperate to maximize the effect on students?"

It is quite a big challenge to support self-regulation (through formative assessment of transversal skills) of Slovenian students since the line between teachers and students' responsibility is not clearly defined in our school culture. The ATS2020 teams decided to involve students systematically in the process of developing their sense of responsibility and in taking control both of their learning process and of their achievements. The developmental ePortfolio, grounded on formative assessment philosophy, has been proved just the right approach and a useful tool to stimulate the desired change.

Our inquiring of these questions started in EUfolio project 2013–2015 (also funded by European Commission). Some pieces of our work are described and evaluated in EUfolio Project Report, more you can read in publication *"e-Portfolio of a Student. Experiences and ideas of Teachers in International project European ePortfolio Classrooms"*, available at http://www.zrss.si/strokovne-resitve/digitalna-bralnica/podrobno?publikacija=83.

In the ATS2020 project, we continued the previous work with s shift in our focus, from ePortfolio as a tool for students' self-regulation of knowledge and skills (ePortfolio was in focus) to strategies for systematic development and assessment of transversal skills by using ePortfolios (transversal skills are in focus). In the process of a very intensive dialogue with our partners, we created an ATS2020 model of transversal skills. Furthermore, we adapted and modified it through discussions on a national level to be more compliant with our needs, priorities and culture.

2. Country's Background

There is no tradition, policy or Slovenian expert literature for teachers focusing on teaching and learning transversal skills. We recognized the need to have a very clear and simple model of transversal skills, so we engaged very intensively in a dialogue with our ATS2020 project partners in the process of creating the ATS2020 model of transversal skills. Later we modified it in broader discussion on a national level and adapted it to be more compliant with our country's needs, priorities and culture. The final version of ATS2020 Slovenian frame model was used during teacher trainings and was also verified by ATS2020 teachers during discussions (pic.1).

Picture 1: ATS2020 model of transversal skills – Slovenian version[1]

The ATS2020 Slovenian model consists of five crucial areas of transversal skills: 1. effective thinking and problem solving (including higher order thinking skills, argumentation, working with resources, scientific research), 2. creativity, 3. communication and collaboration, 4. self-regulation (it was encouraged through formative assessment) and 5. digital skills (encouraged especially through creating e-portfolios and using e-learning materials and different e-learning applications).

[1] Later we used and affirmed this model in two other national projects relevant on systemic/policy level: 1. Review of Primary School Curriculum – After School Activities and 2. The School Quality Project; the model was incorporated into a broader model of general aims of primary and secondary education in our country.

In our workshops, NEI staff and teachers defined these skills more precisely by means of success criteria (e.g. in Appendix 1) as a further frame for planning learning scenarios and students' self-assessment as a part of formative assessment process.

3. Description of a pilot implementation

3.1. Implementation phases (pre-pilot, pilot, post-pilot)

3.1.1. Pre-pilot activities

In pre-pilot phase, the NEI staff: 1) invited schools to cooperate in the project (public call), 2) made a selection among registered schools and 3) organized and performed continuous trainings focused on developing different knowledge and skills of teachers during the school years.

The invitation was public (Appendix 2) and 50 schools applied for a post. After rigorous selection procedure, 27 schools were chosen for collaboration (Appendix 3).

NEI staff (24 counsellors and 2 administrators) performed over 80 trainings and/or reflective meetings with different groups of ATS2020 teachers.

Trainings were very practically oriented but strongly theoretically grounded and they covered the following themes:

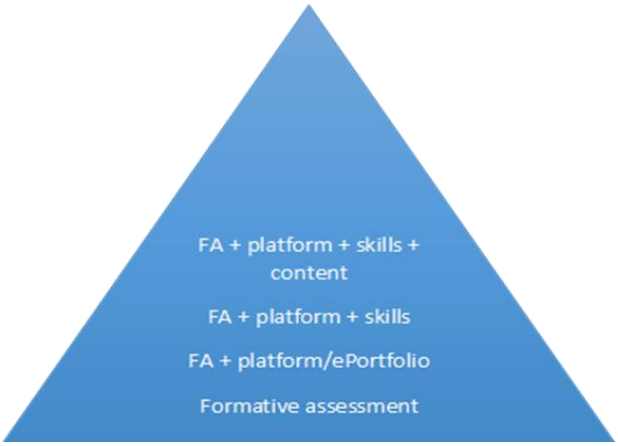
1) Transversal skills: What are transversal skills and how can we implement teaching of transversal skills into everyday teaching practice?
2) Assessment of transversal skills: How can we formatively assess transversal skills?
3) A developmental ePortfolio: What is a developmental ePortfolio and how it can be used to support teaching and learning of transversal skills?[2]

Following the interest of teachers, they were divided into four groups regarding the transversal skill they wanted primarily to have in focus: 1) Critical thinking – argumentation; 2) Critical thinking – researching; 3) Critical thinking – working with resources 4) Communication and cooperation.

All project members participated also at trainings regarding 1) formative assessment and self-regulated learning and 2) ePortfolios and ICT. Being aware of complexity and novelty of all those concepts (transversal skills, formative assessment, and ePortfolios) for Slovenian teachers, the

[2] Some teachers used ePortfolio as learning ePortfolio.

trainings were organized thoughtfully over the whole school year. Each cycle of trainings also embedded the knowledge and skills of the previous one (pic. 2).



Picture 2: The structure and the content of teacher trainings in the ATS2020 project in Slovenia

The teacher trainings started with the concept of formative assessment. In the second cycle of trainings, the philosophy of developmental ePortfolio was added, together with the training on platform (Mahara). These cycles of trainings answered the question: "How a developmental e-Portfolio can be used for formative assessment of knowledge and skills?" Those trainings were the same for all teachers. Then we differentiated trainings and teachers learning in smaller groups about transversal skills: "What are they? How can we teach them? How can we (formatively) assess them and how an ePortfolio can help in this process?" At last, we put all knowledge within subjects' context. Each training finished with a "homework" for teachers, to practice what they have learned. During the school year, each teacher had to design and to test two to three learning scenarios that comprised all general ATS2020 concepts (formative assessment of transversal skills with an ePortfolio). The collection of learning scenarios is available online on Slovenian School Portal sio.si: https://skupnost.sio.si/course/view.php?id=9174 (it is a closed community, pic. 3); some of the materials were put on the international ATS2020 website: www.ats2020.eu.

Besides teacher trainings, the following types of events were organized and lead by NEI staff in the school year 2015/16 (pre-pilot phase):

1) central meetings (when all teachers meet and share their experiences);

2) reflection sessions in teams by NEI counsellors;

3) regional meetings (2–4 schools meet in a local community to share, discuss and learn from each other).

All these events were focused on reflection, sharing (experiences, materials, etc.), discussions about ATS2020 concepts, learning from each other and therefore enable ATS2020 teachers to

become a learning community. The evaluation was focused on teachers' view of their professional learning and professional growth at the end of the school year (Appendix 4).

Picture 3: The screenshot of the Slovenian ATS2020 teachers' web classroom

In summary, in school year 2015/16 (the pre-pilot phase), National Education Institute Slovenia organized the following events for ATS2020 teachers:

- Invitation for schools (call for cooperation) (date: 3. 6. 2015)
- School selection and the announcement of results (date: 1. 7. 2015)
- Teacher trainings and reflective meetings:
  - Kick off meeting with all Slovenian ATS2020 teachers: Introduction of the project + presentation of project's concepts: What is formative assessment? (Ljubljana, 27. 8. 2015)
  - Teacher training on Mahara, a personal learning environment (Ljubljana, Maribor, 15. 9. 2015)
  - Teacher training on ATS2020 model of transversal skills (Ljubljana, 6. 10. 2015)
  - School counsellors' visits of pilot teachers at schools in order to provide training or support to the teachers if they are facing dilemmas (at ATS2020 schools in different regions, 20. 10. 2015)
  - Teacher training on formative assessment of transversal skills (Ljubljana, 17. 11. 2015)
  - School counsellors' visits of pilot teachers at schools in order to provide training or support to them (at ATS 2020 schools in different regions, 19. 1. 2016)

- Teacher training: Integration of all crucial ATS concepts: transversal skills, learning environment (Mahara/O36) and formative assessment within subject themes – the 1st workshop (Ljubljana, 9. 2. 2016)
- Teacher training: Integration of all crucial ATS concepts: transversal skills, learning environment (Mahara/O365) and formative assessment within subject themes – the 2nd workshop (Ljubljana, 29. 3. 2016)
- School counsellors' visits of pilot teachers at schools in order to provide training or support to them (at ATS2020 schools in different regions, 5. 4. 2016)
- National conference of Slovenian ATS2020 teachers – the solemn ending of the first ATS2020 year in Slovenia (Ljubljana, 30. 6. 2016) (pic. 4)

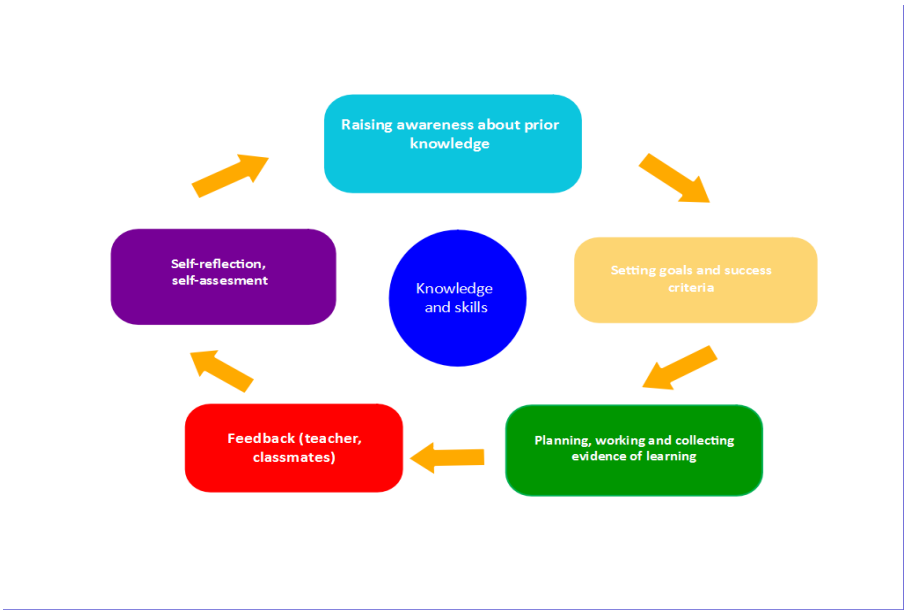
Picture 4: Impressions from the 1st year ATS2020 final event

3.1.2. Pilot

Pilot started in Slovenian schools at the beginning of school year 2016/17. School project teams defined (minimal) one experimental and one control class (with pupils and students, who don't have experiences with ATS2020 model yet). In experimental class, students were taught by ATS2020 teaching model, named My Learning Cycle (they formatively assessed their transversal skills by using ePortfolios) (pic. 5) and in experimental class they were taught in a classical way (they were not aware neither focused on developing transversal skills, there was no formative assessment of skills and no use of ePortfolios). In each experimental class, students were taught by 2 to 4 ATS2020 teachers and they were all focused on one dominant transversal skill (argumentation, researching, working with resources, cooperation and communication) and explicitly taught it. As teaching tasks were quite complex, all students were also expected to use other skills, but no special attention was focused on those skills. They used various skills, for example, in the planning phase when students co-created their learning goals and wrote them down in their ePortfolios or

after completing different tasks when, as in the experimental class, they should self-assess the proficiency in using the skill and consequently revise their plan or even make a new plan one.

As each teacher designed and accomplished at least three learning cycles (pic. 5) on different themes during the school year, each student experienced from 6 to 12 opportunities to consciously use the chosen transversal skill, reflect on it, raise the awareness on his/her own proficiency on this skill and make plans regarding its development in the future. The My Learning Cycle (pic. 5) consists of some crucial steps and is schematic representation of formative assessment philosophy of teaching and learning. My Learning Cycles can be very short (if they cover a less complex issue or a very simple theme) or they can last several hours (e.g. two weeks, a month etc.). My Learning Cycle can last even for a year if a particular skill is in focus, as students set their skill related goals at the beginning of the school year (e. g. “I’ll improve my argumentation skills” or “I want to improve my communication in a small group, specifically, I want to have more courage to speak in front of the group and articulate my opinion.”) and then they practice it during the school year within different subjects. Each time (after the activity in which they use the skill) students assess themselves, get feedback from teachers and/or classmates, and collect evidence about their work and progress. If needed, students revise or upgrade their goal until the end of the school year when teachers support them in their final assessment on their progress and invite them to celebrate the results.



Pic. 5: My Learning Cycle: the steps of formative assessment of knowledge and skills[3]

At the beginning of the school year, each ATS2020 school asked parents of future ATS2020 students for agreement to participate in different project activities (to sign in Mahara learning environment and its regular usage, testing, photographing etc.).

The next step was to plan the time dynamic of learning cycles on the level of an individual teacher and on the level of the project team. In September 2016, they also did the following activities in the experimental class:

1) introduced the ATS2020 project,
2) introduced the idea of a developmental ePortfolio and invited students to sign into Mahara learning community and research its functionality,
3) introduced the dominant skill, discussed the indicators of proficiency regarding the skill and invited them to co-create the success criteria,
4) initiated students' self-reflection and simple self-assessment of the skill; students were also encouraged to start using their ePortfolio by writing the goals.

When these initial conditions was settled, teachers began to realize My Learning Cycles according to their plan. They met and discussed questions that have risen during their new practice regularly on school level, occasionally they met and discussed the issues with their NEI counsellor and participated at regionally or centrally organized meetings of ATS2020 teachers, with the intention to share, discuss practical issues, learn from each other, gain new materials etc.

Students took the international ATS2020 tests twice: in January and in April 2017.

During the pilot, there were several activities organized by NEI staff to support the pilot implementation, as it was presented above.

3.1.3. Post-pilot activities

In post pilot (September 2017–December 2017), Slovenian teachers will reflect on their professional growth in previous school year and make their plans for the future. They will have

[3] My Learning is a plug-in that adds additional functionality to Mahara e-portfolio service. It was created during EUfolio Project (Erasmus, 2013–2015), programmed by Gregor Anželj and integrated into Mahara version 1.9 and onward. It is also integrated into the latest Mahara version 17.04.

support to integrate the new knowledge, skills and experience into further teaching. The materials which they produced will be reviewed and publish at the ATS2020 website.

The NEI staff will apply a questionnaire on teachers' learning needs and according to the results will organise additional trainings focused on formative assessment of transversal skills with an ePortfolio.

3.2. Participants

In Slovenia, 27 schools participated in the ATS2020 project, with 3 to 7 teachers that formed school project teams and mainly taught in pilot (experimental) and control class. Altogether 139 teachers joined the pre-pilot phase and participated in intensive trainings and other project activities in the school year 2015/16. Almost all teachers (N=140) were part of the pilot phase (some replacement were made due to illness or change of school) and successfully finished the agreed activities. As the ATS2020 concepts (theoretical background: formative assessment, transversal skills etc.) were quite new for the great majority of teachers, it was not hard for them to practice a new teaching model and teaching philosophy in the pilot (experimental) class and to teach traditionally in the control class. Detailed data about teachers and students that participated in the project are in table 1.

Table 1: Participating schools, teachers and students

1	School	N of teachers	N of sudents Control class	N of students Eksperim. Class
2	Gimnazija Bežigrad	4	29	27
3	Gimnazija Franca Miklošiča Ljutomer	4	28	21
4	Gimnazija Jurija Vege Idrija	4	26	26
5	Gimnazija Nova Gorica	8	22	23
6	OŠ Antona Žnideršiča Ilirska Bistrica	4	14	14
7	OŠ bratov Polančičev Maribor	5	78	78
8	OŠ Brežice	5	20	19
9	OŠ Cerklje ob Krki	6	13	13
10	OŠ Črna na Koroškem	6	13	14
11	OŠ Dobje/OŠ Planina pri Sevnici	7	19	13
12	OŠ Dobravlje	4	24	27
13	OŠ dr. Aleš Bebler - Primož Hrvatini	5	37	15
14	OŠ Duplek	6	14	15
15	OŠ Franceta Prešerna Črenšovci	4	15	15
16	OŠ Janka Glazerja Ruše	6	23	24
17	OŠ Matije Čopa Kranj	4	17	19
18	OŠ Naklo	4	17	20
19	OŠ Pod Goro Slovenske Konjice	4	20	20
20	OŠ Polje	4	23	19
21	OŠ Preserje	5	18	19
22	Oš Preska	3	26	25
23	OŠ Sava Kladnika Sevnica	5	41	27
24	OŠ Solkan	6	41	39
25	OŠ Sostro	4	20	22
26	OŠ Stara Cerkev	4	31	63
27	OŠ Sveti Jurij Rogašovci	5	11	10
28	SEŠ Maribor	4	56	57
29	SUM	130	696	684

3.3. Teacher training and workshops in pre-pilot phase

In the school year 2015/16 NEI staff organized and led over 75 events (workshops, reflective meetings, conferences) for ATS2020 teachers. The aims of every event are briefly described in table 2.

Table 2: Aims of workshops and other events organized by NEI staff for ATS2020 teachers in the pre-pilot phase (August 2015–June 2016)

Workshop /date/number of events/place	**Aims/objectives**	**Model[4]**	**Duration**
Kick off meeting, (27. 8. 2015; N=1: Ljubljana)	Teachers: • get the big picture of the project (aims, plan of activities, expected results, evaluation), • get to know each other and set a good working climate, • familiarize themselves with the basic ATS2020 concepts, namely formative assessment.	Face to face	8 hours
A developmental ePortfolio and Mahara (15. 9. 2015; N=3: Ljubljana, Maribor)	Teachers: • grasp the idea of a developmental ePortfolio as a teaching philosophy, • learn to use Mahara as a tool for supporting formative assessment process (especially My Learning Cycle tab[5]).	Face to face	5 hours
Transversal skills (TSV skills model, teaching TSV skills, formative assessment of TSV skills by using ePortfolio) (6. 10. 2015; N=4: Ljubljana; centrally organized but working in smaller groups with regard to the chosen skill)	Teachers: • get familiarised with the ATS2020 transversal skills model (Slovenian modification) and discuss it, • widen and deepen their knowledge and skills for supporting children in developing (one particular, chosen) transversal skill (e.g. critical thinking: argumentation, researching, working with resources, cooperation and communication).	Face to face	5 hours
Reflections in school project	Teachers:	Face to face	2–3 hours

[4] Models: face to face, online, combined.
[5] My Learning is a functionality that was created in EUfolio Project (Erasmus, 2013–2015) and was integrated into 1.9 version of Mahara.

teams (SPT), supported by NEI staff (20. 10.–27. 10. 2015; N= 27; (organized at every ATS2020 school)	• reflect on their learning about formative assessment, chosen transversal skill and Mahara (or other environment), • discuss their first experiences with new practices, • discuss drafts of learning scenarios, based on new teaching ideas, • discuss individual learning and teaching challenges.		
Formative assessment of transversal skills (17. 11. 2015, N=5, Ljubljana)	Teachers: • learn about formative assessment of a (chosen) transversal skill using an ePortfolio.	Face to face	5 hours
Reflections in SPT, supported by NEI staff (19. 1. –30. 1. 2016; N= 27: 10 face to face + 17 online; schools in all regions)	Teachers: • reflect on their experiences (using Mahara, first steps in FA process, teaching of skills etc.), • discuss individual learning and teaching challenges.	Face to face or online	2–3 hours
Formative assessment of transversal skills – upgrade (optional) (25. 1. and 26. 1. 2016; N=2; Ljubljana, Maribor)	Teachers: • deepen their knowledge about formative assessment (of knowledge and skills), • develop formative assessment skills.	Face to face	5 hours
Integration of knowledge on all crucial ATS2020 concepts within subject themes (9. 2. 2016 and 29. 3. 2016; N=5: Ljubljana)	Teachers: • integrate all new knowledge in creating a new learning design on a chosen theme, • exchange feedback on their ideas.	Face to face	5 hours
Reflections in SPT, supported by NEI staff (5. 4.–19. 4. 2016; N=27; organized at every ATS2020 school or with counsellor online)	Teachers: • reflect on their experiences, • discuss individual learning and teaching challenges, • evaluate their work in this school year at the individual level and at the level of a school project team.	Face to face	2–3 hours

National conference of Slovenian ATS2020 teachers (30. 6. 2016; Ljubljana)	The solemn ending of the first ATS2020 year in Slovenia: exchanging ideas and materials, celebrating successes.	Face to face	8 hours

3.4. Support provided to ATS2020 teachers and principals during the implementation

3.4.1. Support for teachers

As mentioned above, during school years 2015/16 and 2016/17 the NEI staff organized about 75 events to initiate and maintain the ATS2020 learning community. Most of them were face to face meetings at different levels: 1) School level (3–5 visits of every NEI counsellor at the particular school; in order to meet school project team and support the reflection on their work, 2) Regional level (2): 2–4 school development teams from different schools in the region met at one of those schools: in order to share and discuss their work/examples of good practice; 3) Central meetings (2): all ATS2020 teachers met at a mini conference.

Visits of NEI counsellors at schools with the basic aim to support reflection process and to solve different problems. The reflections on teachers learning and experiences were thoughtfully planned and structured, but certain time was intended also for issues that teachers proposed.

Teachers share their materials (learning scenarios, learning sheets) and discuss in web classroom http://www.zrss.si/strokovne-resitve/digitalna-bralnica/podrobno?publikacija=83). NEI staff also organized some webinars. Supporting activities (N=60) in the pilot phase (from September 2016 until June 2017) are shown in table 3.

Table 3: List of activities to support ATS2020 schools and teachers during the pilot phase

Workshop /date/number of groups or events/place	**Aims/objectives**	**Model**	**Duration**
Reflections in SPT, supported by NEI staff (27. 9. 2016 (+/-): N=27 organized at every ATS2020 school)	Teachers: • share and discuss their pilot plans: individual plans of learning cycles, team's plan, • discuss possible challenges at the beginning of pilot.	Face to face	2–3 hours

School networking (25. 10. 2016 +/-; N=5, regionally organized meetings)	Teachers: • show each other examples of good practice and exchange feedback, • discuss different questions, • observe teaching of another teacher and reflect on it (just in some regions).	Face to face	4–5 hours
Reflections in SPT, supported by NEI staff (Dec/Jan. 2016, N=27 organized at every ATS2020 school)	Teachers: • share and discuss what is going on in experimental classes, • report about realization of individual teaching plans, • revise their plans if needed, • discuss other actual issues.	Face to face	2–3 hours
Networking on subject ground (March 2017; N=5, Ljubljana)	Teachers: • excellent teachers show their examples, • discussion on + and – of teaching following the ATS2020 model	Face to face	4–5 hours
Reflections in SPT, supported by NEI staff (April/May, 2017, N=27 organized at every ATS2020 school)	Teachers: • general reflection and evaluation of the project on individual and school level, • collecting and revising materials.	Face to face	2–3 hours
Final ATS2020 national conference (April 2017)	The solemn ending of the ATS2020 in which teachers: • will be informed about project evaluation results, • get familiarised with some examples of excellent practice or even present their own examples if invited, • celebrate successes of ATS2020.	Face to face	8 hours

3.4.2. Support provided for principals

Principals are very important factors in the process of change. Therefore, we prepared reflective meetings for them. Aims of the meetings with principals are described in table 4.

Table 4: Aims of reflective meetings with ATS2020 principals

Date, place	Aims
27. 8. 2015, Ljubljana	At the meeting principals: • clarified their expectations in the ATS2020 project in general and about the role and support of the NEI educational advisors, • raised their awareness about their role in the process of implementing and maintaining changes in teachers' practice, • exchanged their experiences in the process of supporting teachers in changing their practice.
17. 11. 2015, Ljubljana	At the meeting principals: • were informed about training plans for teachers in ATS2020 project, • shared their first experiences with teachers cooperation in ATS2020, • discussed how to observe the teaching practice with the focus on teaching and assessment of transversal skills by using an observation tool.
9. 2. 2016, Ljubljana	At the meeting principals: • exchanged their experiences during observations of ATS2020 teachers' practice, • discussed actual dilemmas about ATS2020 ideas.
April, May 2016, regional meetings	At the meeting principals: • observed teaching practice (pieces ATS2020 model) and discussed things.
30. 6. 2016, Ljubljana	At the meeting principals: • discuss role of principal in operative planning of project team work, • discuss possible strategies for supporting their teachers in using ATS2020 teaching model.
October, November 2016, regional meetings (with SPT)	At the meeting principals: • observed teaching practice and discussed the experience (formative assessment process was in focus).
March, April 2017, 3 regional meetings (for principals in each of 3 regions)	At the meetings principals: • discussed different strategies of constructive feedback, • revised their work and the work of their school project teams.

3.5. After implementation activities

In September 2017, ATS2020 teachers were invited to different seminars focused on some of the ATS2020 basic ideas. Further trainings will be offered until the end of the project and they will be later disseminated to the wider school community.

Other planned dissemination activities:

1. quick-reference collection for teachers,
2. web materials: examples of good practices (learning designs together with teaching materials on web),
3. special issue of one of NEI journals (Education),
4. special track at national ICT conference (SIRIKT 2018),
5. invitation of ATS2020 teachers as presenters on different events (teacher trainings, study groups etc.), invitation and encouragement of ATS2020 teachers to write articles for different NEI (or other) journals,
6. six booklets: 1. Critical thinking skills. The ideas for supporting critical thinking in all subjects in primary school in ATS2020 project. (already online: https://www.zrss.si/digitalnaknjiznica/vescine-kriticnega-misljenja/files/assets/basic-html/index.html#1), 2. The collection of tools for formative assessment of transversal skills. Ideas of teachers in the ATS2020 project (in preparation) 3. How to formative assess critical thinking? (in preparation), 4. How to formative assess collaboration and communication (in preparation), 5. How to formative assess the skill of working with resources (in preparation), 6. How to formative assess scientific research skills? (in preparation).

4. Short evaluation of the implementation process

Speaking from the NEI perspective, a great work was done by NEI educational advisors and teacher trainers. We put a huge amount of professional energy and knowledge in this project and created good partnership with ATS2020 teachers that led into a good working atmosphere at our meetings. The teachers said that they had learned a lot, but they were not the only ones in the process of learning. All participants saw the great value in the development of skills and the formative assessment process.
We as a group and as individuals have also been widening and deepening our knowledge of formative assessment and transversal skills. As each of us have strong and weak points, we are aware of them, we have also learned from each other intentionally: with this aim in mind we organized NEI ATS2020 staff meetings at which we planned, created contents for trainings, learned. Our model of working with school (one counsellor for one school, continuous contacts, dynamic and flexible support in networking

of schools and teachers) was very well accepted and teachers suggested cooperation even after the official end of the ATS2020 project.

There are some points we could improve in the future: we could more persistently encourage and support our teachers to lead their own developmental e-Portfolios and, of course, we could create our own ePortfolios, since our (NEI staff) learning in the project was remarkable. That was the plan at the very beginning but it turned out that the issue was very complex and we, probably too quickly, abandoned this idea. We should not, because we believe in the assumption that a trainer is more convincing in promotion of the strategy if he/she also practices it regularly. And another issue: the complexity of the theoretical background: we should give teachers more time to work on a single new concept (e.g. formative assessment, transversal skill) before we pushed them to integrate the novelty with another one (e.g. formative assessment of transversal skill). This was frequently suggested in this and in previous projects (e.g. EUfolio, Erasmus 2013–2015), but we did not have enough time, as the duration of the project was known in advance. If we really want to achieve the long-lasting transformation of teachers' practices, we should probably deal with very complex issues more slowly.

5. Summary

From June 2015 to June 2017, the NEI staff gathered the following results of our work in the project:

1) *Learning designs/learning scenarios:*

   N=390 (each teacher created a learning design for three My Learning Cycles), 274 are published in web classroom https://skupnost.sio.si/mod/data/view.php?id=304293 (pic. 6), 40 learning designs are published on ATS2020 web (resources): www.ats2020.eu.

   Two examples of learning designs are shown in Appendix 5.

Pic. 6: Collection of learning designs in web classroom: https://skupnost.sio.si/course/view.php?id=9174

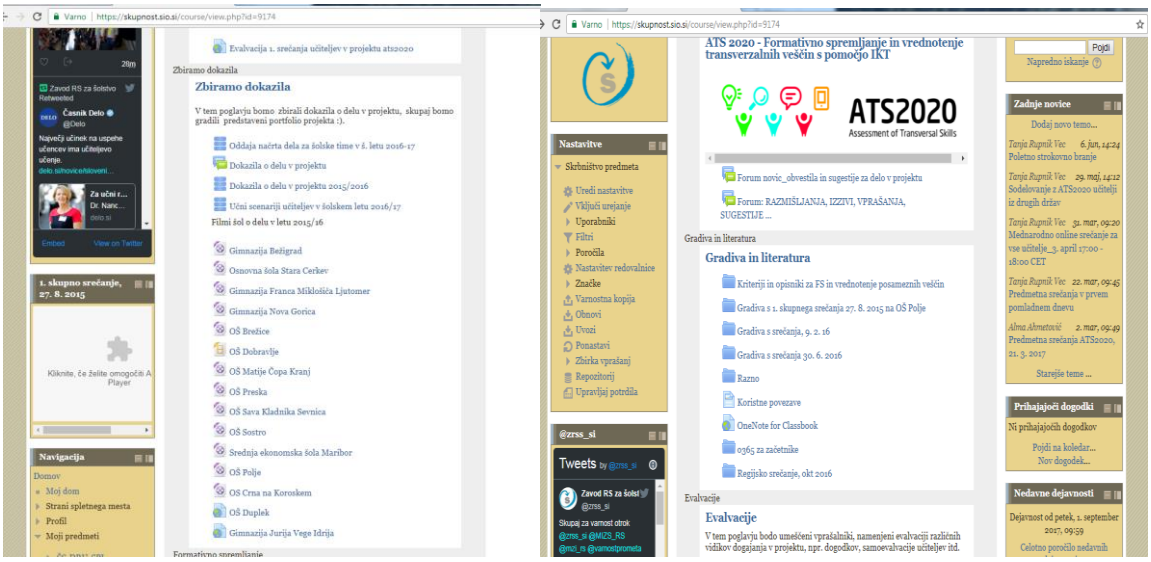
2) Students' ePortfolios

Each of 684 ATS2020 students has his own e-portfolio. As we define a developmental ePortfolio as a personal space, they are not published. In Appendix 6, we provided some screenshots of students' ePortfolio (examples of content) with author's (teacher's archive) permission.

- *Examples of students' work of teacher 1*: Mathematic: Statistical research (from the archive of teacher Urška Rihtaršič, Gimnazija Bežigrad). Parts of students' ePortfolio:
  - Records of prior knowledge: Statistical research (theme) and cooperation skills
  - Records of learning goals: Statistical research (math) and cooperation as transversal skill
  - Cooperative working on statistical research (math): communication and cooperation on forum in Mahara
  - Records of self-reflection on statistical research and cooperation in a group (record in Mahara)
- *Examples of students' work of teacher 2*: History: Homework reading about antique **(**from the archive of teacher Špela Frantar, Gimnazija Bežigrad)
  - Reflection on pair work (records in Mahara)

3) Videos schools created about ATS2020

At the end of pre-pilot phase in which teachers learned and implemented the ATS2020 learning and teaching model they created videos in which they caught some moments of their experience. 15 schools published them in ATS2020 web classroom (Pic. 7).



Pic. 7. Screenshots of Slovenian ATS2020 teachers' web classroom, section "Proofs of our work: videos" and section "Workshop materials".

4) *NEI staff workshop materials*
All slides, worksheets and other materials are uploaded in ATS2020 Slovenian teachers' web classroom (pic 7) and some materials are in ATS2020 teachers' Mahara community.

Five examples of workshops created in Mahara and led by NEI staff are screenshotted in Appendix 7 (pic. 7.7.1 – 7.7.7)
   a. *Workshop 1*: Formative assessment of researching skills
   b. *Workshop 2*: A developmental ePortfolio as a tool for formative assessment of knowledge and skills
   c. *Workshop 3*: Formative assessment of working with resources
   d. *Workshop 4:* Formative assessment of cooperation and communication skills
   e. *Workshop 5:* Formative assessment of cooperation and communication skills

5) ATS2020 Web classroom community (materials for workshops, discussions, teachers' learning scenarios)
6) Mahara community (examples of lessons in Mahara)
7) Six booklets:
   a. Critical thinking skills. The ideas for developing critical thinking at every primary school subject (the ATS2020 project) (already online: https://www.zrss.si/digitalnaknjiznica/vescine-kriticnega-misljenja/files/assets/basic-html/index.html#1),
   b. The collection of tools used for formative assessment of transversal skills. The ideas of teachers included in the ATS2020 project (in preparation)
   c. How to assess critical thinking formatively? (in preparation),
   d. How to assess communication and collaboration formatively? (in preparation),
   e. How to assess the skills of working with resources formatively? (in preparation),
   f. How to assess scientific research skills formatively? (in preparation).

6. Literature

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7. Appendix

7.1. The examples of exact definition through success criteria of two of the transversal skill[6]

Example 1: Critical thinking

Learning aim: I learn to create my arguments

Success criteria:

1) I clearly set my position (thesis, assertion).
2) I support my thesis with good reasons to believe it.
3) I also wrote reasons against my thesis.
4) I show that reasons “for” are stronger than reasons “against”.
5) I exposed open questions.
6) My language was clear.

Example 2: Communication and cooperation

Learning aim: I learn to cooperate and to be a constructive team member

Success criteria:

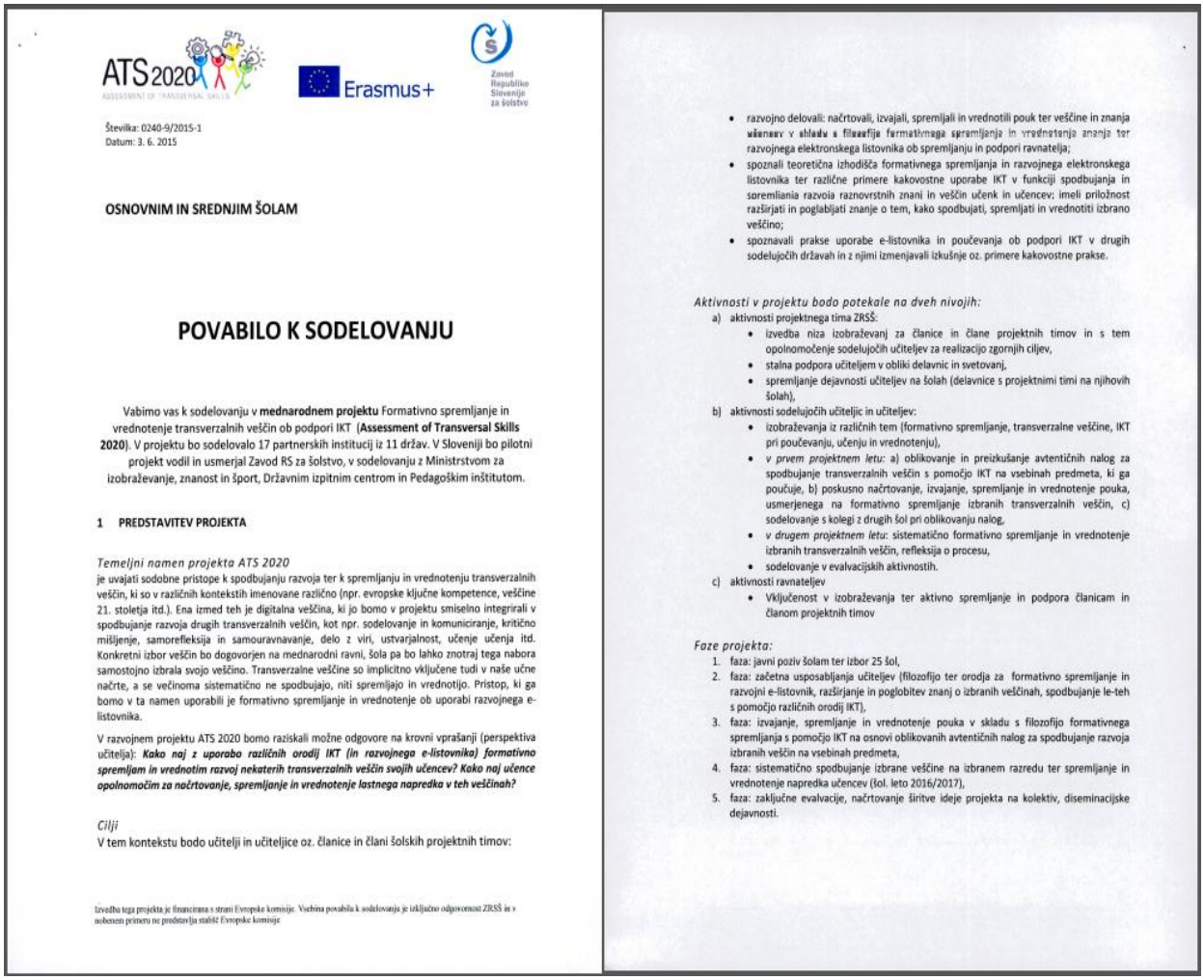
1) I participate actively in activities of my team
2) I take responsibility for particular task and realize it by agreement in team
3) I contribute ideas and opinions
4) I listen to others
5) I support others to express their ideas and opinions
6) I strive to find a constructive solution to solve possible conflicts in team

[6] References:

1) Rupnik Vec, T. in Sambolić Beganović, A. (2016). Sistematično spodbujanje, spremljanje in preverjanje vsepredmetnih veščin v mednarodnem projektu Spremljanje vsepredmetnih veščin. (Formative assessment of transversal skills in international project Assessment of transversal skills). *Vodenje v vzgoji in izobraževanju/Leadership in Education*, 14 (3), 7–21.

2) Kompare, A. in Rupnik Vec, T. (2016). *Kako spodbujati razvoj mišljenja: od temeljnih miselnih procesov do argumentiranja*. (How to support critical thinking: from basic cognitive processes to argumentation). 1st edition. Ljubljana: National Education Institute Slovenia, 2016.

7.2. The invitation for schools to cooperate in the ATS2020 project



ATS 2020 ASSESSMENT OF TRANSVERSAL SKILLS

Erasmus+

Zavod Republike Slovenije za šolstvo

Številka: 0240-9/2015-1
Datum: 3. 6. 2015

OSNOVNIM IN SREDNJIM ŠOLAM

POVABILO K SODELOVANJU

Vabimo vas k sodelovanju v **mednarodnem projektu** Formativno spremljanje in vrednotenje transverzalnih veščin ob podpori IKT (**Assessment of Transversal Skills 2020**). V projektu bo sodelovalo 17 partnerskih institucij iz 11 držav. V Sloveniji bo pilotni projekt vodil in usmerjal Zavod RS za šolstvo, v sodelovanju z Ministrstvom za izobraževanje, znanost in šport, Državnim izpitnim centrom in Pedagoškim inštitutom.

1 PREDSTAVITEV PROJEKTA

Temeljni namen projekta ATS 2020
je uvajati sodobne pristope k spodbujanju razvoja ter k spremljanju in vrednotenju transverzalnih veščin, ki so v različnih kontekstih imenovane različno (npr. evropske ključne kompetence, veščine 21. stoletja itd.). Ena izmed teh je digitalna veščina, ki jo bomo v projektu smiselno integrirali v spodbujanje razvoja drugih transverzalnih veščin, kot npr. sodelovanje in komuniciranje, kritično mišljenje, samorefleksija in samouravnavanje, delo z viri, ustvarjalnost, učenje učenja itd. Konkretni izbor veščin bo dogovorjen na mednarodni ravni, šola pa bo lahko znotraj tega nabora samostojno izbrala svojo veščino. Transverzalne veščine so implicitno vključene tudi v naše učne načrte, a se večinoma sistematično ne spodbujajo, niti spremljajo in vrednotijo. Pristop, ki ga bomo v ta namen uporabili je formativno spremljanje in vrednotenje ob uporabi razvojnega e-listovnika.

V razvojnem projektu ATS 2020 bomo raziskali možne odgovore na krovni vprašanji (perspektiva učitelja): ***Kako naj z uporabo različnih orodij IKT (in razvojnega e-listovnika) formativno spremljam in vrednotim razvoj nekaterih transverzalnih veščin svojih učencev? Kako naj učence opolnomočim za načrtovanje, spremljanje in vrednotenje lastnega napredka v teh veščinah?***

Cilji
V tem kontekstu bodo učitelji in učiteljice oz. članice in člani šolskih projektnih timov:

Izvedba tega projekta je financirana s strani Evropske komisije. Vsebina povabila k sodelovanju je izključno odgovornost ZRSŠ in v nobenem primeru ne predstavlja stališč Evropske komisije

- razvojno delovali: načrtovali, izvajali, spremljali in vrednotili pouk ter veščine in znanja učencev v skladu s filozofijo formativnega spremljanja in vrednotenja znanja ter razvojnega elektronskega listovnika ob spremljanju in podpori ravnatelja;
- spoznali teoretična izhodišča formativnega spremljanja in razvojnega elektronskega listovnika ter različne primere kakovostne uporabe IKT v funkciji spodbujanja in spremljanja razvoja raznovrstnih znanj in veščin učenk in učencev; imeli priložnost razširjati in poglabljati znanje o tem, kako spodbujati, spremljati in vrednotiti izbrano veščino;
- spoznavali prakse uporabe e-listovnika in poučevanja ob podpori IKT v drugih sodelujočih državah in z njimi izmenjavali izkušnje oz. primere kakovostne prakse.

Aktivnosti v projektu bodo potekale na dveh nivojih:

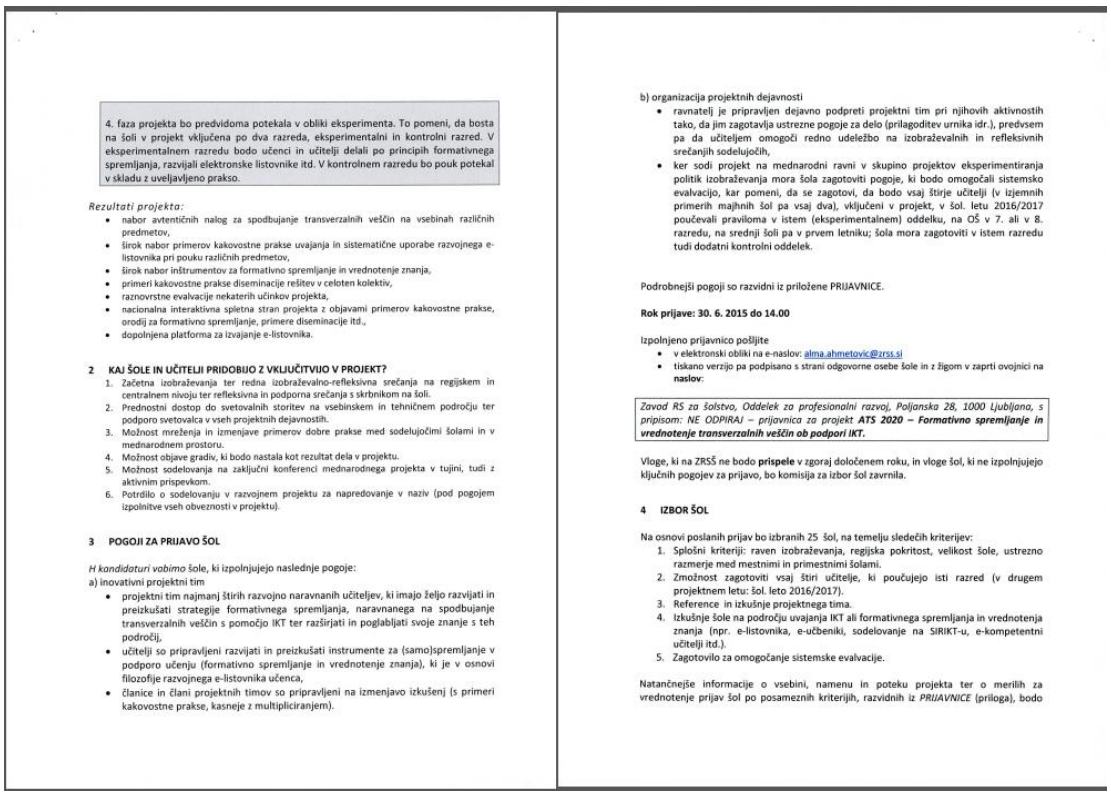
a) aktivnosti projektnega tima ZRSŠ:
   - izvedba niza izobraževanj za članice in člane projektnih timov in s tem opolnomočenje sodelujočih učiteljev za realizacijo zgornjih ciljev,
   - stalna podpora učiteljem v obliki delavnic in svetovanj,
   - spremljanje dejavnosti učiteljev na šolah (delavnice s projektnimi timi na njihovih šolah),

b) aktivnosti sodelujočih učiteljic in učiteljev:
   - izobraževanja iz različnih tem (formativno spremljanje, transverzalne veščine, IKT pri poučevanju, učenju in vrednotenju),
   - *v prvem projektnem letu:* a) oblikovanje in preizkušanje avtentičnih nalog za spodbujanje transverzalnih veščin s pomočjo IKT na vsebinah predmeta, ki ga poučuje, b) poskusno načrtovanje, izvajanje, spremljanje in vrednotenje pouka, usmerjenega na formativno spremljanje izbranih transverzalnih veščin, c) sodelovanje s kolegi z drugih šol pri oblikovanju nalog,
   - *v drugem projektnem letu:* sistematično formativno spremljanje in vrednotenje izbranih transverzalnih veščin, refleksija o procesu,
   - sodelovanje v evalvacijskih aktivnostih.

c) aktivnosti ravnateljev
   - Vključenost v izobraževanja ter aktivno spremljanje in podpora članicam in članom projektnih timov

Faze projekta:

1. faza: javni poziv šolam ter izbor 25 šol,
2. faza: začetna usposabljanja učiteljev (filozofijo ter orodja za formativno spremljanje in razvojni e-listovnik, razširjanje in poglobitev znanj o izbranih veščinah, spodbujanje le-teh s pomočjo različnih orodij IKT),
3. faza: izvajanje, spremljanje in vrednotenje pouka v skladu s filozofijo formativnega spremljanja s pomočjo IKT na osnovi oblikovanih avtentičnih nalog za spodbujanje razvoja izbranih veščin na vsebinah predmeta,
4. faza: sistematično spodbujanje izbrane veščine na izbranem razredu ter spremljanje in vrednotenje napredka učencev (šol. leto 2016/2017),
5. faza: zaključne evalvacije, načrtovanje širitve ideje projekta na kolektiv, diseminacijske dejavnosti.



4. faza projekta bo predvidoma potekala v obliki eksperimenta. To pomeni, da bosta na šoli v projekt vključena po dva razreda, eksperimentalni in kontrolni razred. V eksperimentalnem razredu bodo učenci in učitelji delali po principih formativnega spremljanja, razvijali elektronske listovnike itd. V kontrolnem razredu bo pouk potekal v skladu z uveljavljeno prakso.

Rezultati projekta:

- nabor avtentičnih nalog za spodbujanje transverzalnih veščin na vsebinah različnih predmetov,
- širok nabor primerov kakovostne prakse uvajanja in sistematične uporabe razvojnega e-listovnika pri pouku različnih predmetov,
- širok nabor inštrumentov za formativno spremljanje in vrednotenje znanja,
- primeri kakovostne prakse diseminacije rešitev v celoten kolektiv,
- raznovrstne evalvacije nekaterih učinkov projekta,
- nacionalna interaktivna spletna stran projekta z objavami primerov kakovostne prakse, orodij za formativno spremljanje, primere diseminacije itd.,
- dopolnjena platforma za izvajanje e-listovnika.

2 KAJ ŠOLE IN UČITELJI PRIDOBIJO Z VKLJUČITVIJO V PROJEKT?

1. Začetna izobraževanja ter redna izobraževalno-refleksivna srečanja na regijskem in centralnem nivoju ter refleksivna in podporna srečanja s skrbnikom na šoli.
2. Prednostni dostop do svetovalnih storitev na vsebinskem in tehničnem področju ter podporo svetovalca v vseh projektnih dejavnostih.
3. Možnost mrežnja in izmenjave primerov dobre prakse med sodelujočimi šolami in v mednarodnem prostoru.
4. Možnost objave gradiv, ki bodo nastala kot rezultat dela v projektu.
5. Možnost sodelovanja na zaključni konferenci mednarodnega projekta v tujini, tudi z aktivnim prispevkom.
6. Potrdilo o sodelovanju v razvojnem projektu za napredovanje v naziv (pod pogojem izpolnitve vseh obveznosti v projektu).

3 POGOJI ZA PRIJAVO ŠOL

H kandidaturi vabimo šole, ki izpolnjujejo naslednje pogoje:
a) inovativni projektni tim

- projektni tim najmanj štirih razvojno naravnanih učiteljev, ki imajo željo razvijati in preizkušati strategije formativnega spremljanja, naravnanega na spodbujanje transverzalnih veščin s pomočjo IKT ter razširjati in poglabljati svoje znanje s teh področij,
- učitelji so pripravljeni razvijati in preizkušati instrumente za (samo)spremljanje v podporo učenju (formativno spremljanje in vrednotenje znanja), ki je v osnovi filozofije razvojnega e-listovnika učenca,
- članice in člani projektnih timov so pripravljeni na izmenjavo izkušenj (s primeri kakovostne prakse, kasneje z multipliciranjem).

b) organizacija projektnih dejavnosti

- ravnatelj je pripravljen dejavno podpreti projektni tim pri njihovih aktivnostih tako, da jim zagotavlja ustrezne pogoje za delo (prilagoditev urnika idr.), predvsem pa da učiteljem omogoči redno udeležbo na izobraževalnih in refleksivnih srečanjih sodelujočih,
- ker sodi projekt na mednarodni ravni v skupino projektov eksperimentiranja politik izobraževanja mora šola zagotoviti pogoje, ki bodo omogočali sistemsko evalvacijo, kar pomeni, da se zagotovi, da bodo vsaj štirje učitelji (v izjemnih primerih majhnih šol pa vsaj dva), vključeni v projekt, v šol. letu 2016/2017 poučevali praviloma v istem (eksperimentalnem) oddelku, na OŠ v 7. ali v 8. razredu, na srednji šoli pa v prvem letniku; šola mora zagotoviti v istem razredu tudi dodatni kontrolni oddelek.

Podrobnejši pogoji so razvidni iz priložene PRIJAVNICE.

Rok prijave: 30. 6. 2015 do 14.00

Izpolnjeno prijavnico pošljite

- v elektronski obliki na e-naslov: alma.ahmetovic@zrss.si
- tiskano verzijo pa podpisano s strani odgovorne osebe šole in z žigom v zaprti ovojnici na **naslov**:

*Zavod RS za šolstvo, Oddelek za profesionalni razvoj, Poljanska 28, 1000 Ljubljana, s pripisom: NE ODPIRAJ – prijavnica za projekt **ATS 2020 – Formativno spremljanje in vrednotenje transverzalnih veščin ob podpori IKT.***

Vloge, ki na ZRSŠ ne bodo **prispele** v zgoraj določenem roku, in vloge šol, ki ne izpolnjujejo ključnih pogojev za prijavo, bo komisija za izbor šol zavrnila.

4 IZBOR ŠOL

Na osnovi poslanih prijav bo izbranih 25 šol, na temelju sledečih kriterijev:

1. Splošni kriteriji: raven izobraževanja, regijska pokritost, velikost šole, ustrezno razmerje med mestnimi in primestnimi šolami.
2. Zmožnost zagotoviti vsaj štiri učitelje, ki poučujejo isti razred (v drugem projektnem letu: šol. leto 2016/2017).
3. Reference in izkušnje projektnega tima.
4. Izkušnje šole na področju uvajanja IKT ali formativnega spremljanja in vrednotenja znanja (npr. e-listovnika, e-učbeniki, sodelovanje na SIRIKT-u, e-kompetentni učitelji itd.).
5. Zagotovilo za omogočanje sistemske evalvacije.

Natančnejše informacije o vsebini, namenu in poteku projekta ter o merilih za vrednotenje prijav šol po posameznih kriterijih, razvidnih iz *PRIJAVNICE* (priloga), bodo

predstavljeni in pojasnjeni na informativnem sestanku vsem zainteresiranim predstavnikom šol.

5 INFORMACIJE POTENCIALNIM PRIJAVITELJEM

Informativni sestanek za potencialne prijavitelje bo **17. 6. 2015** na Zavodu za šolstvo, Poljanska 28, Ljubljana ob 13.00 uri. Vabljeni ravnatelji in/ali bodoči vodje projektnih timov.

6 POSTOPEK OBRAVNAVANJA VLOG

O izboru šol bo odločala Komisija Zavoda RS za šolstvo, v skladu s številom doseženih točk, doseženih na zgoraj določenih kriterijih. Poleg števila točk bo odločal tudi regijski kriterij. Šole bodo o izboru obveščene **najkasneje do 16. 7. 2015.**

Za vsa dodatna vprašanja se obrnite na vodjo projekta dr. Tanjo Rupnik Vec (tanja.vec@zrss.si , tel. 01 3005 129).

Dr. Tanja Rupnik Vec,
Vodja mednarodne pilotne izvedbe ATS 2020

Dr. Vinko Logaj,
Direktor Zavoda RS za šolstvo

Priloga:

- PRIJAVNICA

Picture 7.2.1.: Invitation for cooperation in the ATS2020 project

7.3. Announcement of selected schools

ATS2020 Erasmus+ Zavod Republike Slovenije za šolstvo

Datum: 16. 7. 2015
Št: 0240-9/2015-4

Obvestilo o izboru šol v mednarodni projekt ATS 2020

Spoštovane, spoštovani,

Na naše povabilo k sodelovanju v mednarodnem projektu ATS 2020 - Formativno spremljanje in vrednotenje transverzalnih veščin se je odzvalo 55 šol. Na večini šol ste oblikovali kakovostne prijave iz katerih smo razbirali cilje, usklajene s cilji projekta, ustrezne reference sodelujočih učiteljev ter visoko motivacijo za sodelovanje v projektu. Na osnovi tega smo na seznam umestili nekaj šoli več od prvotno načrtovanega števila. Izbrane so sledeče šole:

1. OŠ Polje
2. OŠ Preserje
3. OŠ Preska
4. OŠ Sostro
5. OŠ Stara Cerkev
6. OŠ Janka Glazerja Ruše
7. OŠ Duplek
8. OŠ bratov Polančičev Maribor
9. OŠ Pod Goro Slovenske Konjice
10. OŠ Dobje pri Planini
11. OŠ Matije Čopa Kranj
12. OŠ Naklo
13. OŠ Dobravlje
14. OŠ Solkan
15. OŠ dr. Aleš Bebler – Primož Hrvatini
16. OŠ Antona Žnideršiča Ilirska Bistrica
17. OŠ Črna na Koroškem
18. OŠ Sava Kladnika Sevnica
19. OŠ Brežice
20. OŠ Cerklje ob Krki
21. OŠ Franceta Prešerna Črenšovci
22. OŠ Sveti Jurij Rogašovci
23. Gimnazija Bežigrad
24. Gimnazija Jurija Vege Idrija
25. Gimnazija Nova Gorica
26. Gimnazija Franca Miklošiča Ljutomer
27. SEŠ Maribor

Hvala vsem šolam prijaviteljicam za izražen interes in energijo, ki ste jo vložili v pisanje prijave. Čestitke članicam in članom izbranih šol, močno računamo na vas! Vse članice in člane projektnih timov šol, ki jih nismo uvrstili na seznam izbranih šol pa vabimo, k sodelovanju v druge projekte ter dejavnosti ZRSŠ, npr. k prijavi za sodelovanje v mednarodnem projektu UStart – Izzivi podjetnosti za mlade.

Želimo vam prijetno poletje.
S spoštovanjem,

Dr. Tanja Rupnik Vec,
Vodja mednarodnega projekta ATS 2020

Dr. Vinko Logaj,
Direktor ZRSŠ

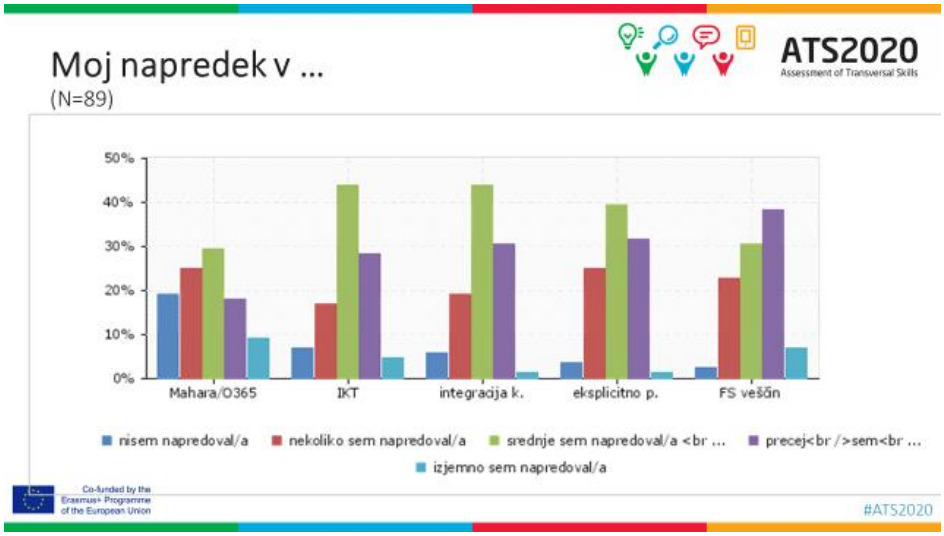
Zavod Republike Slovenije za šolstvo Ljubljana

Vročiti: vodjem vseh šol prijaviteljic; arhiv

7.4. Results of teachers' self-evaluation at the end of pre-pilot phase

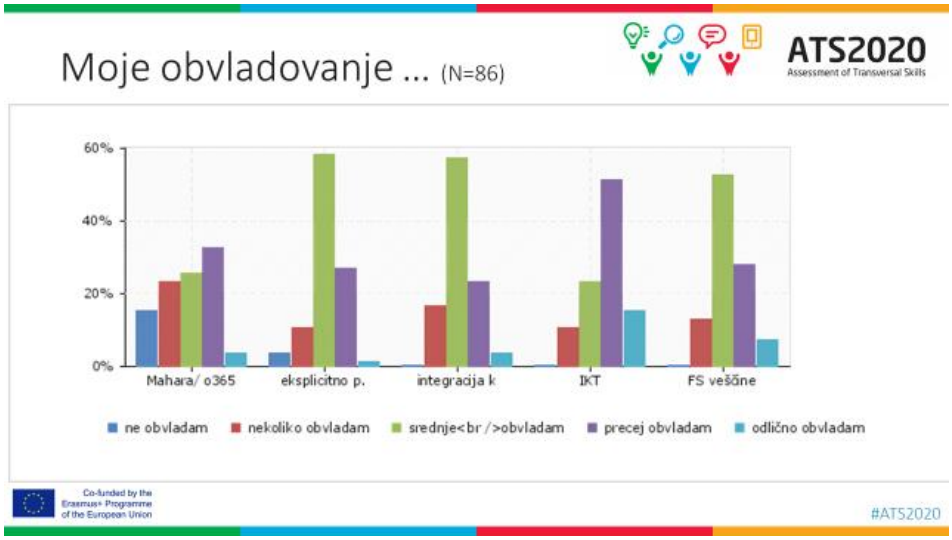
Firstly, teachers self-assessed their progress in pilot phase (Aug. 2015–June 2016) when they tried to grasp and integrate all ideas integrated in the ATS2020 teaching model: a) skill of using Mahara or O365 to support their students in creating ePortfolios, b) skill of using ICT in teaching, c) integration of all ATS2020 concepts (formative assessment, teaching of transversal skills explicitly, using ePortfolios to support formative assessment of skills), d) explicit teaching of transversal skill, e) formative assessment of transversal skills (Pic. 1) They self-assessed their progress on scale from 1 ("I made no progress in …") to 5 ("I made extreme progress in …"),

Most teachers evaluated they made middle progress on all these dimensions (green columns), but quite a lot of them assess that they made a strong progress (purple columns).



Pic. 1: Results of teachers' self-assessment of progress on using Mahara/O365 and other ICT tools, integration of all crucial concepts the ATS2020 project promotes into their teaching, progress in explicit teaching and in formative assessment of transversal skills.

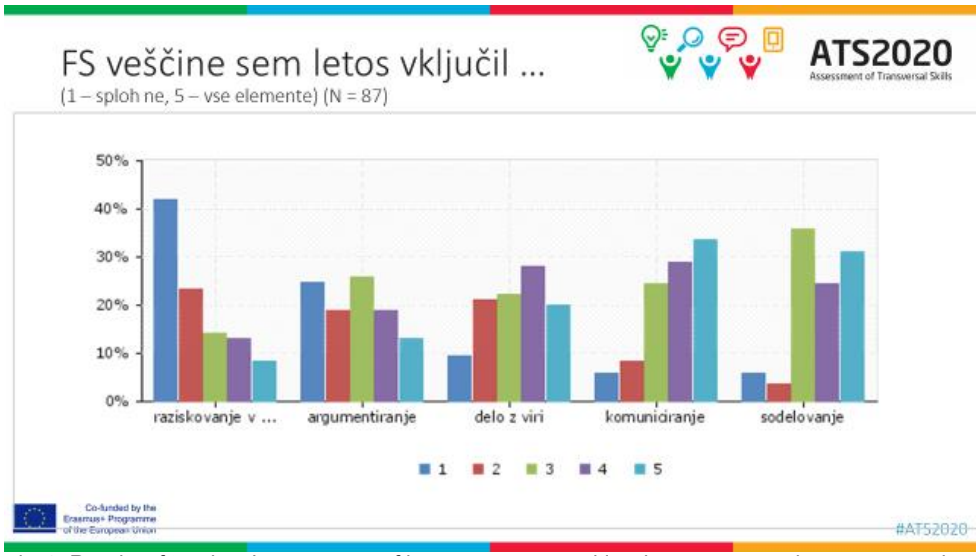
Secondly, teachers evaluated how skilful they were on the above-mentioned dimensions in the moment of self-assessment (pic. 2). They were most confident in using ICT in teaching, but not so confident in explicit teaching of transversal skills and in integration of all crucial ATS2020 conceptions.



Pic. 2: Results of teachers' self-assessment of actual skills: using Mahara/ICT.

Thirdly, teachers evaluated the frequency of giving students the opportunity to use a particular skill: a) researching, b) argumentation, c) working with resources, d) communication, and d) cooperation.

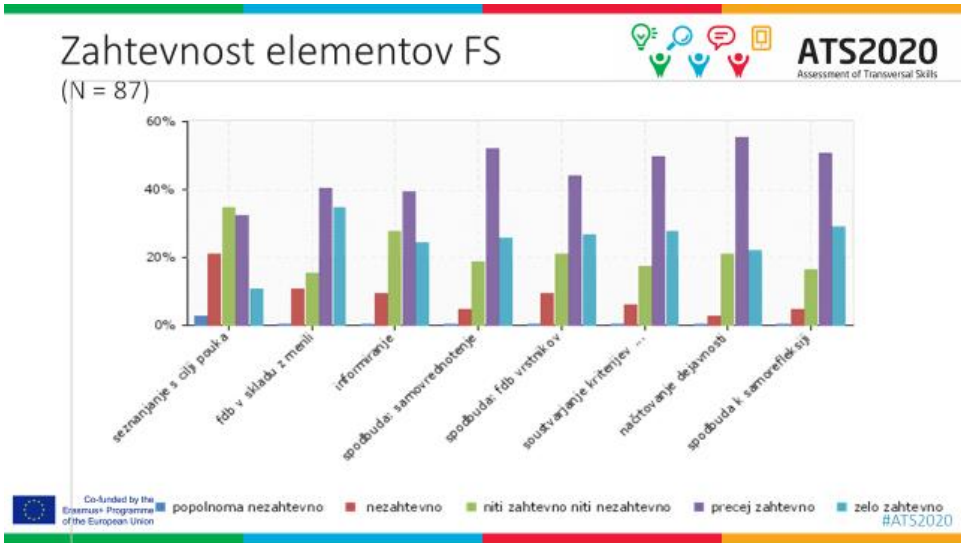
More than one third of teachers never gave students the opportunity to research in the pilot year (dark blue column in the first graph). However, there was quite a lot of opportunities for students to communicate in ATS2020 classrooms as over two third of teachers assessed their practice with 4 ("I often give children opportunity to communicate.") or 5 ("I very often give students the opportunity to communicate").



Pic. 3: Results of teachers' assessment of how many opportunities they gave to students to research, to argue, to work with resources, to communicate and to cooperate.

Finally, teachers evaluated how difficult was for them to consider each of the eight elements of formative assessment of transversal skills process: a) to make the (skill) goals of teaching visible for students, b) to give formative feedback (on skill), c) to inform children about the essence of FA process, d) to support students' self-assessment (of skill), e) to support students to exchange feedback regarding transversal skill, f) to co-create the success criteria for transversal skills, g) to plan learning activities, h) to support self-reflection of students.

As it is shown in picture 4, formative assessment of transversal skills is quite a demanding process for majority of teachers: about two thirds of teachers find those elements, except informing on goals of learning, quite challenging – purple (4-considerably demanding) and blue (5-extremely demanding) columns.

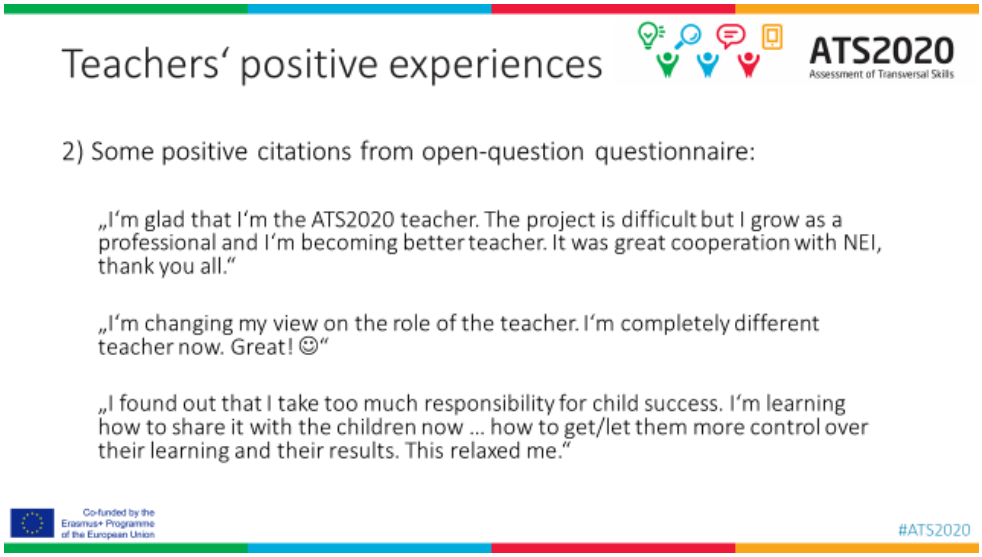


Pic. 4: Teachers' assessment of demandingness of eight elements of formative assessment of transversal skills process

There were also some open-ended questions:

1) "Which was the most important event/moment/thought … for you in the first year of ATS2020?"
2) "What were you enthusiastic about?"
3) "What will you change in your practice in the future?"
4) "What was your most important insight?"
5) "What do you want to suggest to the NEI staff for the next year of our cooperation?"

In short, for most of teachers the exchange of examples of good practice were the most important in the first year of cooperation in the ATS2020 project. They were surprised and enthusiastic about the effect of their new mode of teaching (higher motivation and higher progress in learning). One third of teachers were proud on their ability to implement the ATS2020 learning and teaching model (My Learning Cycle), but they will make some change in specific steps in formative assessment of skills process. The most important insight was that co-creating learning goals and success criteria with their students really support learning. Some original thoughts are cited below (pic.5).

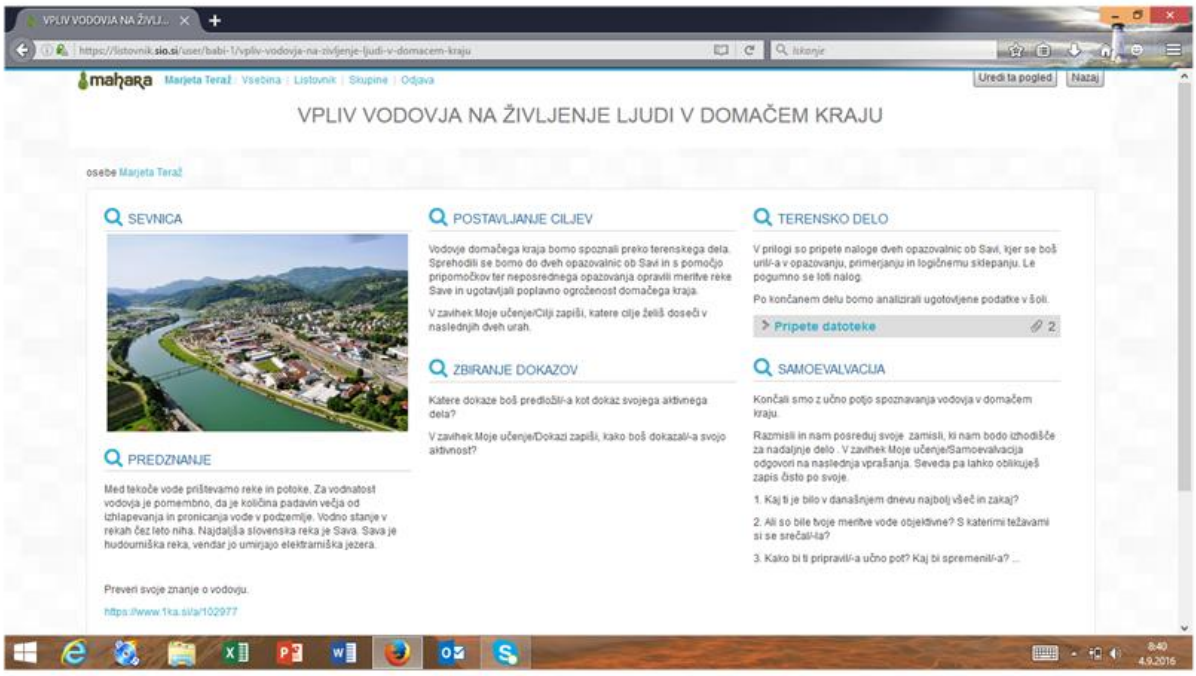


Pic. 5: Three citations from teachers' self-evaluations of their learning in pre-pilot phase.

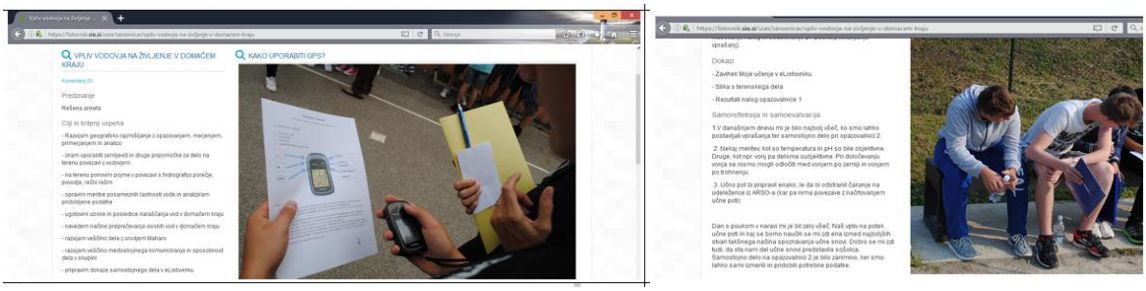
7.5. Examples of learning designs

Example 1: **Geography: Influence of waters on people in local community** (Vpliv vodovja na življenje ljudi v domačem kraju. Author: Marjeta Teraž, OŠ Sevnica)

Short description: It is a learning design for the 5th grade and teacher inserted the instructions on web (Mahara) (pic. 7.5.1.). Students learned autonomously about concepts from the field of hydrography. They set their goals at the content and the process level; went through various activities and finally reflected on their work (process and the results). They gathered the evidence of their learning and up-loaded them in Mahara, so as the final self-evaluation (pic. 7.5.2.). Transversal skills they used in this process are: ICT skills, critical thinking (working with resources, interpretation of data, observation etc.), cooperation and communication skills.



. Pic. 7.5.1.: Web classroom: Instructions for students in Mahara



Pic. 7.5.2.: Two examples of the content of student's ePortfolio (Mahara): settled learning goals and reflection on work

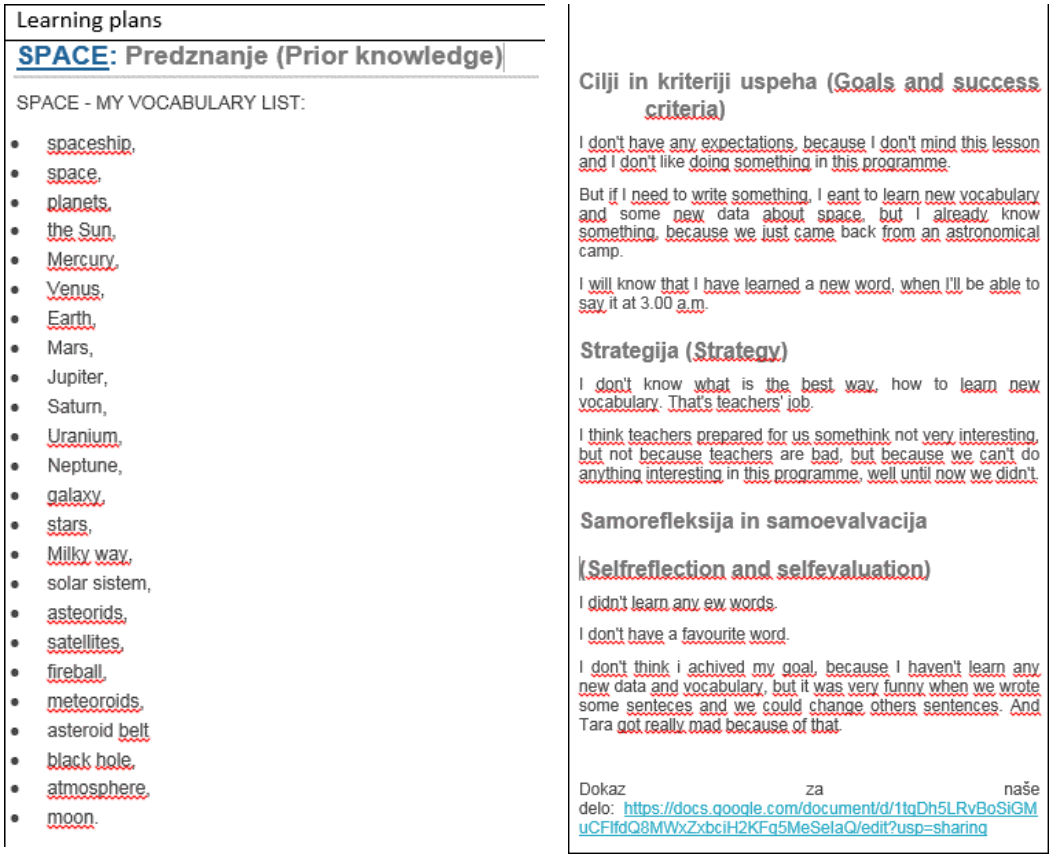
The whole scenario of this teacher is available in a separate file or on web.

Example 2: English vocabulary: Space (Author: Vesna Gros, OŠ Polje)

Short description: Learning design was planned for two lessons, for the 8th grade (13–14 year old). Students talked about space in foreign language and so they enriched/revised their vocabulary about space (content aims). They also learned to differentiate facts and opinions as part of critical thinking. They worked in groups. They listened and responded to each other (transversal skills goals). Students

went through complete My Learning cycle, from activating prior knowledge, planning their learning goals, collecting evidence of learning to self-evaluation.

An example of students' excellent work (from the archive of teacher Vesna Gros, OŠ Polje) is shown in pic. 7.5.3.



Learning plans

SPACE: Predznanje (Prior knowledge)

SPACE - MY VOCABULARY LIST:

- spaceship,
- space,
- planets,
- the Sun,
- Mercury,
- Venus,
- Earth,
- Mars,
- Jupiter,
- Saturn,
- Uranium,
- Neptune,
- galaxy,
- stars,
- Milky way,
- solar sistem,
- asteorids,
- satellites,
- fireball,
- meteoroids,
- asteroid belt
- black hole,
- atmosphere,
- moon.

Cilji in kriteriji uspeha (Goals and success criteria)

I don't have any expectations, because I don't mind this lesson and I don't like doing something in this programme.

But if I need to write something, I eant to learn new vocabulary and some new data about space, but I already know something, because we just came back from an astronomical camp.

I will know that I have learned a new word, when I'll be able to say it at 3.00 a.m.

Strategija (Strategy)

I don't know what is the best way, how to learn new vocabulary. That's teachers' job.

I think teachers prepared for us somethink not very interesting, but not because teachers are bad, but because we can't do anything interesting in this programme, well until now we didn't.

Samorefleksija in samoevalvacija

(Selfreflection and selfevaluation)

I didn't learn any ew words.

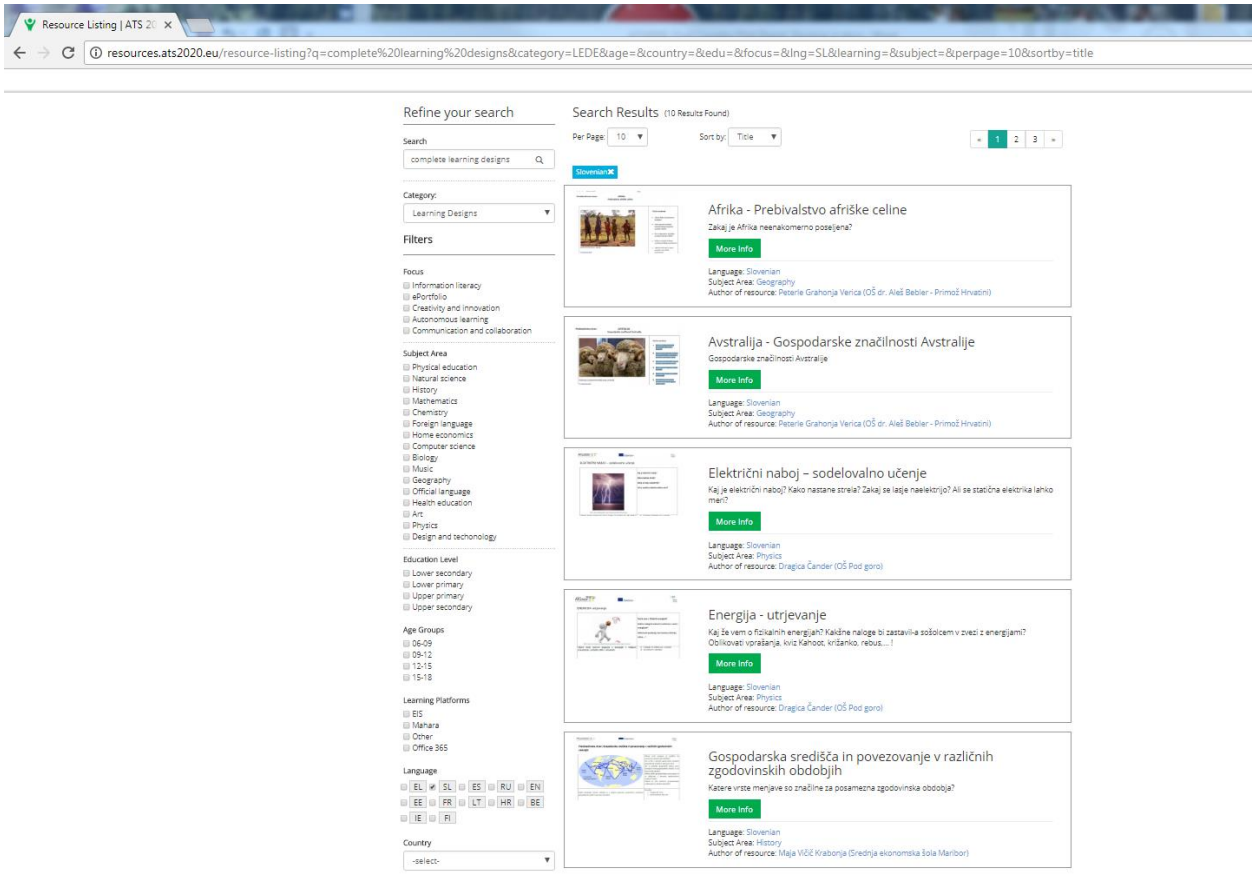
I don't have a favourite word.

I don't think i achived my goal, because I haven't learn any new data and vocabulary, but it was very funny when we wrote some senteces and we could change others sentences. And Tara got really mad because of that.

Dokaz za naše delo: https://docs.google.com/document/d/1tqDh5LRvBoSiGMuCFIfdQ8MWxZxbciH2KFq5MeSeIaQ/edit?usp=sharing

Picture 7.5.3.: Example of a piece of the content from student's ePortfolio: she wrote about the prior knowledge about space, her goals and success criteria for learning about space, her strategy. She also wrote a short self-reflection and gathered some evidence (link).
The whole scenario of this teacher is in a separate file.

More examples on ATS2020 web page, section Resources: www.ats2020.eu → Resources → Learning Scenarios (filter Slovenian language): http://resources.ats2020.eu/resource-listing?q=complete%20learning%20designs&category=LEDE&age=&country=&edu=&focus=&lng=SL&learning=&subject=&perpage=10&sortby=title



Picture 6.5.4.: Screenshot of web page with more Learning Designs created by Slovenian ATS2020 teachers

7.6. Examples of e-portfolios of a student (pieces of contents)

Example 1: Mathematics: Statistical research (from the archive of teacher Urška Rihtaršič, Gimnazija Bežigrad). Pieces of students' ePortfolio:

- Record of prior knowledge: Statistical research (math) and cooperation skills

Excellent work – prior knowledge (statistical research/cooperation skills)	Average work – prior knowledge (statistical research/cooperation skills)

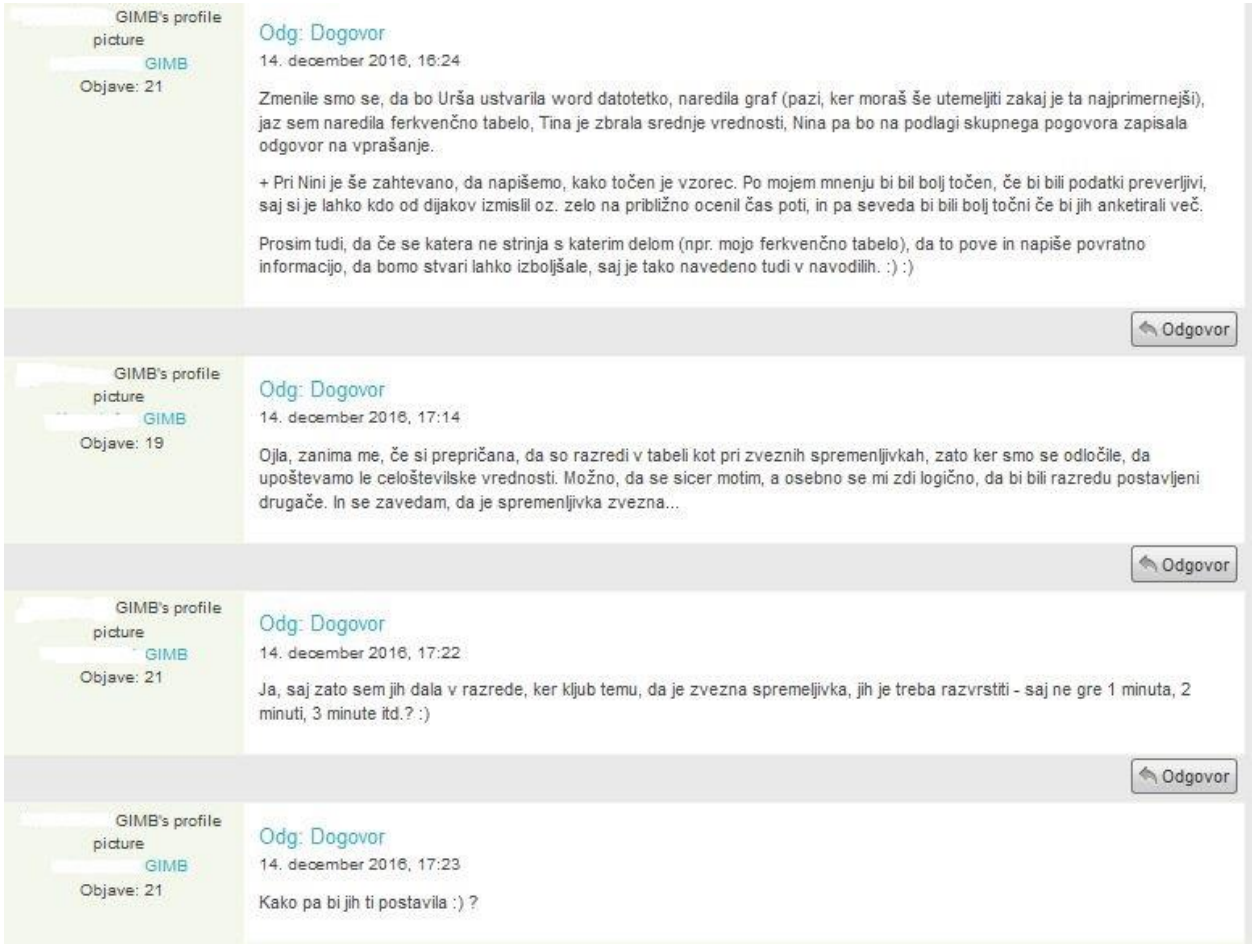
Predznanje 1. Katere so zvezne in katere diskretne številske statistične spremenljivke Diskretne spremenljivke so spremenljivke, ki zavzemajo celo vrednost. Primer: št. oseb v gospodinjstvu, št. otrok,... Zvezne spremenljivke so spremenljivke, ki zavzemajo katerokoli vrednost. Primer: starost, dolžina, teža,... 2. Kaj nam pove kumulativna frekvenca? Kumulativna frekvenca nam pove koliko podatkov obsega manjšo ali enako vrednost zgornje meje frekvenčnega razreda. 3. Katere srednje vrednosti poznaš? Kaj nam vsaka od njih pove in kako jo izračunamo? Modus je število, ki se največkrat ponovi. Mediana je število ki je točno na sredini - pol vrednosti je večjih in pol vrednosti je manjših. Aritmetično sredino dobimo tako da vsoto vseh podatkov delimo s številom podatkov. *4. Kakšna je po tvojem mnenju dobra povratna informacija? Kaj mora vsebovati? Kako mora biti podana?* Dobra povratna informacija mora vsebovati pohvalo, kritiko in predlog, kako bi nekaj izboljšal. Podana mora biti razumljivo in vljudno. *5. Kakšne so tvoje dosedanje izkušnje s skupinskim delom? Kaj ti je pri tem všeč in kaj ti ni?* Moje dosedanje izkušnje s skupinskim delom so večinoma pozitivne. Pri skupinskem deli mi je všeč, da ti lahko če česa ne znaš ali ne razumeš pomaga član skupine. Pri skupinskem delu mi ni všeč, da je zamudno in se časovno težko uskladiš z ostalimi člani skupine. *6. Kako bi opisal svoje sodelovanje v skupini? (Kako deluješ kot član skupine?) Napiši eno stvar, na katero si ponosen, in eno, ki ti ni všeč in bi jo rad izboljšal.* Pri delu v skupini velikokrat prevzamem pobudo in pomagam če kdo česa ne utegne narediti. Rada bi bila bolj odprta za ideje ostalih članov.	Predznanje 1. Zvezne ugotavljamo z merjenjem (starost, teža, višina...), diskretne ali celoštevilske pa dobimo z štetjem (št. otrok, št. prebivalcev v mestu, kraju, na svetu, št. članov...) 2. Kumulativna frekvenca nam pove koliko statističnih enot zavzame vrednost, ki je taka ali manjša od zgornje meje frekvenčnega razreda. 3. Pri srednji vrednosti poznam mediano (št. ki razdeli št. podatkov na dva enaka dela), modus (najbolj pogosta vrednost) 4. Dobra povratna informacija mora vsebovati utemeljeno kritiko in to kaj in kako naj stvar izboljšaš in pa tudi informacijo o tem kaj si dobro naredil. 5. Moje dosedanje izkušnje z skupinskim delom so dobre, pri tem mi je všeč to, da med seboj komuniciramo in sodelujemo, ni pa mi všeč, če nekateri naredijo vse medtem, ko drugi nič. 6. Kot član skupine sodelujem dobro z ostalimi. Mogoče bi lahko več prispeval k končnemu rezultatu.

- Record of learning goals (statistical research and cooperation as transversal skill)

Excellent work – goals and strategy	Average work – goals and strategy
Strategija Moj osebni cilj (da sem v delu v skupinah bolj strpna in poslušl bom dosegla tako, da bom poslušala ideje sošolcev, argumentirala z njimi, poslušala vse ideje in se sproti pogovori težavah, ki nastopijo v skupini. Preden komentiram ideje drugih prvo o njih razmislim, nato povem svoje mnenje. Če se ne strir oz. nastopijo težave, svoje mnenje tudi argumentiram in poskU najti rešitev. Preden bom zavrgla ideje drugih, ki se mi ne zdijo dobre, mu bom dala priložnost argumentirati in predstaviti svoj mnenje.	Cilji in kriteriji uspeha Moj cilj: Uspešno izvesti raziskavo - določiti vse spremenljivke, jo izvesti ter analizirati. (popravljen cilj) Znati dobro razporediti delo v skupini se se danih nalog držati. Izvedba cilja: Da bom svoj cilj dosegla, bom aktivno sodelovala pri izvedbi raziskave; upoštevala bom navodila vodje in pomagala pri deljenju obveznosti tako, da jih bomo vsi uspe

- Cooperative working on statistical research: communication and cooperation in forum

a) Excellent work: constructive dialog



GIMB's profile picture
GIMB
Objave: 21

Odg: Dogovor
14. december 2016, 16:24

Zmenile smo se, da bo Urša ustvarila word datotetko, naredila graf (pazi, ker moraš še utemeljiti zakaj je ta najprimernejši), jaz sem naredila ferkvenčno tabelo, Tina je zbrala srednje vrednosti, Nina pa bo na podlagi skupnega pogovora zapisala odgovor na vprašanje.

+ Pri Nini je še zahtevano, da napišemo, kako točen je vzorec. Po mojem mnenju bi bil bolj točen, če bi bili podatki preverljivi, saj si je lahko kdo od dijakov izmislil oz. zelo na približno ocenil čas poti, in pa seveda bi bili bolj točni če bi jih anketirali več.

Prosim tudi, da če se katera ne strinja s katerim delom (npr. mojo ferkvenčno tabelo), da to pove in napiše povratno informacijo, da bomo stvari lahko izboljšale, saj je tako navedeno tudi v navodilih. :) :)

Odgovor

GIMB's profile picture
GIMB
Objave: 19

Odg: Dogovor
14. december 2016, 17:14

Ojla, zanima me, če si prepričana, da so razredi v tabeli kot pri zveznih spremenljivkah, zato ker smo se odločile, da upoštevamo le celoštevilske vrednosti. Možno, da se sicer motim, a osebno se mi zdi logično, da bi bili razredu postavljeni drugače. In se zavedam, da je spremenljivka zvezna...

Odgovor

GIMB's profile picture
GIMB
Objave: 21

Odg: Dogovor
14. december 2016, 17:22

Ja, saj zato sem jih dala v razrede, ker kljub temu, da je zvezna spremeljivka, jih je treba razvrstiti - saj ne gre 1 minuta, 2 minuti, 3 minute itd.? :)

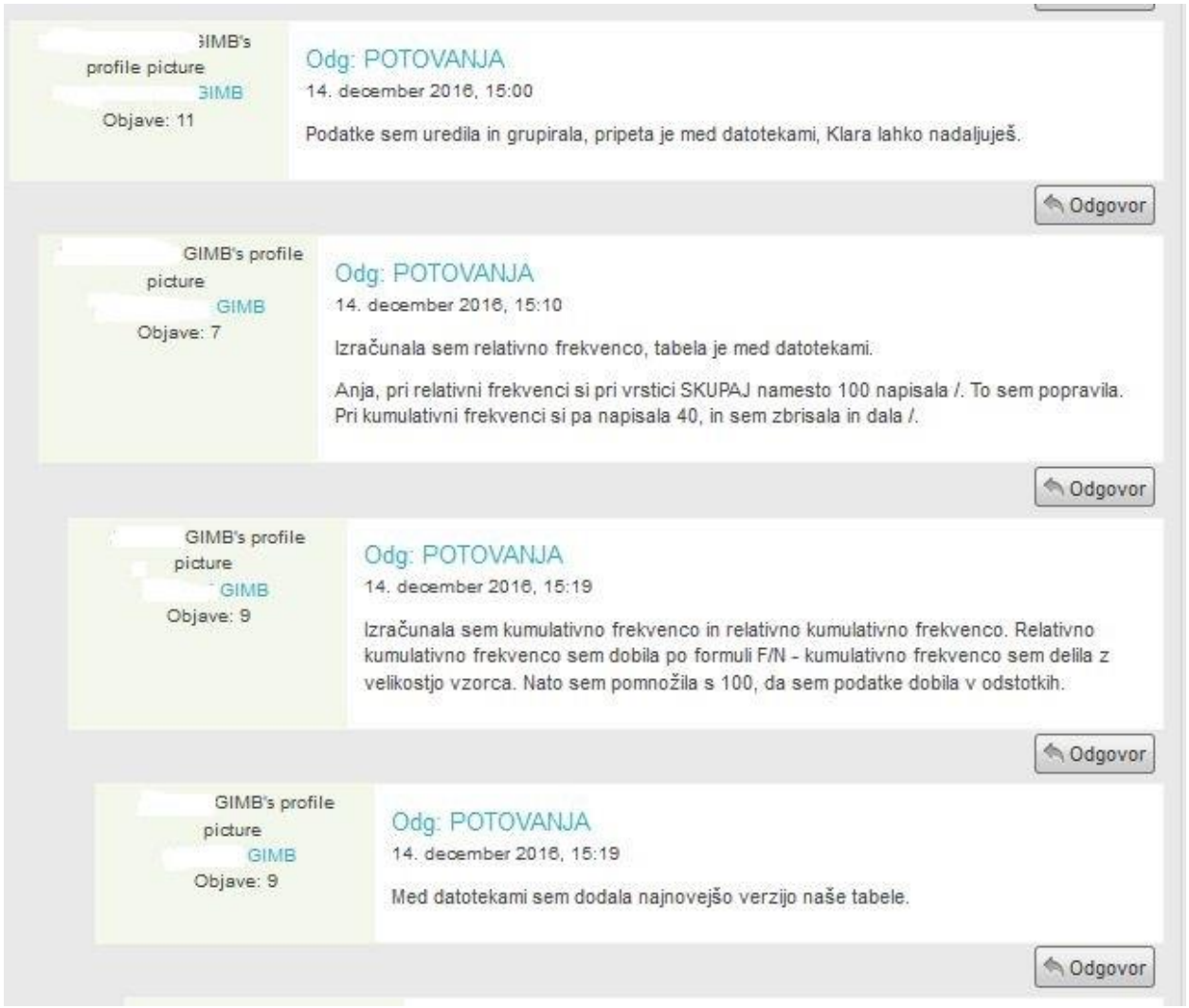
Odgovor

GIMB's profile picture
GIMB
Objave: 21

Odg: Dogovor
14. december 2016, 17:23

Kako pa bi jih ti postavila :) ?

b) Average work



- Self-reflection on statistical research and cooperation in group (record in Mahara)
  - Excellent work

Samorefleksija in samoevalvacija

S tem, kar sem pridobila v matematični raziskavi, sem zelo zadovoljna.

Zastavila sem si cilj, da bi znala bolje argumentirati svoje mnenje in ga zagovarjati, če vanj verjamem. In skozi raziskavo - ko smo dokončevale in pisale poročilo, sem naredila ferkvenčno tabelo. Ker je podatkov res veliko in tudi veliko pravil za zvezne, diskretne spremenljivke, ko jih spremeniš v razrede, lahko pride do kakšnih napak in nesporazumov. Zato me je Urša opozorila, da meni, da bi mogla drugače postaviti razrede.

Jaz sem stvar še enkrat pregledala, preverila v zvezku z enako spremeljivko in ji kulturno nazaj odgovorila, da jaz mislim, da sem storila prav in mnenje utemeljila s podobnim primerom, ki smo ga imeli v šoli (masa učencev), ko smo enako razporedili razrede kot jaz.

Zelo sem zadovoljna z Uršino pripombo, saj je normalno, da je tudi ona spregledala, in s tem, ko sem jaz preverila in razmislila o tem, sem tudi sama utrdila svoje znanje o tem in bom bila na to v prihodnosti še bolj pozorna.

S celotnim delom sem (tudi kot vodja) zadovoljna, čeprav mi sprva ni bilo všeč, da sem vodja, a smo se dogovorile, da bomo vse storile enako ter da ne bo preobremenitve le na nekaterih, česar smo se popolnoma držale. Vsaka je storila svoje delo ob dogovorjenem času.

Morda si v prihodnje (osebno) želim to, da bi si znala bolje razporediti čas. Kot smo omenili že pri uri, dela za statistično raziskavo ni bilo veliko, vendar pa je ravno sovpadala z ostalimi šolskimi ocenjevanji in deli, tako da smo imeli poln urnik.

Po drugi strani pa je to tudi dobro, saj si bom naslednjič že na začetku lepo razporedila delo, kaj bom naredila kateri dan in približno koliko količinsko, da bom vse delala sproti.

Nato sem tudi vsaki od članic naše skupine komentirala končni izdelek statistične raziskave, podala eno dobro stvar in stvar, ki bi jo morda bilo dobro še malo izboljšati.

Tabele za samoevalvacijo nisem našla, kljub temu da sem pogledala v skupino Statistika, a nikjer nisem našla zavihka 'datoteke'.

Kot prilogo dodajam še dve zajeti sliki povratnih informacij - prva povratne informacije učiteljice na delo naše celotne skupine, druga pa povratna informacijah vseh treh sošolk, s katerim sem sodelovala v skupini in povratna informacija učiteljice na moje delo.

- Average work

Samorefleksija in samoevalvacija

Mislim, da sem svoje cilje kar uspešno dosegla. Kljub temu sem bila še vedno preveč vodstvena saj sem večinoma jaz govorila kaj naj kdo naredi. Zdi pa se mi, da če ne bi jaz bila vodja naša skupina nebi dobro delovala, saj že tako nismo sodelovale kot smo se prej zmenile.

Example 2: History: Homework reading about antique (from archive of teacher Špela Frantar, Gimnazija Bežigrad)

1) Reflection on pair work (records in Mahara)
    a. Example of excellent work

Katero obliko skupnega izdelka sva izbrala s sošolcem, zakaj, kako je potekalo sodelovanje?

Izbrala sva poster, s katerim bi vabila na premiero filma, če bi se odločila posneti film po prebrani knjigi. To obliko sva izbrala, ker se je obema zdela zanimiva. Sodelovala sva tako, da sva se preko spletnega omrežja dogovorila o obliki posterja, nato pa si je eden ustvaril profil na spletni strani piktochart, drugi pa mu je pošiljal slike in dajal ideje, ki pa jih je nato sošolec komentiral, in povedal kaj bi lahko izboljšala.

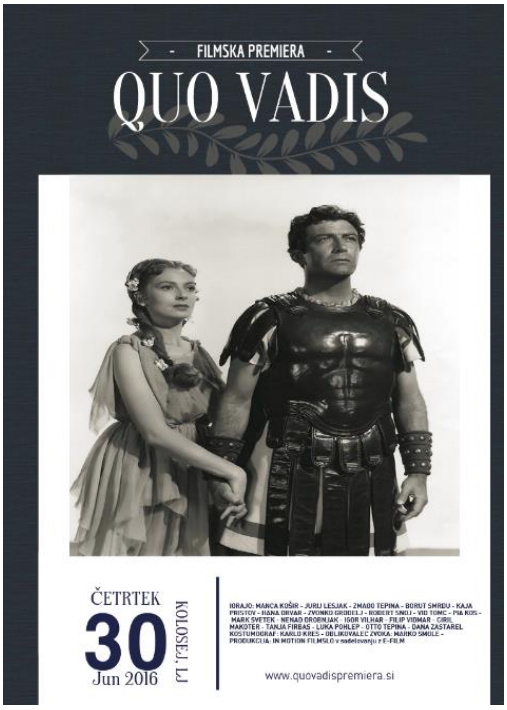
V prihodnje ne bi spremenila ničesar, saj se mi je sodelovanje zdelo dobro, končni izdelek pa temu primeren. (Izdelek je shranjen pod "Dokazi" - dokaz_2_poster)

Dokazi

Aktivnosti bom dokazovala s pomočjo učnih listov. in drugih nalog, ki me čakajo.

Pripete datoteke 9

- dokaz_1_anketa.odt (92,3kB) - Prenos
- dokaz_2_poster.png (588,4kB) - Prenos
- Gregorič_Quo vadis_poročilo_nepopravljeno.docx.1 (70,8kB) - Prenos
- Gregorič_Quo vadis_poročilo_popravljeno.docx (64,1kB) - Prenos
- Gregorič_Quo vadis_rešen učni list.docx (16kB) - Prenos
- Gregorič_Quo vadis_učni list.docx (14,9kB) - Prenos
- Jančič_Quo vadis_učni list_rešeno.docx (19kB) - Prenos
- ocenjevalni obrazec_quo vadis_ocenjeno-poročilo Eve Gregorič.docx (23,8kB) - Prenos
- ocenjevalni obrazec_quo vadis_ocenjeno-poročilo Tine Jančič.docx (24kB) - Prenos



b. Example of average work

- Nežin ocenjevalni kriterij, na podlagi katerega je ocenila moje sporočilo;

odgovor na povratno informacijo: Kazalo sem oblikovala po navodilih profesorice, vendar potem, ko sem dodala še 'učni list' mi kljub trudu ni uspelo dati skupaj v kazalo, tudi če sem vse pretipkala znova in označila v novo kazalo, tistega pa zbrisala.

- moje mnenje o knjigi, romanu v forumu, ki ga je komentirala Neža

- Nežino mnenje v forumu, ki sem ga komentirala

- poster, ki sva ga naredile skupaj kot dokaz vrstniškega sodelovanja in prijateljevanja, za filmsko predstavo prebranega romana

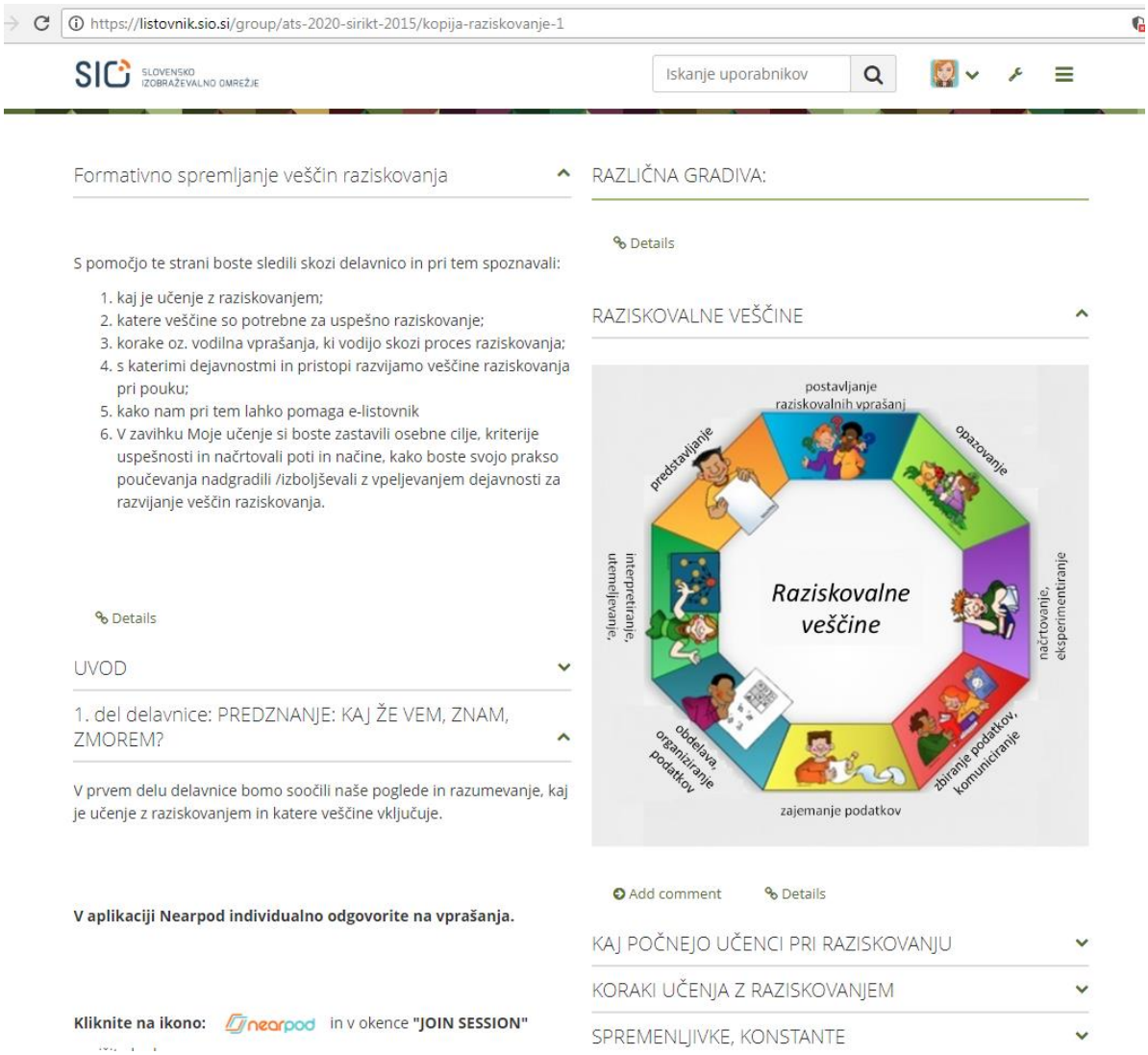
Pripete datoteke 7

- Kohek_Bogovi vojne_poročilo + rešen ul.docx (130kB) - Prenos
- moj ocenjevalni kriterij za nežino poročilo.docx (23,5kB) - Prenos
- moj odgovor na mnenje o knjigi.PNG (76,4kB) - Prenos
- moje mnenje + nežin komentar.PNG.1 (67,1kB) - Prenos
- Nežino poročilo, izpoljnen učni list.docx (1,6MB) - Prenos
- ocenjevalni kriterij nežin za moje poročilo.docx (23,4kB) - Prenos
- Poster.docx (622,9kB) - Prenos

7.7. Documentation and examples of other results of NEI sta ff working with the ATS2020 Slovenian teachers

NEI staff created workshops also in Mahara, application for creating ePortfolios. Here are screenshots of the learning material for five ATS2020 Slovenia workshops:

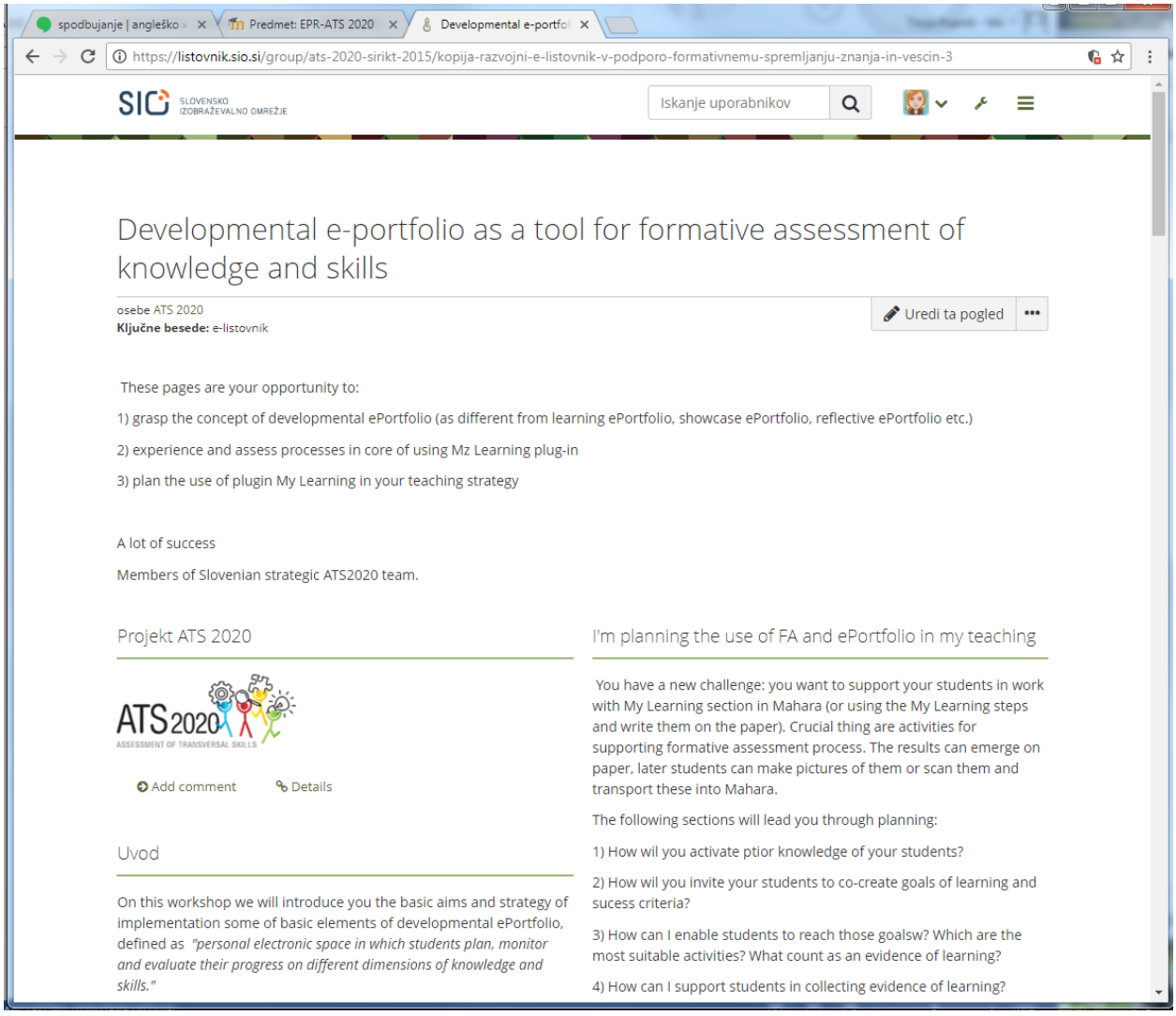
Workshop 1: Formative assessment of researching skills (Picture 7.7.1. and 7.7.2.); online: https://listovnik.sio.si/group/ats-2020-sirikt-2015/kopija-raziskovanje-1



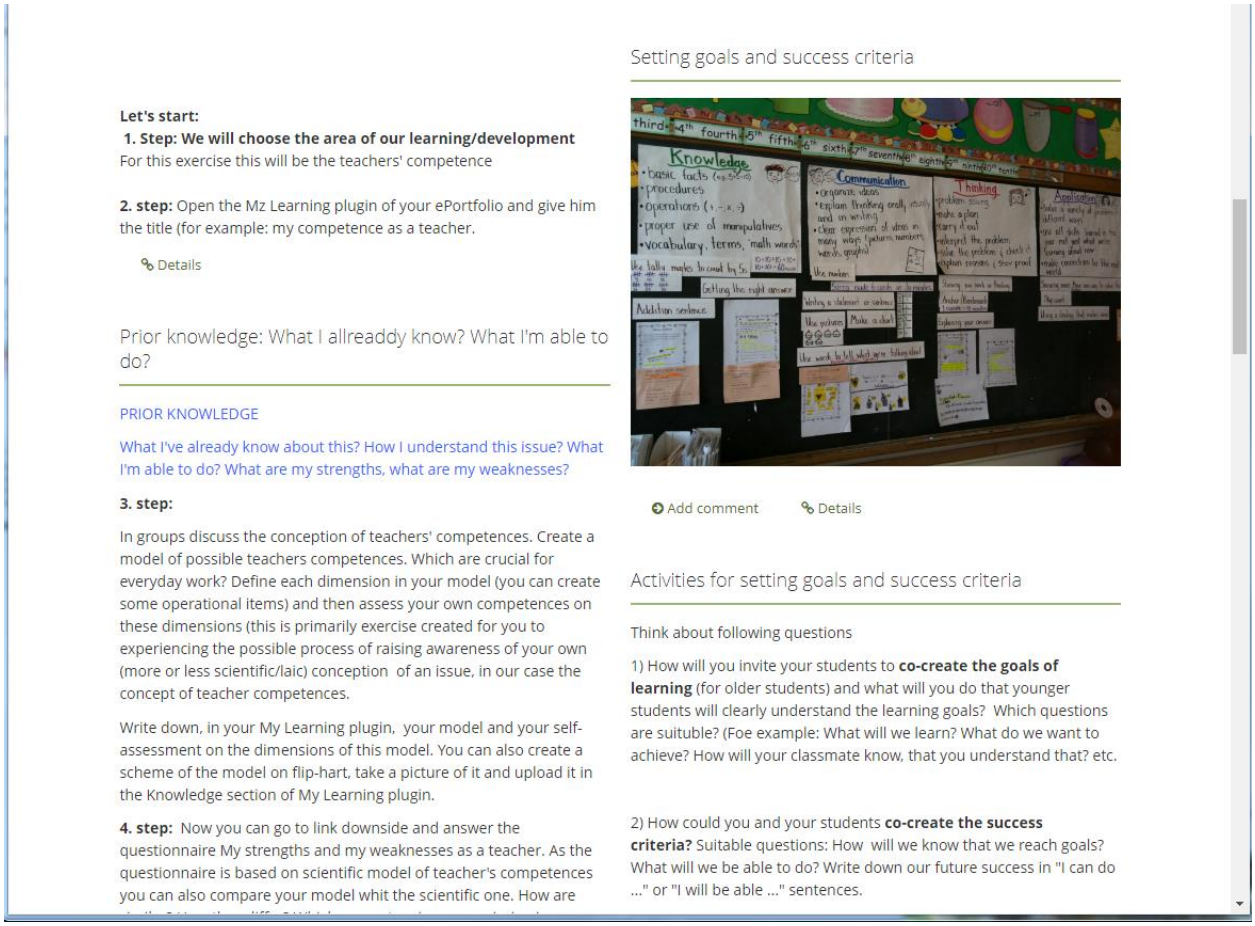
Picture 7.7.1.: Workshop material for ATS2020 teachers in Mahara: How to assess researching skills formatively? (Part 1)

Picture 7.7.2.: Workshop material for ATS2020 teachers in Mahara: How to assess researching skills formatively? (Part 2)

Workshop 2: A developmental ePortfolio as a tool for formative assessment of knowledge and skills (Picture 7.7.3. and 7.7.4.); online: https://listovnik.sio.si/group/ats-2020-sirikt-2015/kopija-razvojni-e-listovnik-v-podporo-formativnemu-spremljanju-znanja-in-vescin-3

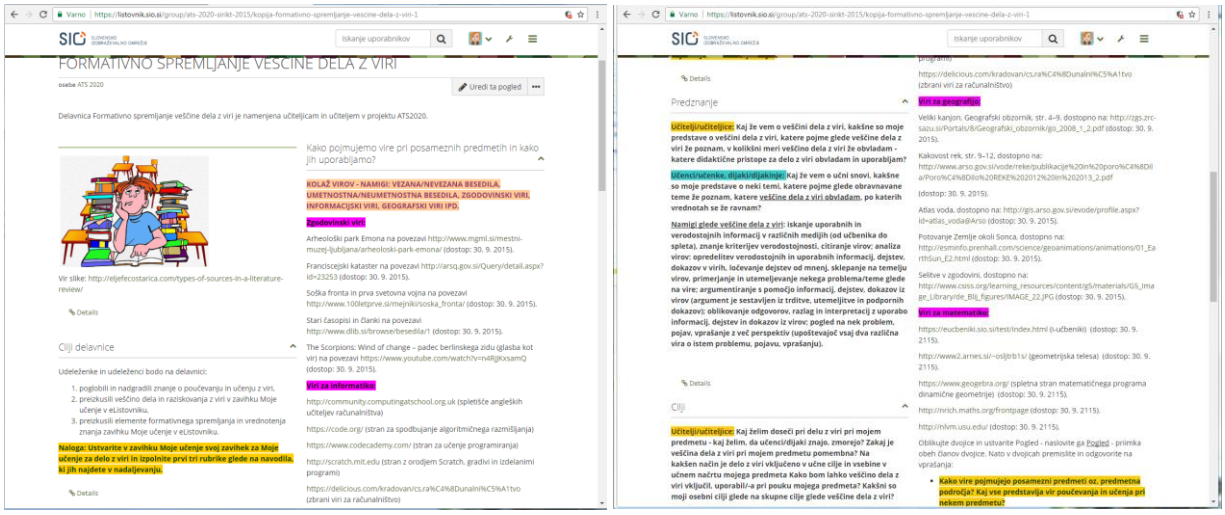


Picture 7.7.3.: Workshop material for ATS2020 teachers in Mahara: a developmental ePortfolio as a tool for formative assessment of knowledge and transversal skills (Part 1)



Picture 7.7.4.: Workshop material for ATS2020 teachers in Mahara: a developmental ePortfolio as a tool for formative assessment of knowledge and transversal skills (Part 2)

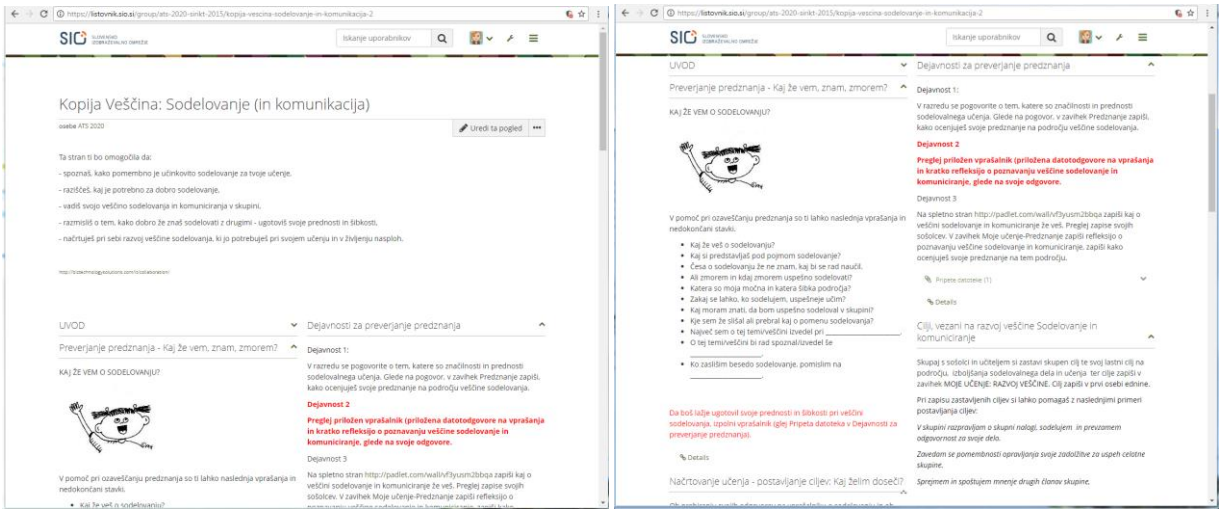
Example 3: Formative assessment of skills on working with resources (pic. 7.7.5.)



Picture 7.7.5.: Workshop material for ATS2020 teachers in Mahara: How can I assess students' skill on working with resources formatively?

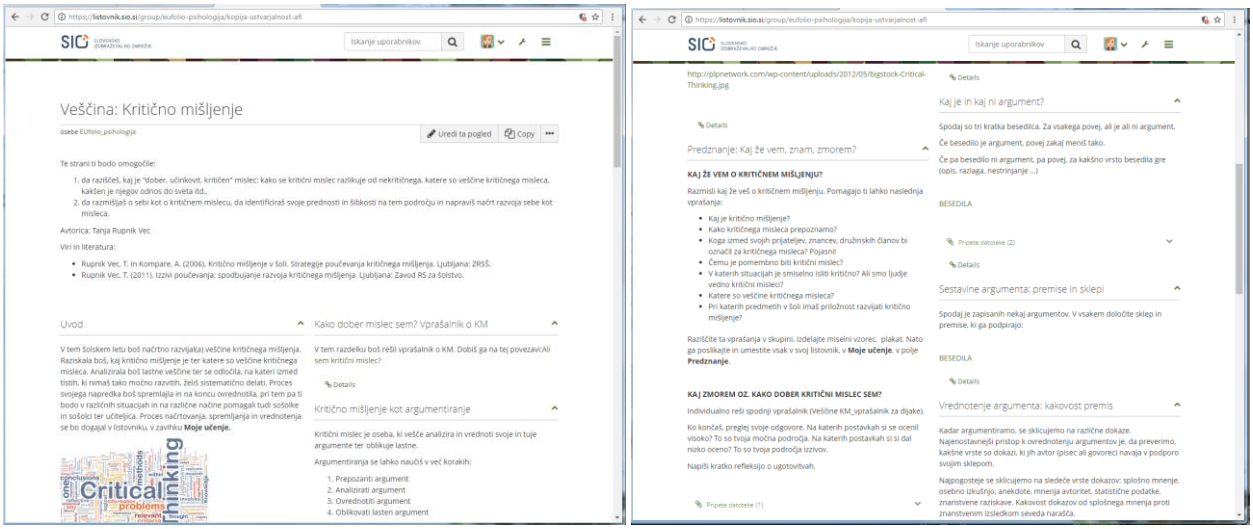
https://listovnik.sio.si/group/ats-2020-sirikt-2015/kopija-formativno-spremljanje-vescine-dela-z-viri-1

Example 4: Formative assessment of cooperation and communication skills (pic. 7.7.6.), online: https://listovnik.sio.si/group/ats-2020-sirikt-2015/kopija-vescina-sodelovanje-in-komunikacija-2



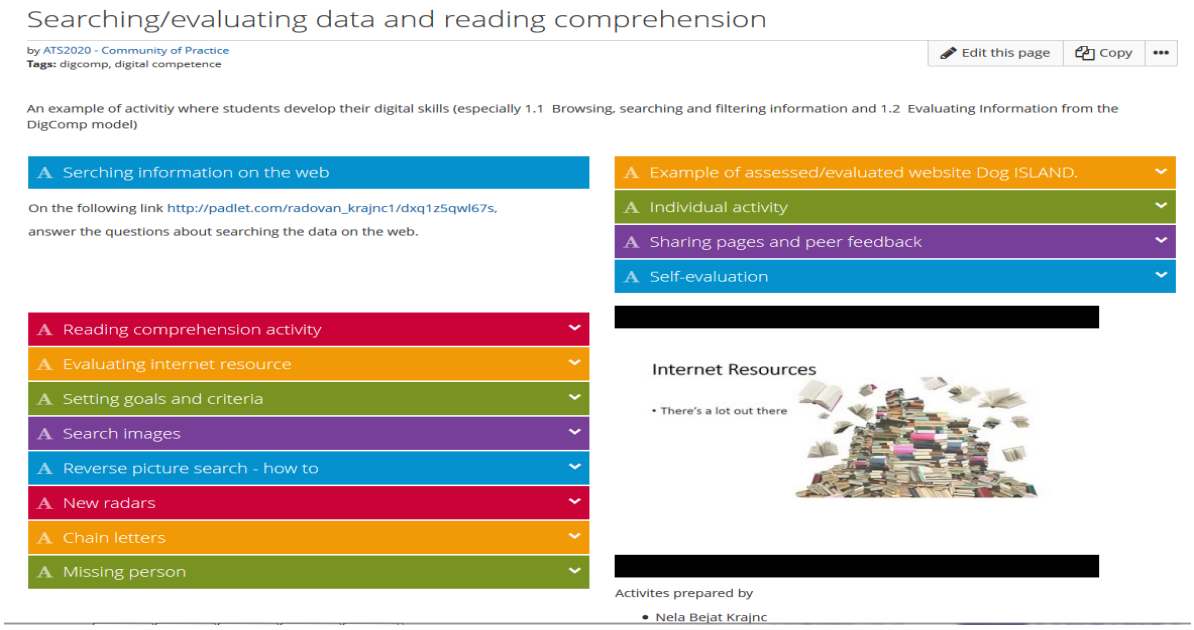
Picture 7.7.6.: Workshop material for ATS2020 teachers in Mahara: How can I assess formatively students' cooperation and communication skills?

Example 5: Formative assessment of cooperation and communication skills (pic. 7.7.7): online: https://listovnik.sio.si/group/eufolio-psihologija/kopija-ustvarjalnost-afl

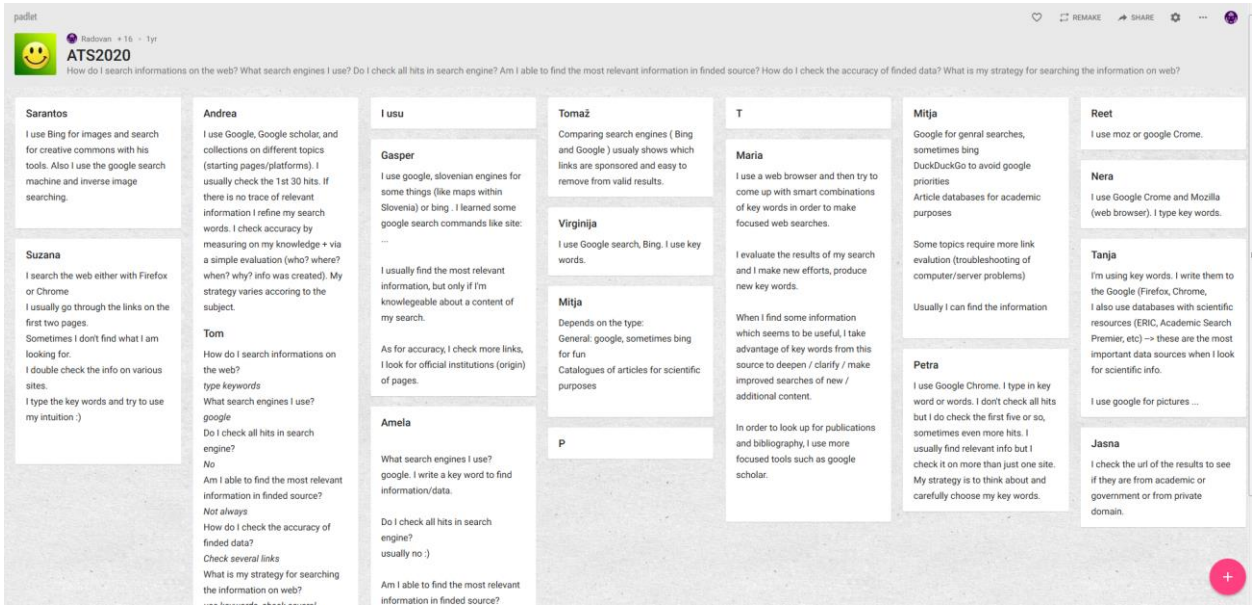


Picture 7.7.7.: Workshop material for ATS2020 teachers in Mahara: How can I assess students' argumentation skills formatively?

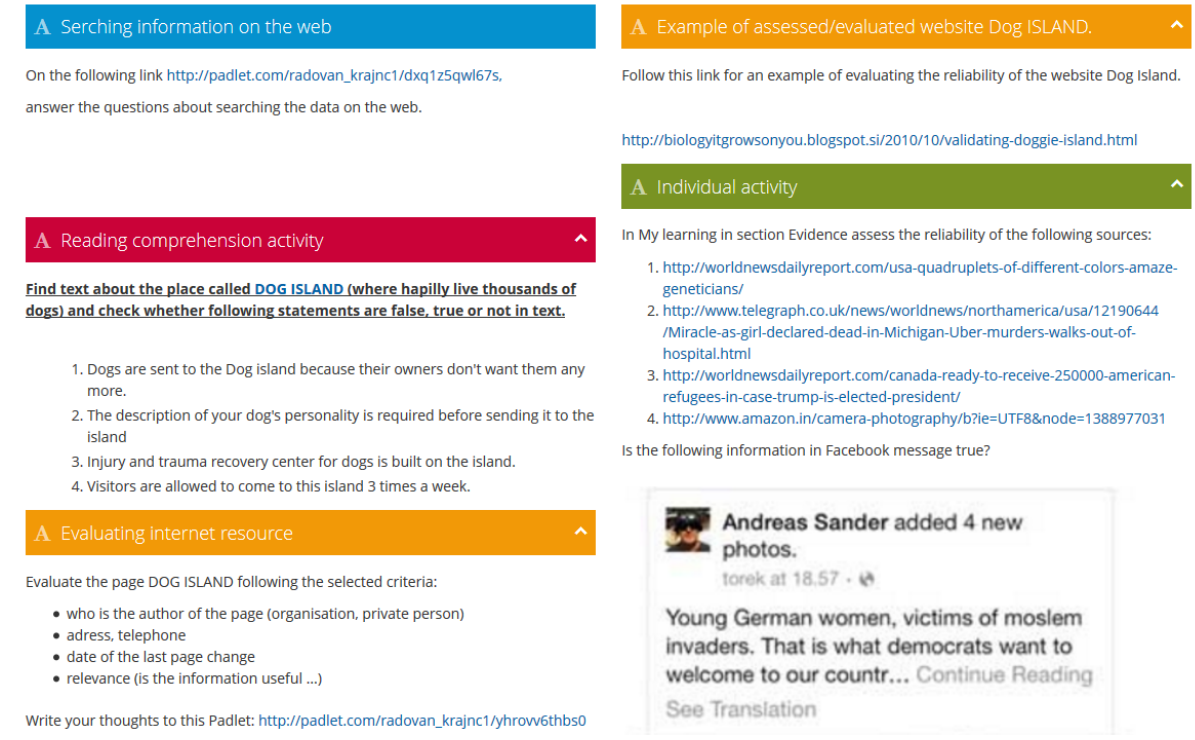
Example 6: Searching/evaluating data and reading comprehension (pic. 7.7.8.–pic. 7.7.13.): online: http://mahara.ats2020.eu/view/view.php?id=669



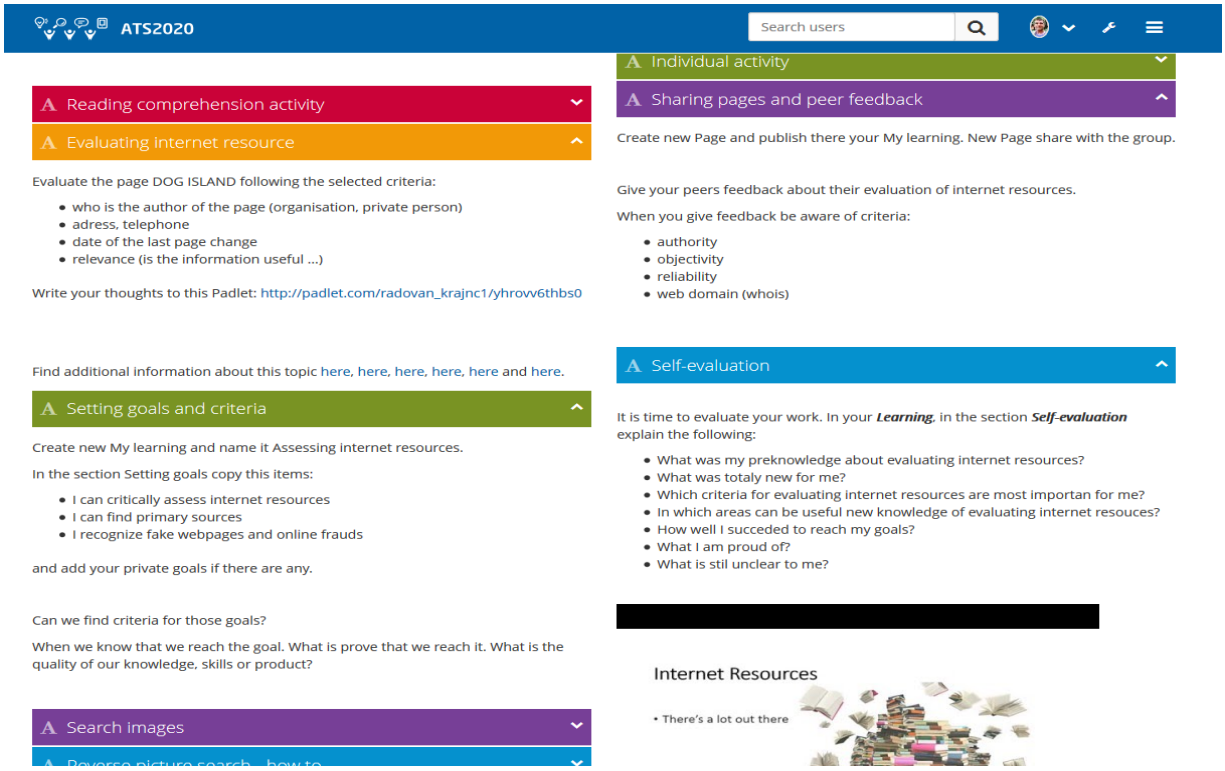
Picture 7.7.8.: The content of workshop about one of ICT skills: searching and evaluating data



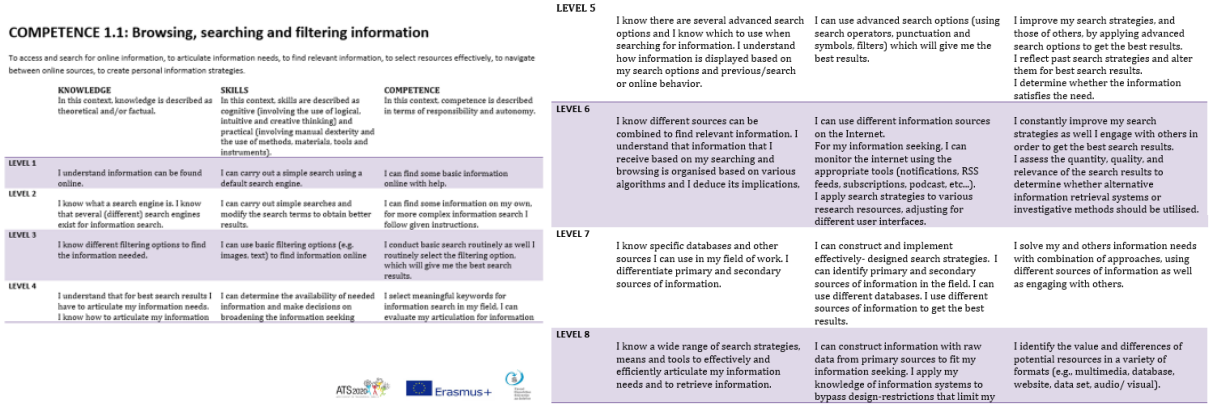
Picture 7.7.9.: The results of workshop – activity 1



Picture 7.7.10.: Content (details) of workshop for learning one of critical thinking skills: searching and evaluating data (part 1)



Picture 6.7.11.: Content (details) of workshop for learning one of critical thinking skills: searching and evaluating data (part 2)

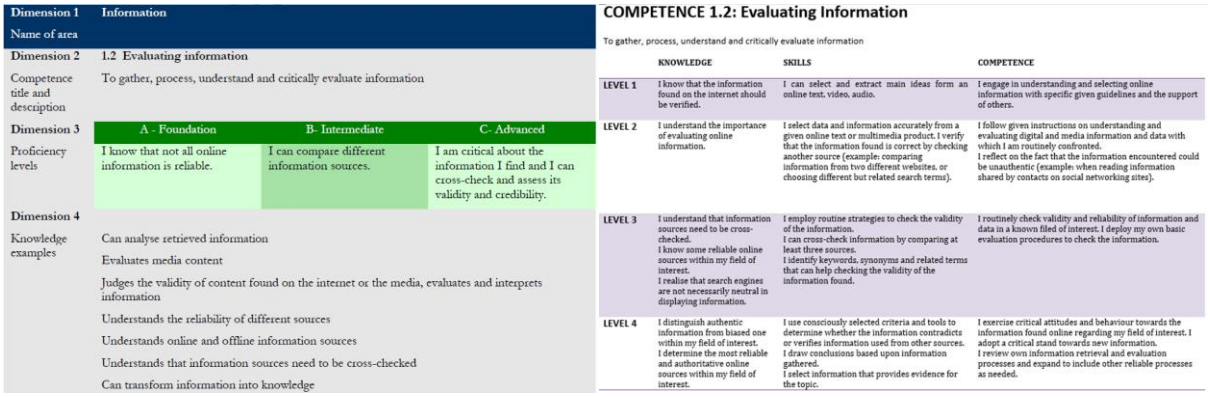


COMPETENCE 1.1: Browsing, searching and filtering information

To access and search for online information, to articulate information needs, to find relevant information, to select resources effectively, to navigate between online sources, to create personal information strategies.

	KNOWLEDGE In this context, knowledge is described as theoretical and/or factual.	SKILLS In this context, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	COMPETENCE In this context, competence is described in terms of responsibility and autonomy.
LEVEL 1	I understand information can be found online.	I can carry out a simple search using a default search engine.	I can find some basic information online with help.
LEVEL 2	I know what a search engine is. I know that several (different) search engines exist for information search.	I can carry out simple searches and modify the search terms to obtain better results.	I can find some information on my own, for more complex information search I follow given instructions.
LEVEL 3	I know different filtering options to find the information needed.	I can use basic filtering options (e.g. images, text) to find information online	I conduct basic search routinely as well I routinely select the filtering option, which will give me the best search results.
LEVEL 4	I understand that for best search results I have to articulate my information needs. I know how to articulate my information	I can determine the availability of needed information and make decisions on broadening the information seeking	I select meaningful keywords for information search in my field. I can evaluate my articulation for information
LEVEL 5	I know there are several advanced search options and I know which to use when searching for information. I understand how information is displayed based on my search options and previous/search or online behavior.	I can use advanced search options (using search operators, punctuation and symbols, filters) which will give me the best results.	I improve my search strategies, and those of others, by applying advanced search options to get the best results. I reflect past search strategies and alter them for best search results. I determine whether the information satisfies the need.
LEVEL 6	I know different sources can be combined to find relevant information. I understand that information that I receive based on my searching and browsing is organised based on various algorithms and I deduce its implications.	I can use different information sources on the Internet. For my information seeking, I can monitor the internet using the appropriate tools (notifications, RSS feeds, subscriptions, podcast, etc...). I apply search strategies to various research resources, adjusting for different user interfaces.	I constantly improve my search strategies as well I engage with others in order to get the best search results. I assess the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilised.
LEVEL 7	I know specific databases and other sources I can use in my field of work. I differentiate primary and secondary sources of information.	I can construct and implement effectively- designed search strategies. I can identify primary and secondary sources of information in the field. I can use different databases. I use different sources of information to get the best results.	I solve my and others information needs with combination of approaches, using different sources of information as well as engaging with others.
LEVEL 8	I know a wide range of search strategies, means and tools to effectively and efficiently articulate my information needs and to retrieve information.	I can construct information with raw data from primary sources to fit my information seeking. I apply my knowledge of information systems to bypass design-restrictions that limit my	I identify the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/ visual).

Picture 7.7.12.: Some additional workshop material: Success criteria for searching and evaluating information skills



Dimension 1 Name of area	Information		
Dimension 2	1.2 Evaluating information		
Competence title and description	To gather, process, understand and critically evaluate information		
Dimension 3	A - Foundation	B- Intermediate	C- Advanced
Proficiency levels	I know that not all online information is reliable.	I can compare different information sources.	I am critical about the information I find and I can cross-check and assess its validity and credibility.
Dimension 4			
Knowledge examples	Can analyse retrieved information Evaluates media content Judges the validity of content found on the internet or the media, evaluates and interprets information Understands the reliability of different sources Understands online and offline information sources Understands that information sources need to be cross-checked Can transform information into knowledge		

COMPETENCE 1.2: Evaluating Information

To gather, process, understand and critically evaluate information

	KNOWLEDGE	SKILLS	COMPETENCE
LEVEL 1	I know that the information found on the internet should be verified.	I can select and extract main ideas form an online text, video, audio.	I engage in understanding and selecting online information with specific given guidelines and the support of others.
LEVEL 2	I understand the importance of evaluating online information.	I select data and information accurately from a given online text or multimedia product. I verify that the information found is correct by checking another source (example: comparing information from two different websites, or choosing different but related search terms).	I follow given instructions on understanding and evaluating digital and media information and data with which I am routinely confronted. I reflect on the fact that the information encountered could be unauthentic (example: when reading information shared by contacts on social networking sites).
LEVEL 3	I understand that information sources need to be cross-checked. I know some reliable online sources within my field of interest. I realise that search engines are not necessarily neutral in displaying information.	I employ routine strategies to check the validity of the information. I can cross-check information by comparing at least three sources. I identify keywords, synonyms and related terms that can help checking the validity of the information found.	I routinely check validity and reliability of information and data in a known filed of interest. I deploy my own basic evaluation procedures to check the information.
LEVEL 4	I distinguish authentic information from biased one within my field of interest. I determine the most reliable and authoritative online sources within my field of interest.	I use consciously selected criteria and tools to determine whether the information contradicts or verifies information used from other sources. I draw conclusions based upon information gathered. I select information that provides evidence for the topic.	I exercise critical attitudes and behaviour towards the information found online regarding my field of interest. I adopt a critical stand towards new information. I review own information retrieval and evaluation processes and expand to include other reliable processes as needed.

Picture 7.7.13.: Some additional workshop material: Success criteria for searching and evaluating information skills