



# ePORTFOLIO OF A STUDENT

Experiences and ideas of Slovenian teachers  
in International project **European ePortfolio Classrooms** (EUfolio)

## ePortfolio of a Student

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European ePortfolio Classrooms (EUfolio)

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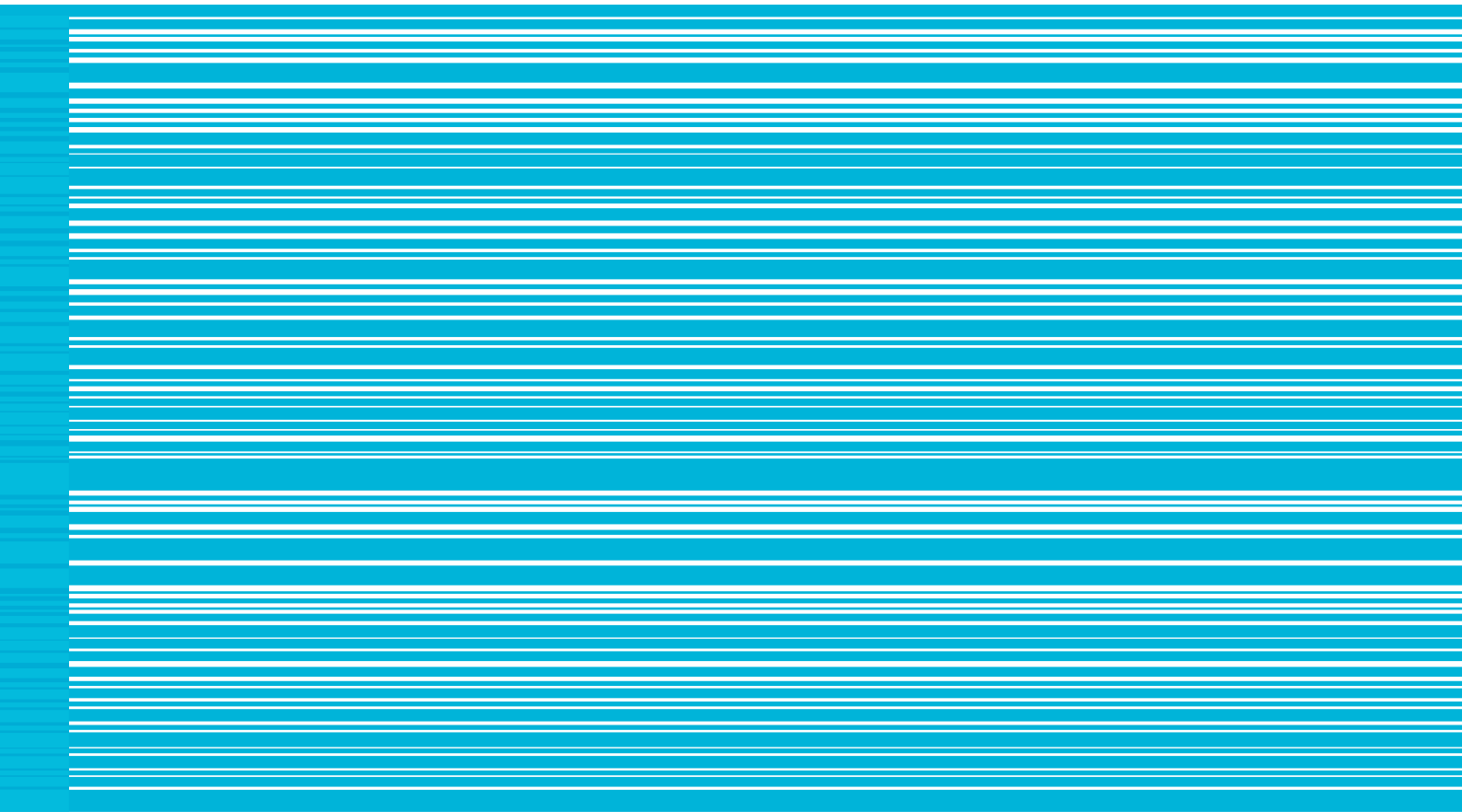
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# Preface

Dear reader,

this publication is a result of very intensive work and cooperation of a group of Slovenian teachers, their students and the National Education Institute team of experts. We have been one of the thirteen partners of the international EUfolio – EU Classroom ePortfolios project team funded by the European Commission.

Our basic aim has been to support students' learning and skill development through the new information-communication technologies. We searched for an answer to the following question: *“How can I as a teacher support my students in their planning, monitoring and evaluating their own learning process, as well as in their assessing their knowledge and skills?”*

This has been quite a big challenge since in our school culture students' responsibility for their own learning is not clearly defined. We decided to systematically involve our students in developing their sense of responsibility and their taking control both of their learning process and of their achievements. The developmental ePortfolio has proved to be just the right approach and a useful tool to stimulate the desired change.

Our work and some of our insights are documented in this publication. We are well aware of the fact that we have made just the first steps and that a lot of further action will be needed to reach our overall aim: the change of the school culture from being teacher-controlled to the culture which is student-centred, that is, the culture where each student can be actively involved in decision making about his/her own learning.

In the first part of the publication, we briefly introduce the theoretical frame of our work and an interim evaluation of our project. In the second part some of our teachers' ideas and experiences with the implementation of the developmental ePortfolio philosophy are presented. Each school team has contributed an example of good practice. Let the examples speak for themselves.

**Tanja Rupnik Vec**, Project manager





# ePORTFOLIO

## AS A TOOL FOR FORMATIVE ASSESSMENT OF KNOWLEDGE AND SKILLS

Tanja Rupnik Vec • Leonida Novak



# 1 EUfolio project\*

## 1.1 Introduction

The *European ePortfolio Classrooms (EUfolio)* project started in May 2013 when thirteen institutions from seven countries combined their interest in electronic portfolios as a tool for fostering students' learning. In this article we address two basic aims of the project: (1) to design ePortfolio models for teaching, learning and assessment use, and (2) to apply valuable real-life lessons for integrating the use of ICT (specifically the portfolio approach) in teaching, learning and assessment processes. Cyprus, Ireland, Lithuania, Slovenia and Spain are the piloting countries working with teachers and supporting them in the processes of students' ePortfolio implementation. More about the project in general can be read at [www.eufolio.eu](http://www.eufolio.eu).

This chapter includes an outline of the Slovenian experience with the implementation of ePortfolio as a formative assessment tool, followed by a description of the support provided (teacher training) and explanation of some aspects of the project evaluation findings.

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\* This article was presented on ePIC ePortfolio and Identity Conference 2014, July 9-11, 2014 in London, UK.

## 1.2 Slovenian pilot project

The basic aim of the Slovenian pilot is implementing formative assessment (or assessment for learning) of student knowledge and skills with the support of the developmental ePortfolio. Through the process of ePortfolio implementation, teachers support their students' self-regulation skills, their critical thinking skills (argumentation, working with resources), as well as creativity, communication and cooperation. The participating teachers' developmental-research question was: *"How to use an ePortfolio to empower students to plan, monitor and evaluate their own progress at different stages of their knowledge and skills development?"*

The key concepts and philosophy at the core of our work are based on research findings about formative assessment (Wiliam, 2011, 2013, Clark, 2008, Black and Wiliam, 1998, Marsh, 2009, Komljanc, 2008), developmental and reflective electronic portfolio (Giannandrea, 2006, Ross in Graham, 2006, Rupnik Vec in Stanojev, 2011, 2013), experiential learning (Kolb, 1984), self-regulated learning (Zimmermann, 2001, in Pečjak and Košir, 2002), and 21<sup>st</sup> century skills: critical thinking (Facione, 1998, Bowel and Kamp, 2002, Marzano, 1988), cooperation and communication (Hattie, 2009, de Corte, 2013, Marentič Požarnik, 2000, Peklaj, 2001, Rupnik and Celin, 2013, Devjak etc., 2009) and creativity (Seelig, 2012). All teacher trainings, and consequently their work in the classroom are based on the assumption that these concepts are relevant because they are based on strong empirical evidence.

There are 15 schools participating in the Slovenian pilot project (13 upper primary schools with students aged between 11 and 14, and two high schools with students aged between 15 and 19). Each school has formed a project team consisting of about four to seven teachers, all of which implement the developmental ePortfolio in their classes (altogether 80 teachers and one or two classes per school).

## 1.3 Developmental ePortfolio

### Definition of developmental ePortfolio of a student

There are different terms and definitions of an ePortfolio in educational and scientific literature. It can be described as a means of collecting (formal and informal) evidence of achieved knowledge and skills for the purpose of self-presentation (career ePortfolio or showcase ePortfolio). Grant (2005, in Giannandrea, 2006) shows how definitions of an ePortfolio stretch between



more traditional and more contemporary views. In earlier cases ePortfolio used to be defined as a means of collecting formal proofs of learning. Contemporary definitions conceptualise an ePortfolio as a description/demonstration of learning paths, career, experiences and achievements. The basic aim of such an ePortfolio is to improve student's learning through the processes of self-reflection of his/her own learning and interaction with others.

Barrett (2001, in Lambert, 2006) distinguishes between three basic aims of the ePortfolio in education – learning, assessment and presentation. A learning ePortfolio is formative in nature and is directed towards personal development of students through self-reflection and self-evaluation. An assessment ePortfolio includes students' reflection on their school experiences, activities and a selection of evidences, which demonstrate their skills development with the purpose of assessment. According to Barrett, the third aim of ePortfolio is self-presentation for the purpose of searching employment.

Baumgartner (2011) formed a taxonomy which distinguishes between 12 types of ePortfolios. The highest level of his taxonomy is represented by a reflection, development and presentation portfolio. Each type can be further subdivided, depending on who owns it (depending on its author). The two types of the reflection ePortfolio are a) personal portfolio (learning ePortfolio), with the basic aim of knowledge and competences acquisition and b) the organizational ePortfolio (assessment ePortfolio), focusing on evaluation of knowledge and competences. The two types of the developmental portfolio are a personal developmental portfolio (it supports development of student's personality) and a career portfolio (it is organizational and supports professional career). The personal alternative of the presentation portfolio is a demonstration portfolio, with the basic aim to demonstrate one's own products and competences. The organizational alternative of the presentation portfolio is a professional portfolio, with the main aim to demonstrate business products and competencies. There is also the third level of differentiation of ePortfolios, regarding the products and processes behind. So, for example, an assessment portfolio can be summative or formative in nature and a developmental portfolio can be a qualification portfolio (showing results/products of skills and abilities) and a competence portfolio (e.g. showing author's self-organization and other competencies).

The concept of our (Slovenian) ePortfolio is based on the combination of all three Baumgartner's types of ePortfolios with a slightly stronger accent on its developmental function (reflection being at the core of conscious and planned self-development). For the purpose of our project aims, the developmental ePortfolio of a student represents a virtual learning environment in which a student plans, monitors, reflects and evaluates his/her own work and progress, particularly knowledge and skills. This definition is based on the previous definition of a developmental ePortfolio of a teacher (Rupnik Vec in Stanojev, 2013). The most important function of an ePortfolio, as we

define it, is its developmental-reflective function, or its potential for supporting self-development in planning, and for reflective and self-evaluative processes of an individual. In this process an individual takes on the responsibility and cares for his/her own learning, progress and development, as well as plans and implements it systematically. Besides, this process enables each student to raise his/her awareness of his/her own learning needs, learning styles, which enables the student to plan and monitor his/her individual learning path more efficiently.

## Developmental ePortfolio as a tool for formative assessment of knowledge and skills

Assessment for learning (AfL) includes two phases: diagnostic and formative assessment. The latter should be based on a variety of information sources (e.g. portfolios, work in progress, conversation, student-teacher conferences etc.). (Sentočnik, 2012) According to Clarke (2008), formative assessment is recognised as an important strategy for raising student's achievement. For the purpose of the Slovenian Eufolio project, AfL is defined as a group of strategies (William, 2013) which focus on:

- participation of students in defining the learning purposes and determining the success criteria,
- building on students' prior knowledge,
- providing effective feedback,
- collection of diverse evidence of learning,
- peer-learning as a source of learning and teaching,
- self-evaluation for self-regulation of learning.

One of the two general aims of the ePortfolio pilot in Slovenia is implementation of the assessment for learning (AfL) or formative assessment (FA) principles using the ePortfolio, in which teachers encourage students to self-evaluate their knowledge and skills. Doing so, students get an opportunity to identify their strengths and weaknesses and then, considering their findings, they specify their personal goals and success criteria in the context of the goals set by their teachers. With formative assessment, knowledge is built on student's strengths and his personal interests (Komljanc, 2008). Student's strong background knowledge can help reduce his/her weaknesses and explore new knowledge. A student is directed towards a personal goal, described as an expected result, adjusted to the curriculum standards of knowledge (Komljanc, 2009).

For the purpose of ePortfolio creation and organisation of the above mentioned activities an open code application Mahara has been used with a new feature, *My learning* marker, that was programmed and integrated into its Slovenian version, following the AfL principles.

## The feature consists of the following five elements:

### a) Aims of learning

Bandura (1997: 11) shows that emotions, effort, perseverance and learning affect an individual's assessment of learning effectiveness. With this in mind, we can say that motivational factors and emotions have a major indirect influence on student's learning achievements. Students should be assisted in setting realistic goals. When the student internalises the goal that he himself has set, reaching this goal encourages his motivation. When students see how the goals are supposed to be set and eventually reached, their self-esteem improves and they take on greater responsibility. Achieving short-term goals helps the student gain a sense of self-efficacy. Komljanc (2009) argues that personal goals offer opportunities for independent and collective learning and performance outcomes respectively. To have maximum impact, success criteria must be generated by students (Clark, 2008: 93). Different tools and procedures for co-planning goals and success criteria, such as sample case studies, discussions etc., can be used.

### b) Prior knowledge

Planning learning goals needs to be focused on what students already know, what they want to know (knowledge), what skills they want to develop (processes), and what learning strategies they will use (Clark, 2008: 71). Activating prior knowledge should include (Pintrich, 2005): content knowledge (*What?* – information, data, facts, concepts, schemes), procedural knowledge (*Know how?* – how to perform certain things) and awareness of the circumstances (*When and how to use the content knowledge?*). The options that are explored range from questionnaires, role plays, records, reports about *What do I already know?*, check lists to group conversations.

### c) Strategies

On basis of student's prior knowledge, the teacher plans strategies and methods of work. Students and teachers jointly select, plan, implement, and evaluate instructional paths and approaches through which students can attain the standards of knowledge – with the personal goal of the learner in mind.

### d) Evidence

The student considers ways of proving that the planned objective is achieved. Through the process of learning and reflection, he assesses the proof of his learning and identifies the goal reached.

### e) Self-assessment

Teachers organise discussions based on students' ePortfolios about their achievements, which prove that the objectives were reached, so students can choose the evidence they want to use for each goal. During the stage of self-reflection, students use a variety of devices (cues, questionnaires etc.) and receive feedback (from teachers, classmates). Options for implementation:

anecdotal records, checklists, learning diaries/blog feedback, reflection and goal-setting diaries/blogs, questionnaires, reflective letters etc.

Portfolio is a demonstration of student's progress, achieved with quality formative assessment of a teacher, parent's encouragement and the use of different sources and learning opportunities (Komljanc, 2009). During the assessment for learning (AfL) or formative assessment (FA) process, as we define it, teachers encourage students to evaluate their knowledge and skills prior to portfolio introduction. By doing so, students get an opportunity to identify their strengths and weaknesses and then, considering their findings, they specify their personal goals and success criteria in the context of teachers' (curriculum) goals. Teachers organise discussions about students' achievements, which prove that the objectives were reached, so students have the opportunity to choose the kind of evidence they want to use for each goal. During the stage of self-reflection, students use a variety of devices (cues, methods, questionnaires etc.) and feedback (from teacher, classmates etc.) throughout all stages of the learning process. It is essential the student receives feedback which is specific, descriptive, and relates to the student's intended goals. Checking their success against the set criteria helps students to reorganise what they have done, and empowers them to decide what they want to do on their way towards the learning goals and success criteria (Sentočnik, 2012).

## **Mahara as a virtual space for creating developmental ePortfolio**

For the purpose of developing the full potential of our project work, we used an open coded web application Mahara. It was developed in New Zealand for the purpose of creating ePortfolios, and it suits most of the needs of our project. Our programme manager upgraded Mahara with two new functionalities: *Questionnaires* and *My Learning* marker. The latter directly supports the formative assessment process and guides student's thinking (e.g. about an issue or a skill) through the following five steps: 1. setting goals (*What are my goals?*), 2. activating prior knowledge/skills (*What I already know about this? What am I already able to do? How good am I at this particular skill now?*), 3. strategy setting (*How will I reach this goal?*); 4. evidence (*How will I prove that I have reached the goal?*), 5. self-evaluation, feedback (*How effective was I in reaching my goals?*).

## 1.4 Initial teacher training, further trainings and support for ePortfolio implementation in Slovenian pilot schools

### Pre-implementation training and support

The pre-implementation teacher training and support program focused on the following three topics: *developmental ePortfolio of a teacher*, *formative assessment* and *21<sup>st</sup> century skills*.

#### **Developmental ePortfolio of a teacher**

A hybrid (half live and half on-line) seminar with the title *Developmental ePortfolio of a teacher* was organised by the strategic team of the National Education Institute of Slovenia. The seminar attendance was a necessary precondition for a teacher to participate in the EUfolio project team. The decision to invite all the interested teachers to this initial seminar was based on the assumption that teachers' experience in creating their own ePortfolio would be very helpful in their grasping of the essence of the developmental ePortfolio as well as some other background theoretical concepts (for example, assessment for learning, self-reflection and self-regulation skills), and, later on, in planning, teaching and designing learning activities for their students. The seminar was expected to have a strong positive impact on teachers' self-reflection and self-regulation skills.

The seminar consisted of three parts:

1. getting to know and understand the ePortfolio concept and considering the Mahara functionalities as one of the possible ePortfolio platforms;
2. nine activities were organised in three groups, focusing on different aspects of teacher's professional role and professional development (the first group of tasks, *Me as a teacher*, explored questions like Who am I as a professional?, My philosophy of teaching, My strengths and my weaknesses; the second group of tasks, *My professional plans and my professional learning*, focused on topics such as My professional vision, My short-term goals, Learning from each other; and the third group of tasks, *My achievements and my successes*, looked at teachers' formal achievements and e-competencies);

3. exchanging ideas, reflecting on the seminar outcomes, using the critical friendship method regarding teachers' early plans to use the ePortfolio in their teaching.

### **Teacher training for integration of formative assessment philosophy into ePortfolio**

As mentioned before, one of the two major aims of the ePortfolio pilot in Slovenia is implementation of formative assessment (FA) principles in using the ePortfolio (Mahara). A one-day workshop was organised in order to discuss the FA theoretical framework as well as to share examples of good practice and exchange some of the initial ideas about how to support the assessment for learning processes with the Mahara features.

As the Slovenian version of Mahara ([www.listovnik.si](http://www.listovnik.si)) contains an extra feature *My Learning* tab, which was created with the specific aim of supporting the assessment for learning process, the main workshop challenge was to discuss the possibilities of integrating this feature in the teaching and learning processes.

### **Teacher training for using an ePortfolio as a tool for supporting (some of) the 21<sup>st</sup> century skills**

The third very important aim of the Slovenian pilot is using ePortfolio as a tool for enhancing some of the 21<sup>st</sup> century skills, in particular 1. self-regulation, 2. critical thinking (argumentation and working with resources), 3. creativity, and 4. cooperation and communication skills. Two 6-hour workshops were organised, focusing on each of these skills (eight workshops altogether). The members of the school development teams chose to work on one of the above mentioned skills and participated in both workshops. The first of the two planned workshops, focusing on a specific skill, was implemented as a pre-pilot activity, while the second one was run within the pilot stage. The seminar programme was designed to cover the theoretical background (ex. 1) - different theoretical concepts of each skill, and then focusing on one single perspective; 2) examples of good practice – case studies, 3) putting the skill in the context of FA and ePortfolio philosophy – using the *My learning* tab in Mahara, 4) planning different strategies in motivating and supporting students to define their own goals, prior knowledge, learning strategies, evidence and self-reflection; planning activities for a concrete curriculum content and exchanging ideas.

### **Supporting teachers during the pilot implementation**

During the pilot implementation the NEI staff supports teachers in two ways: a. we organise regular meetings of school project team members with a NEI consultant (each school has their own consultant) and b. we organise workshops to exchange ideas and teachers' solutions and to enhance their understanding and skills of using the ePortfolio in teaching. The basic aim of these reflective meetings is to support teachers when things seem



complicated to them and to guide their thinking in the desired directions. As integration of the theoretical background and concepts (developmental ePortfolio, FA philosophy, explicit teaching of 21<sup>st</sup> century skills) proved to be quite a complex task for the majority of the participating teachers, our meetings with these small teams were organised on monthly basis.

With the aim of deepening teachers' knowledge and skills in all the above mentioned concepts (FA, teaching of skills, integrating both in using the ePortfolio), a number of workshops were planned. The following during-implementation workshops have been carried out so far: 1. intensifying the use of Mahara and of some other ICT applications useful in teaching (Socrative, Jing etc.), 2. How to use ePortfolio to support the development of students' 21<sup>st</sup> century skills? – exchanging teachers' ideas.

The teachers' reports and materials, created in the first cycle (out of the three planned cycles) of their teaching based on the Slovenian Pilot theoretical concept, are stored in the Eufolio web classroom ([www.sio.si](http://www.sio.si) Eufolio).

Some of them are planned to be translated and accessible at the Slovenian Eufolio web page in near future (in preparation at the moment).

### **Future plans**

The ePortfolio as a part of the Slovenian pilot (with the Mahara platform) has been conceptualised as a personal learning, reflective and self-assessment space of an individual student in which he/she can plan, do, monitor and reflect on his/her learning progress in different areas of knowledge and skills. In other words, the Mahara platform has been used primarily for self-reflection and self-regulation of single student's learning. Cooperation and sharing of the content has been made 'subordinate' or secondary to this aim.

During the next stage of the Slovenian pilot, we want to test the Mahara platform as a space for collaborative learning (as a web classroom), therefore we plan another set of workshops and reflective meetings to successfully fulfill this goal. Finally, we are planning to invite teachers to test the MS Office as a platform for creating the ePortfolio of a student.





## 2 Project evaluation

### 2.1 Aims of the evaluation and the methodology used

Our project evaluation aims at answering the following two questions:

- a) How did the teachers experience their first-year of ePortfolio implementation?
- b) How is the basic concept (formative assessment) reflected in teachers' lesson planning? To what extent and how often do teachers plan to implement the key concepts of the project (working with ePortfolio, the AfL and the development of 21<sup>st</sup> century skills)?

With the first research question in mind, eight focus groups (33 teachers) were interviewed. Each focus group included project team members from one school. The interview was subdivided into the following five themes (discussion areas):

1. Looking back
2. The role of formative assessment in teaching
3. Implementing developmental ePortfolio: strengths and weaknesses
4. Reactions of pupils
5. Challenges for the future.

The exact questions for each theme are included in Appendix 1.

With the second research question in mind, 40 learning design templates\*\* were analysed. Four times a year teachers uploaded their data in Moodle, including their learning design samples. A sample of 40 lesson plans was selected to be analysed. The sample captured the lesson design templates of 14 different school subjects. All learning design templates included the learning topics covered during a period of 3 up to 10 hours of instruction.

Teachers were recommended which basic elements to include in the learning design templates (i.e. learning goals and outcomes/activities and tasks for learners, teachers, operations, tools, methods, and expected learning outcomes). Along with the learning design templates, accompanying rubrics with defined areas of assessment criteria and descriptors were designed.

The outline of the learning design templates included the elements related to the three essential concepts of the project (working with ePortfolio, the AFL and students' development of 21<sup>st</sup> century skills).

We were particularly interested in finding out whether the stage when school teachers include ePortfolio is evident in their lesson plans. Besides, we researched which components of ePortfolio teachers most frequently choose, the extent to which they systematically plan the integration of the principles of AfL, as well as how intensively and systematically teachers integrate evaluation of the development of 21<sup>st</sup> century skills in their learning design templates.

The formative assessment component checklist focused on checking teachers' approaches (as well as presence or absence) to activating students' previous knowledge, goal-planning and determining success criteria, designing learning strategies, collecting and assessing evidence of learning and self-evaluation. In addition, we checked if feedback was included in all stages, who provided feedback and what the planned feedback was directed at.

The elements observed in relation to ePortfolio (Mahara) were the following: frequency and diversity of involvement of blogs, diaries, forum, *My Learning* tab, use of Mahara as a virtual classroom etc.

Integration of the 21<sup>st</sup> century skills was observed by looking at evidence of involvement of *My learning* tab in a particular skill development as well

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\*\* The term learning design template refers to teachers' lesson planning focused on learning.

as by looking at evidence of alignment between formative assessment, the methods designed, and the target skills.

The collected data made it possible for us to observe frequency of integration of the essential elements in the development of the project design, assess the purposefulness of ePortfolio implementation in education, evaluate the impact of the formative assessment approach, have insight into intermediate results of the project implementation, and plan objectives for further education of teachers.

## 2.2 Results of the evaluation

### 2.2.1 Focus group interviews

The overarching question addressed by the focus group interviews was: *How did the teachers experience their first year of ePortfolio implementation?*

#### Looking back

The first group of questions aimed at teachers' conceptions of formative assessment and ePortfolio before they entered the EUfolio project.

The analysis of teachers' responses shows that they either have no knowledge at all or that they have very superficial knowledge or that they have just different concepts about formative assessment and ePortfolio (in comparison to ours). In two focus groups some teachers understand the formative assessment as a teacher's document:

“ I understand formative assessment as a notebook in which I record student's mistakes. Student are not actively involved in the process.”

In case they are familiar with the idea of ePortfolio, they define it as a collection of learning proofs and results (showcase ePortfolio). Some of the teachers intuitively used some elements of formative assessment (feedback as an example). Here are two examples of teachers' reflections:

“ I regularly give feedback and suggest some students with learning problems how to improve their learning, but I have never done this systematically.”

“ I used formative assessment when I worked with students with special needs in the sense that I supported analysis of their work and mistakes and planning the future steps.”

Similarly, they also didn't teach the 21<sup>st</sup> century skills systematically and explicitly before starting the project. Seven out of 33 interviewed teachers said that they didn't pay any attention to the chosen skill. Seven did it occasionally.

At the start of the project, the biggest challenge was the use of ICT (mentioned by eleven teachers). Teachers faced various challenges such as having difficulties starting with assessment for learning, time management, making sense of using ePortfolio for children and integration of all the new concepts (ICT, formative assessment, explicit teaching of 21<sup>st</sup> century skills). None of the participating teachers used ePortfolio to support formative assessment or 21<sup>st</sup> century skills before. Some teachers did use Moodle classrooms and other ICT tools but not as a tool for formative assessment or skill development.

### **The role of formative assessment in teaching**

The second group of questions focused on the actual concept of formative assessment (FA). We were originally interested in potential changes of teachers' attitudes towards the phenomenon. We asked them about their perception of the role of formative assessment after a year of implementation.

20 out of 33 interviewed teachers see formative assessment as a very important process with the crucial aim to support student's self-regulation of his or her work, learning and achievement.

Here are some quotes from this section:

“FA is something that I must develop further. It's a challenge for me, I want to make it really become alive in my teaching. It's something that I believe in with all my heart, because it helps children to control their learning.”

“It's important. It's becoming my style of teaching and I want to transfer the idea into other non-project classrooms, too.”

“For me the FA is planned learning with a view backward and forward.”

“The point of FA is the change in teaching and learning: students are active, they learn to learn, they are independent, more critical, more responsible and hard working.”

“FA is a tool for empowering children. It would be great if our system supported it from the beginning of schooling.”

Eight teachers find self-reflection the most important element of formative assessment. Five teachers believe that all elements are equally important. The rest of the answers include other categories: planning strategies of learning, raising awareness of prior knowledge, getting and giving feedback and goal setting. Nobody mentioned cooperative designing of success criteria.

### **Implementing developmental ePortfolio: strengths and weaknesses**

The next theme was ePortfolio implementation: the strengths and weaknesses. In most project teams teachers invited children to Mahara and engaged them in some fun activities: *create an interesting profile, chat, form groups*. They introduced Mahara as a social network:

*“ Mahara is like Facebook. ... We will socialise with each other, share things and learn in this web setting.”*

The biggest challenge was Mahara itself, as was argued by nine teachers. Five teachers explicitly stated that even after one year they have some difficulty using it. Teachers in two project teams have changed the perspective and can now see the benefits of ePortfolio even though they thought at the beginning of the project that they would abandon it and use just (the non-e) portfolio as a FA tool:

First team:

*“ ePortfolio is fine. FA can be without ePortfolio, but we will implement it in future in lower classes. We are going to start without the e-version, on paper maybe, but in higher classes we will definitely use ePortfolio.”*

Second team:

*“ At the beginning we saw the ePortfolio as a real obstacle, for us. FA process was more important. We decided that FA will stay and ePortfolio will go away after the project. But now we see how precious it is. We will keep it definitely in the future.”*

For four teachers ePortfolio is not so important, but for the rest it is quite important because it stimulates some new processes in the classroom (giving feedback, reflection, goal setting, motivation of students, a student is more active, teaching is more student-centered). Nine teachers mentioned *My Learning* feature in Mahara as a really useful function to direct students' thinking throughout the whole learning process and to support self-regulation of their learning. Following the FA process systematically is mentioned as the biggest change in their teaching (12 teachers). Here are some examples of teachers' responses:

“ We follow the phases of formative assessment systematically and we involve children throughout all stages.”

“ Children work more autonomously, they set goals and take responsibility for their learning. That was absolutely not true before.”

Teachers differ also in their specific goals in the project. In three teams teachers wanted just “to survive”, for them “/.../ the integration of all new concepts was really a challenge”. Seven teachers specifically wanted to co-create goals and success criteria with their pupils and they were successful at this, one of them wanted to work on feedback and one wanted “to pass more responsibility for learning to the child.” All teachers with specified goals mentioned that they want to continue developing these new skills. Seven teachers are very proud of the fact that they can use *My Learning* feature successfully with their pupils. They are also proud of their own learning in the project:

“ I’m proud of my learning, I progressed from cycle to cycle. After the third cycle in Mahara I feel really good.”,

“ I’m proud of the fact, that in this project I stepped out of my daily routine in the classroom.”

### Reactions of pupils

The responses of children to FA and ePortfolio (Mahara) varied from rejection to enthusiasm, but the majority finally accepted the tool. Some were enthusiastic about Mahara at the beginning, but later some technical problems demotivated them. Nevertheless, as teachers told us, the use of *My Learning* feature is now becoming a routine:

“ Motivation also depends on the kind of activity and on how it progresses throughout the cycle.”

“ Children become better in their ability to articulate things.”

### Challenges for the future

The last interview theme focused on teachers’ views of the future. The most frequent answer (9) was: “We want to spread the idea of FA and ePortfolio in other classrooms.” Seven teachers want to use Mahara also as a web classroom, other seven of them want to use *My Learning* feature more systematically. Examples of other answers reflect specific insights and learning of teachers:

“ I noticed how giving constructive and specific feedback is important for children. I want to improve my skill of giving strong feedback.”

“ I want to be more flexible and to learn how to consider and build on children’s prior knowledge in my lesson design.”

The last question was: If you could influence educational policy in your country, would you support the idea about obligatory/mandatory ‘top down’ implementation of formative assessment and ePortfolio? In all project teams teachers support obligatory implementation of formative assessment, though not necessarily with support of ePortfolio:

“ ePortfolio should be optional.”

“ Before obligatory implementation of ePortfolio we should give it more meaning.”

“ Our syllabuses are too full of themes and facts. For ePortfolio implementation we should get rid of unimportant content and then, ePortfolio: yes!”

## 2.2.2 Analysis of teachers’ learning design templates

The overarching question addressed by the learning design template analysis was: *To what extent and how often do teachers plan to implement the key concepts of the project (working with ePortfolio, the AFL and the development of 21<sup>st</sup> century skills)?*

### Integration of elements of the formative assessment process in the learning design templates

40 teachers’ learning design templates were analysed. We found out that the majority of teachers whose learning design templates were analysed (table 1) included elements of formative assessment. Differences among teachers can be traced in all phases of instruction. A more detailed analysis shows that 31 teachers checked students’ prior knowledge, the remaining 9 teachers didn’t. Planning goals with the students was indicated in 39 out of 40 cases. Somewhat fewer lesson plans include learning strategies (25). Fewer than half (19) templates indicate teachers’ collecting evidence of learning and considering it as evidence of progress. The great majority (39) of teachers included an element of self-evaluation in their lesson designs. We noticed that 31 teachers explicitly planned giving feedback about children’s work (results). Teacher to student feedback is the most frequently



planned kind of feedback. Fewer teachers (15) planned the exchange of feedback among students (peer feedback). Teachers rarely planned giving feedback on prior knowledge, skills and learner's progress. In the templates that involve feedback, it aims at addressing goals and strategies (9) and collecting evidence of learning (9).

**Table 1:**  
**Criteria and descriptors for the analysis of learning design templates**  
**in terms of AfL**

Area of evaluation	Criteria	Frequencies				
		Included		Not included		
AFL elements	Prior knowledge	INCLUDED: 31		NOT INCLUDED: 9		
	Planning goals and success criteria	INCLUDED: 39		NOT INCLUDED: 1		
	Planning strategies	INCLUDED: 23		NOT INCLUDED: 18		
	Evidence of learning	INCLUDED: 19		NOT INCLUDED: 21		
	Self-evaluation	INCLUDED: 39		NOT INCLUDED: 1		
	Feedback					
	Evidence of feedback	YES: 31		NO: 9		
	Who?	teacher to learner = 28	learner to learner = 15	learner to teacher = 0		
	On what?	Prior knowledge = 3	Planning goals and strategies = 9	Evidence of learning = 9	Skill = 1	Progress = 0

The analysis of the learning design templates from the point of view of formative assessment, shows that teachers recognise the importance of each element, while the greatest emphasis is placed on planning goals, strategies and self-evaluation. Prior knowledge is included, though teachers do not plan the analysis of the results which would determine students' prior knowledge and which would be essential for further learning process.



Teacher-to-learner feedback is planned more often than peer feedback. With their planning, teachers show that feedback is more frequently directed to the learner's plan and to the gathered evidences than to the process and progress.

### Integration of ePortfolio (Mahara) functions in the learning design templates

The analysis of data shows that teachers largely rely on *My Learning* tab (in 35 out of 40 cases) (table 2). Forums and blogs are quite frequently planned. Lessons planned with the Mahara as a cooperative learning environment were not detected in the observed cases.

**Table 2:**  
Criteria for the analysis of lesson plans in terms of frequency of ePortfolio tools

Area of evaluation	Criteria	Frequencies	
		Included	Not included
ePortfolio tools	Blog	INCLUDED = 6	NOT INCLUDED = 34
	Forum	INCLUDED = 10	NOT INCLUDED = 30
	My learning tab	INCLUDED = 35	NOT INCLUDED = 4
	Mahara as a virtual classroom	INCLUDED = 0	NOT INCLUDED = 40
	Other: Files	INCLUDED = 19	

The analysis suggests that *My learning* tab was a far most frequently used ePortfolio tool. We believe the results reflect thorough preparation of teachers for integration of the AFL elements in working with ePortfolio. In addition, Mahara allows implementation of teaching and learning processes in the form of a virtual classroom, which the teachers involved in the project did not use before.

### Integration of elements of the 21<sup>st</sup> century skills in the learning design templates

Four out of 40 templates include the development of 21<sup>st</sup> century skills, i.e. through the *My Learning* tab (Table 3). Teachers rarely (4) report using *My learning* tab in order to support the development of the target skill. The methods used are designed to support the target skill development. For example, creative writing, evaluating and questioning were used to support the skill of critical thinking (6), solving problems and creating new cases supported creativity (4), collaborative learning and pair work were used to develop cooperation and communication skills (4), while working with sources and using quotations helped students at working with resources (3).

**Table 3:**  
**Criteria and descriptors for the analysis of lesson plans related to skills development**

Area of evaluation	Criteria	Frequencies			
		Included		Not included	
21 <sup>st</sup> century skills	My Learning – self-regulation of skill	YES = 4		NO = 36	
	AFL aimed at developing skills	YES = 4		NO = 28	
	The method used to develop skills	<b>Critical thinking</b>  Creative writing, real-life problems (2)  Evaluation (2)  Questioning (2)  Work with text (1)  Round Table (1)	<b>Working with resources</b>  Resource use  Working with resources – citations (1)	<b>Creativity</b>  Solving an open problem (2)  Creating a voice/ Dance accompaniment/ choreography (2)	<b>Cooperation &amp; communication</b>  Group work Collaborative learning (4)

The analysis of the learning design templates shows that, rather than the development of skills, teachers' most frequent target in the formative assessment and ePortfolio implementation processes is *My Learning* tab. ePortfolio is quite effectively included in the planning, as it allows teachers to keep track of the key elements of formative assessment. Since the majority of cases show lack of careful planning or evaluation of students' progress

in skill development, more emphasis on explicit teaching of the 21<sup>st</sup> century skills will be necessary in the future. The areas we will need to work on are teachers' perception of the role of students' prior knowledge, their ability to identify and evaluate students' prior knowledge, peer feedback and more thoughtful skill development, supported with ePortfolio. In the future the project will be directed towards closing these gaps.

## 2.3 Conclusion

It is evident that some changes in teaching are being introduced by Slovenian EUfolio teachers this year. From the NEI staff perspective, most of the reported changes are relevant and related to the aims of our project. Firstly, all the teachers have implemented some elements of formative assessment (as reported in the interviews and as it is evident from their learning design templates). Secondly, all the teachers organised activities for their students to create some elements of ePortfolio in a virtual classroom at least four times. This means that about 350 Slovenian students have their own ePortfolios with some content (and so do all our teachers, but it's not the topic of this article). 350 students have completed *My Learning tab* at least three times (in Mahara and, occasionally, on paper), and have some experience with self-regulation of their own learning. This is quite an important experience for both our teachers and our students, as in Slovenian school culture the responsibility for learning is not clearly defined. In fact, teachers often take too much responsibility for students' learning (they control every child's move and push them to work and learn) and, as a result, students take less responsibility for their learning as well as for the achieved results (they wait to be pushed and attribute guilt for their failure to teachers). Therefore, one of the most relevant, though not articulated, goal of our project is to influence this tacit culture-related assumption. We believe that formative assessment with the help of ePortfolio is a strong tool to help us reach the goal. Our project, of course, is only just beginning: one year is certainly not enough and one project with a limited number of teachers involved is not enough either. It might take some time, but we are convinced it is worth the effort.

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## Appendix 1

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### **Focus group interview – examples of questions**

#### **Looking back**

How did you understand the concept of formative assessment before entering the EUfolio project? What were the biggest challenges for you at the beginning of the project? How did you experience your start ...?

#### **The role of formative assessment in teaching**

What is your perception of the role of formative assessment now, after a year of implementation of ePortfolio as a FA tool? What, in your opinion, is the heart of FA? Which element of formative assessment process is the most important from your perspective?

#### **Implementation of developmental ePortfolio - strengths and weaknesses**

How did you introduce ePortfolio? What did you say to children, how did you explain the benefits of doing that? What was most challenging at first? What makes using child's ePortfolio easier for you? What makes using child's ePortfolio more complicated for you?

#### **Reactions of pupils**

How did pupils react? What are they keen on? What they don't like regarding ePortfolio?

#### **Challenges for the future**

What are your plans for the future? What do you want to try out? What will you certainly not do in the future regarding formative assessment and ePortfolio?

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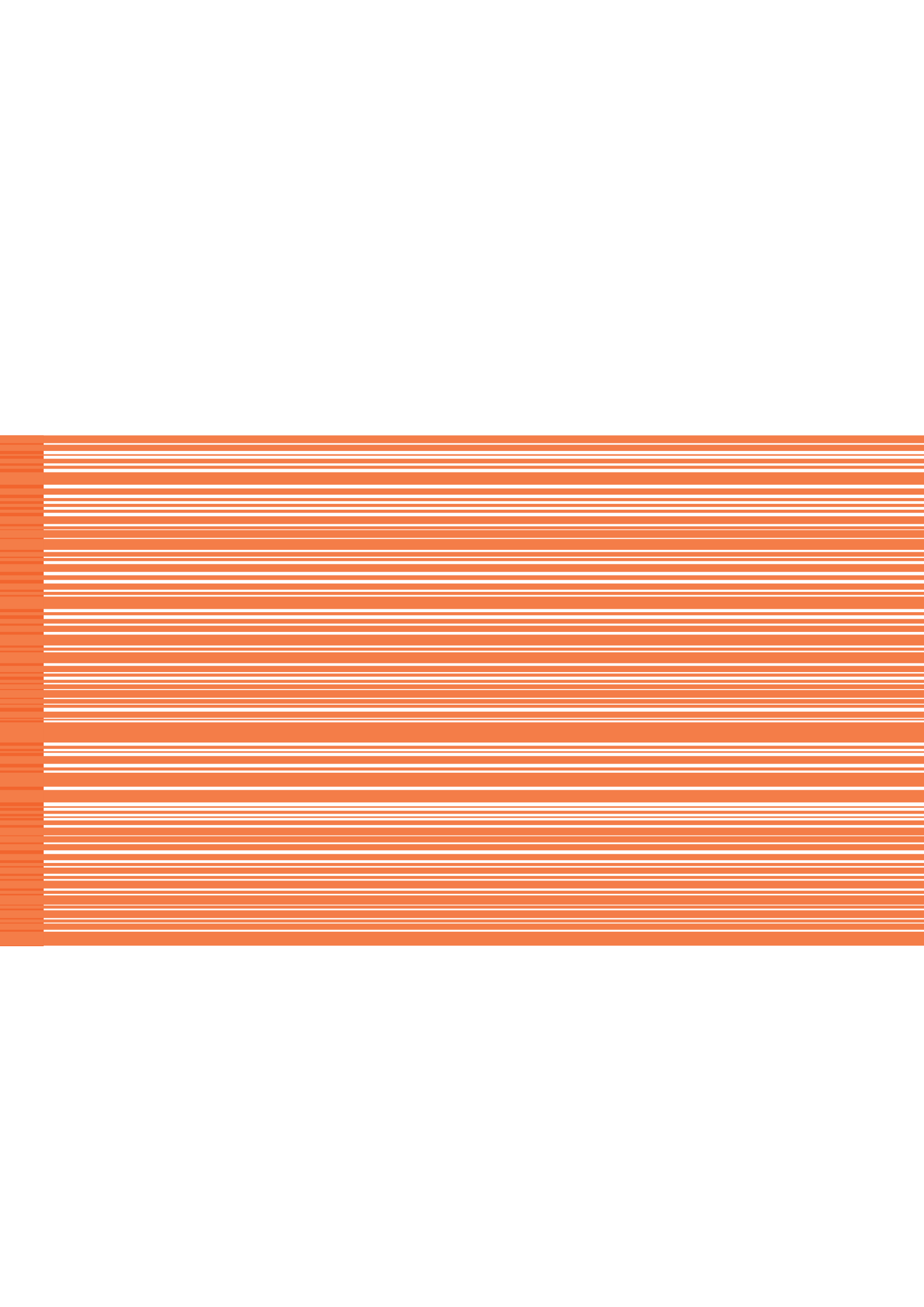
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EXAMPLES  
OF GOOD PRACTICE



# 1 ENGLISH:

## Communicative approach to teaching reading

Vesna Gros, Primary school Polje, Ljubljana

Subject	English
Learning Design Title	COMMUNICATIVE APPROACH TO TEACHING TOPIC: READING
Year group	Grade 6 (average age: 11 years)
Language	English and Slovenian
Duration	One cycle (about 15 lessons: cca 5 lessons in the computer room, other lessons in the classroom + home study)
Goals	Students: <ul style="list-style-type: none"> <li>• enhance reading comprehension skills; prepare for the national examination; accomplish the English reading badge (EPI + Bookworms).</li> </ul>
Concise description of the content	After having filled out the <i>My learning</i> tab in Mahara (about how students plan organizing and monitoring their learning throughout the cycle), students are familiarised with the reading comprehension task types at the national examination. They do some examples and write a reflection on how they felt during task completion. Then they practise different reading strategies with the teacher to see if this can help them get better results. At the same time, they are encouraged to read more – some of the books for the reading badge are read in class, some at home. Reading comprehension tasks are done in class, book reports at home. Afterwards, students create ads for their favourite books by using paint programme. As a follow-up, Mahara mini blogs (the so-called 'views') can be created by students to present a book. Finally, the exams (both the reading badge and the national examination) are taken and students fill in the questionnaire about their reading habits, reading abilities, possible improvements and results.
Keywords	reading comprehension, reading strategies, reading badge
Methodology	group work, project work, individual work
21 <sup>st</sup> century skill(s)	ICT skills, internet literacy, creative thinking
ICT tools used	<ul style="list-style-type: none"> <li>• Mahara – a fully featured web application to build your electronic portfolio</li> <li>• Google Docs – a free, web-based word processor, a spreadsheet program, and a presentation program</li> <li>• embedding – inserting media into a text document, forming a compound document</li> </ul>

Students' activities	Students: <ul style="list-style-type: none"> <li>• fill out the <i>My learning</i> tab,</li> <li>• do the reading comprehension tasks and reflect upon them,</li> <li>• practise reading strategies,</li> <li>• read books from the reading list,</li> <li>• take part in the reading badge competition,</li> <li>• reflect upon their achievements,</li> <li>• create ads and Mahara blogs (views) for a chosen book.</li> </ul>
Other	
Website	

### Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	'My learning' tab	A tab in the on-line E-portfolio (Mahara)		Slovenian
Students' artefacts	<p>An AfL tab in Mahara, where students plan their own learning (teacher can comment on it) with the help of the following questions:</p> <p><b>Setting the goals</b> What is my goal? What do I want to achieve?</p> <p><b>Prior knowledge</b> What do I already know? What can I already do?</p> <p><b>Strategies</b> How can I achieve my goal?</p> <p><b>Evidence</b> How will I prove that I have achieved the goal?</p> <p><b>Self-evaluation</b> How successful have I been? Have I reached my goal?</p>		Appendix 1	Slovenian

Optional: scaffolding questions	Teacher can provide questions to help students (especially younger learners and first-time Mahara users) develop independence in planning.	<p>Example: <b>Setting the goals</b></p> <p>What is my goal? What do I want to achieve?</p> <p>Answer the following questions:</p> <p><i>Which books do you want to read?</i></p> <p><i>How much time do you want to dedicate to reading?</i></p> <p><i>Do you want to read more in English? If so, what kind of books?</i></p> <p><i>What's your target result at the national examination?</i></p> <p><i>What are you aiming at in terms of your final grade in English?</i></p>	Slovenian
Materials for practice of reading comprehension	<p>National examinations from previous years (available on-line);</p> <p>other tasks prepared by the teacher;</p> <p>books from the reading list.</p>	<p><a href="http://www.ric.si/preverjanje_znanja/predmeti/tuji_jezik2/201120915240948/">http://www.ric.si/preverjanje_znanja/predmeti/tuji_jezik2/201120915240948/</a></p> <p>Other: It is a bryllyg day, and the slythy togs go to school. The lesson is about gyres and gimble. At mimsy o'clock they eat mombles for dinner. And the mother grabes the grass before she goes to bed. (adapted from a text by Lewis Carroll)</p> <ol style="list-style-type: none"> <li>1. What is the weather like?</li> <li>2. Who goes to school?</li> <li>3. What do they learn at school?</li> <li>4. When do they eat dinner?</li> <li>5. What do they eat for dinner?</li> <li>6. Does mother slithe in the evening?</li> </ol>	English

Implementation photos/videos	Ad for a book	Students create advertisements in the ICT room by using the Paint.	Appendix 2	English
	'My favourite book' view	Students learn how to create and share views in Mahara, exchange comments and constructive feedback, embed different materials (youtube videos, images, word and ppt documents ...).	Appendix 3 <a href="http://listovnik.sio.si/view/view.php?t=l1gUQW2JHM3Nilkhfyt">http://listovnik.sio.si/view/view.php?t=l1gUQW2JHM3Nilkhfyt</a>	English

### Teacher's reflection on the results and the lessons learnt

Description	
What went well	<p>After overcoming some initial obstacles with reading comprehension (very poor results with some students, frustration due to lack of understanding, little enthusiasm for reading in English), the students felt relaxed and also showed great enthusiasm for the reading badge (the whole generation passed the Bookworms reading badge and 51 % took part in the EPI reading badge competition).</p> <p>The self-evaluation form showed that 66 % percent of the students read substantially more during this period and they also reflected upon what they had read. 81 % of the students agree that their vocabulary has expanded noticeably since the beginning of this school year thanks to reading.</p>
What did not go well	<p>As some students have really poor ICT skills, we spent a substantial amount of time on the basics (such as creating a profile, managing an e-mail account etc.), while others were really quick at grasping everything – with a lot of differentiation on the part of the teacher needed.</p>
Lessons learnt	<ol style="list-style-type: none"> <li>1. Creation of Mahara views and embedding of videos, images, etc. really encourages creativity and students greatly enjoyed the activity. It seems that if the teacher is willing to learn and show enthusiasm for ICT, so will the students.</li> <li>2. Results at the national examination are partly dependent on how well students are familiarised with task types and can, to some extent, be improved through practice (even though the student's English remains more or less at the same level).</li> <li>3. Students will read more only when told to do so by the teacher.</li> </ol>

## APPENDIX 1

### Example of a student's learning plan – Reading

#### Postavljanje ciljev/Setting the goals

*What is my goal? What do I want to achieve?*

*I will do the EPI reading badge.*

*I will start to read more.*

*I will achieve good results at the National Examination.*

*I will read thicker books in English.*

*I will put together a reading list of books I want to read.*

#### Predznanje/Prior knowledge

*What do I already know? What can I already do?*

*I have read in English before, e.g. Toy Story 2.*

*I read required school reading, but I also read for pleasure.*

*I usually read sci-fi novels.*

*I also like adventure and funny books.*

*I read about 50 books a year.*

*I don't read newspapers.*

*I read my favourite magazine Bravo.*

#### Strategije/Strategies

*How can I achieve my goals?*

*I will create a reading schedule.*

*I will talk to my sister about books.*

*I will buy books that people recommend to me.*

*I will read books of different genres.*

*I will ask my teacher for help.*

*I will use a dictionary.*

#### Dokazi/Evidence

*How will I prove that I have achieved my goals?*

*I will write down the list books I've read on the internet (Goodreads).*

*I will do the reading badge.*

*I will achieve good school grades and good results at the National Examination.*

*My vocabulary will expand.*

#### Samoevalvacija/Self-evaluation

*Self-evaluation was done by using a questionnaire, created with Google Forms, available at: <https://docs.google.com/a/ospolje.si/forms/d/1YXaTBzpgw0cwJR5vpwov3TOR-JNAM3icxJ2XqMhardc/viewform>*




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## APPENDIX 2

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### Digital advertisement for Student's favourite book

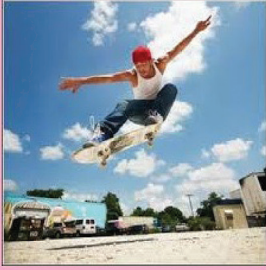
The Skateboarder



Will Hannah become a great skateboarder?

Read and find out!

It's a great book :)

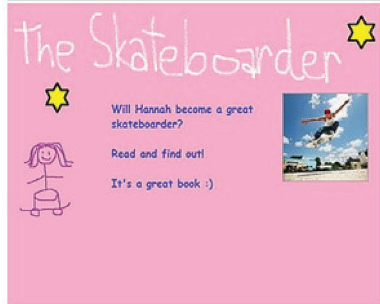




# APPENDIX 3

## Mahara view: 'My favourite book'

### The Skateboarder



Will Hannah become a great skateboarder?


Read and find out!

It's a great book :)


### Summary

There is a new skatepark near Hannah's house. She goes to the skatepark with her cousin Justin. Hannah doesn't have a skateboard. She gets a skateboard and a helmet for her birthday. She tries to skateboard but falls off the skateboard. She is sad. In the park Hannah sees a baby. The baby is learning to walk. He stands up and falls, stands up and falls again. But he keeps trying. Hannah keeps trying with her skateboard as well. She practises at a parking lot before school. She becomes better and better. On August 21st there is a Skateboarding Day. Hannah goes skateboarding. She is a real skateboarder now.

### Greatest Skateboarding Tricks - video

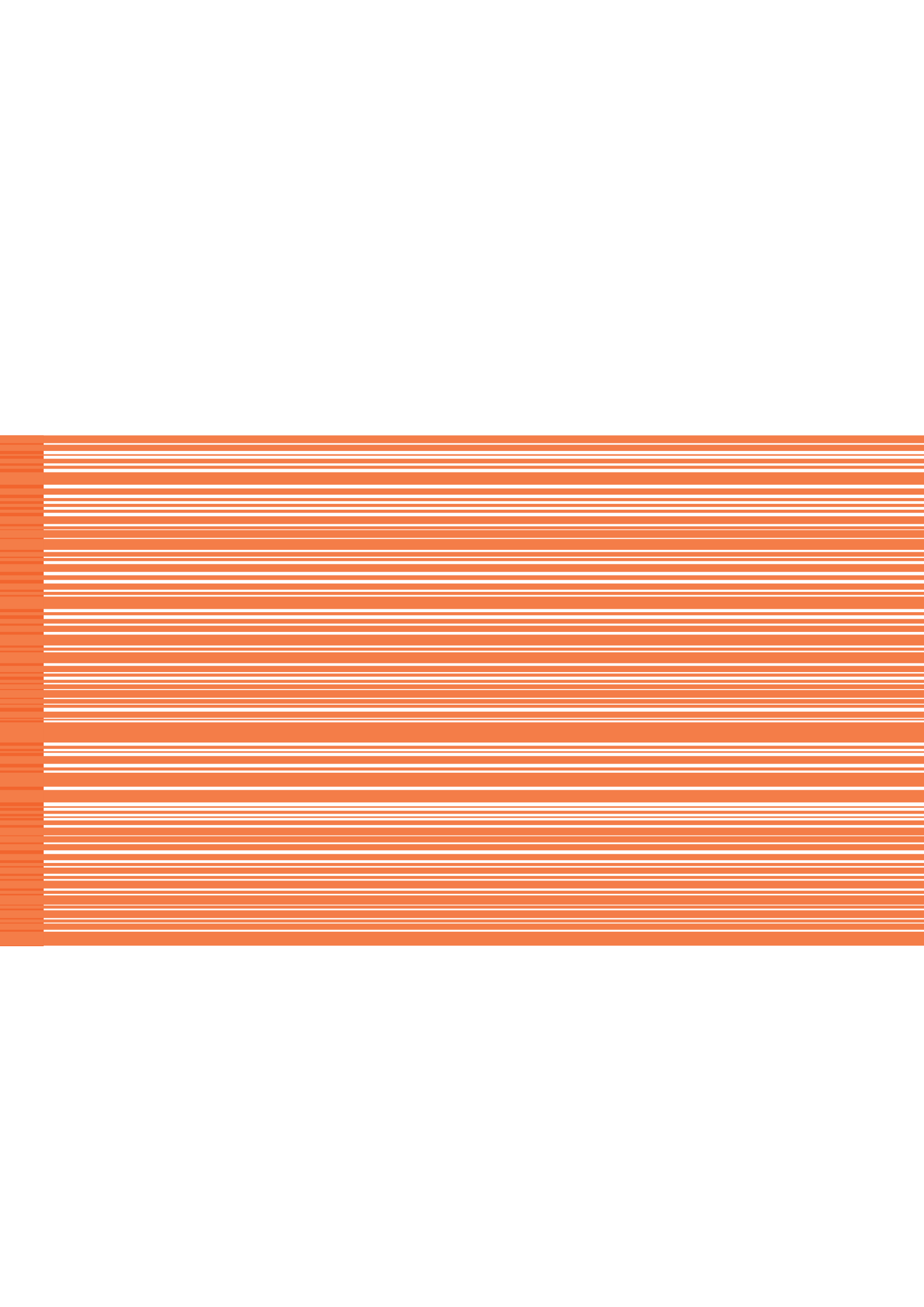


### Book review



I think this book is great because I am like Hannah - I always practise a lot.

Nastavitve zasebnosti



## 2 ENGLISH: Writing a book review

Petra Mikeln, Primary school Polje, Ljubljana

Subject	English
Learning Design Title	WRITING A BOOK REVIEW
Year group	Grade 9 (average age: 14–15 years)
Language	English and Slovenian
Duration	One cycle (six to eight 45-minute lessons: two/three in the computer room, others in the classroom + home study – reading a book and writing a review) – lessons should not be consecutive, enough time should be allowed for students to read a book and write a review.
Goals	Students: <ul style="list-style-type: none"> <li>• develop reading skills and improve their reading comprehension,</li> <li>• know the characteristics of a good book review and can write one,</li> <li>• develop the skill of planning and evaluating their own work.</li> </ul>
Concise description of the content	<p>The aim of the cycle: each student reads a book in English and then writes a review, thus improving their reading and writing skills, while at the same time constantly reflecting on their work.</p> <p>After a lead-in into the cycle (a questionnaire about reading habits and creating memes), students discuss success criteria for writing a book review. Having set the criteria, students then set their goals and write their learning plans ('My learning' tab in Mahara). Then they start to read the book each of them has chosen, and at the same time fill out a reading diary and regulate their work and improvement. In the meantime they get familiarised with the structure of a book review and learn useful phrases and vocabulary during English lessons. When they finish reading, they write their book reviews, create a cover or an ad for it and publish both as a page/view in Mahara. At the end they reflect on their work by filling out a questionnaire.</p>
Keywords	reading skills, writing skills, book review
Methodology	Students worked as a group and individually.
21 <sup>st</sup> century skill(s)	ICT skills, critical thinking

ICT tools used	<ul style="list-style-type: none"> <li>• Mahara – a fully featured web application to build your electronic portfolio</li> <li>• Google Docs – a free, web-based tool to create web questionnaires (among other things)</li> <li>• Meme generator (<a href="http://memegenerator.net/">http://memegenerator.net/</a>) – a free program for designing memes (a modern form of communicating one's opinion, combining a picture and a short text)</li> </ul>
Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• fill out a questionnaire about their reading habits,</li> <li>• create a meme expressing their attitude to reading,</li> <li>• take part in setting success criteria for a book review,</li> <li>• create their learning plan (fill out 'My learning' tab),</li> <li>• read an English book of their choice (at least 40 pages long),</li> <li>• fill out a reading diary,</li> <li>• write a review of the book they have read,</li> <li>• create a cover/ad for their book and create their own page (view) about their book,</li> <li>• fill out a questionnaire, reflecting about and evaluating their work.</li> </ul>
Other	
Website	

### Accompanying materials/resources for the learning design

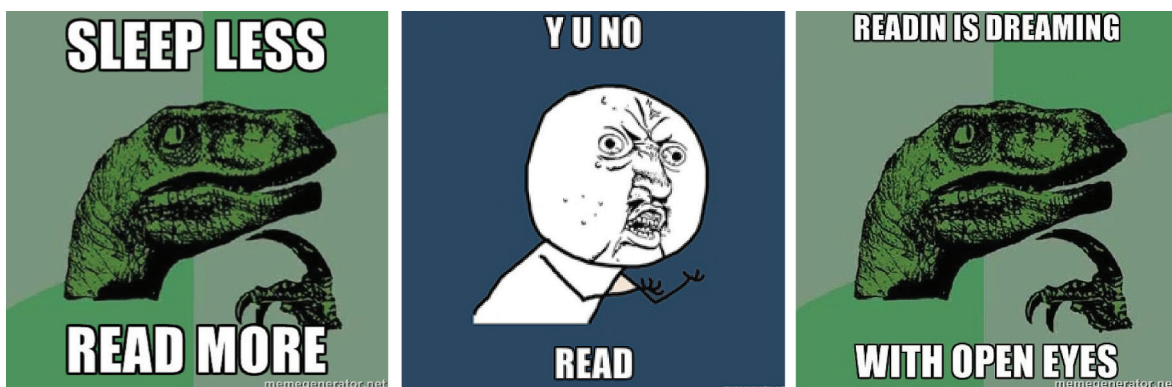
	Description	Type	File name / URL	Language
Materials during activities	Page/view for the students (guiding them through all the steps of the cycle)	A view/page in Mahara	<a href="https://listovnik.sio.si/view/view.php?t=NyxMhd-Q82tasuf-CrePI6">https://listovnik.sio.si/view/view.php?t=NyxMhd-Q82tasuf-CrePI6</a>	English
Students' artefacts	Memes created by students	Pictures	Appendix 1	English
	A student's lesson plan	AfL tab in Mahara, where students plan their own learning	Appendix 2	English
	A student's book review and cover	View/page in Mahara	Appendix 3	English
Implementation photos/videos				

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	<p>Most of the students liked the creative aspects of the cycle and enjoyed creating memes about reading and covers for their books.</p> <p>Since they could choose a book of their liking (the only limitation was the minimum number of pages), most of them actually read the book.</p>
What did not go well	<p>Students needed a lot of encouragement and a lot of help when discussing and setting the success criteria, and when filling out their learning plans – they are still not used to taking control of their own learning. Because of that we were pressed for time and students had to create their views alone at home.</p>
Lessons learnt	<ul style="list-style-type: none"> <li>• More time should be allowed also in the classroom (computer room as well) for students to work on their pages/views, so that they could ask for help and also get feedback from the teacher and their peers.</li> <li>• Students should be given the possibility of a choice more often.</li> <li>• Students like expressing their opinions in creative ways.</li> </ul>

## APPENDIX 1

### Examples of students' memes



Vir slik: <http://memegenerator.net/> (učenci so sami generirali slike)

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## APPENDIX 2

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### Example of a student's learning plan – Book review\*\*\*

#### Postavljanje ciljev

*What is my goal? What do I want to achieve?*

*My goal is to read faster and understand more.*

*I want to write a good book review. I don't want to tell too much in it and really focus on the content.*

#### Predznanje

*What do I already know? What can I already do?*

*I don't read much in Slovene. I have read a couple of books in English but they were not as long as that one. But I do read news about Showjumping in English every day. I'm not writing in English a lot. I only write in English at school.*

#### Strategije

*How can I achieve my goals?*

*I can achieve them by reading a book carefully and by considering what I have said to myself to do.*

*I can read some other book reviews to see how to do it and then do my best at writing.*

#### Dokazi

*How will I prove that I have achieved my goals?*

*By knowing some new words and understanding the story.*

*By getting a good grade and being satisfied with my work.*

#### Samoevalvacija

*How successful have I been? Have I reached my goals?*

*I did understand a story and get to know few words.*

*I don't know yet.*

---

\*\*\* Predstavljeno je originalno besedilo dijaka brez popravkov.

## APPENDIX 3

### Example of a student's book review

SLIKA



This is a warm and funny story about a good-hearted young man from Alabama - Forrest Gump. He is an unusual man; a footballer, a soldier, he meets the President of America, he goes into space and his best friend; Sue, is an ape!

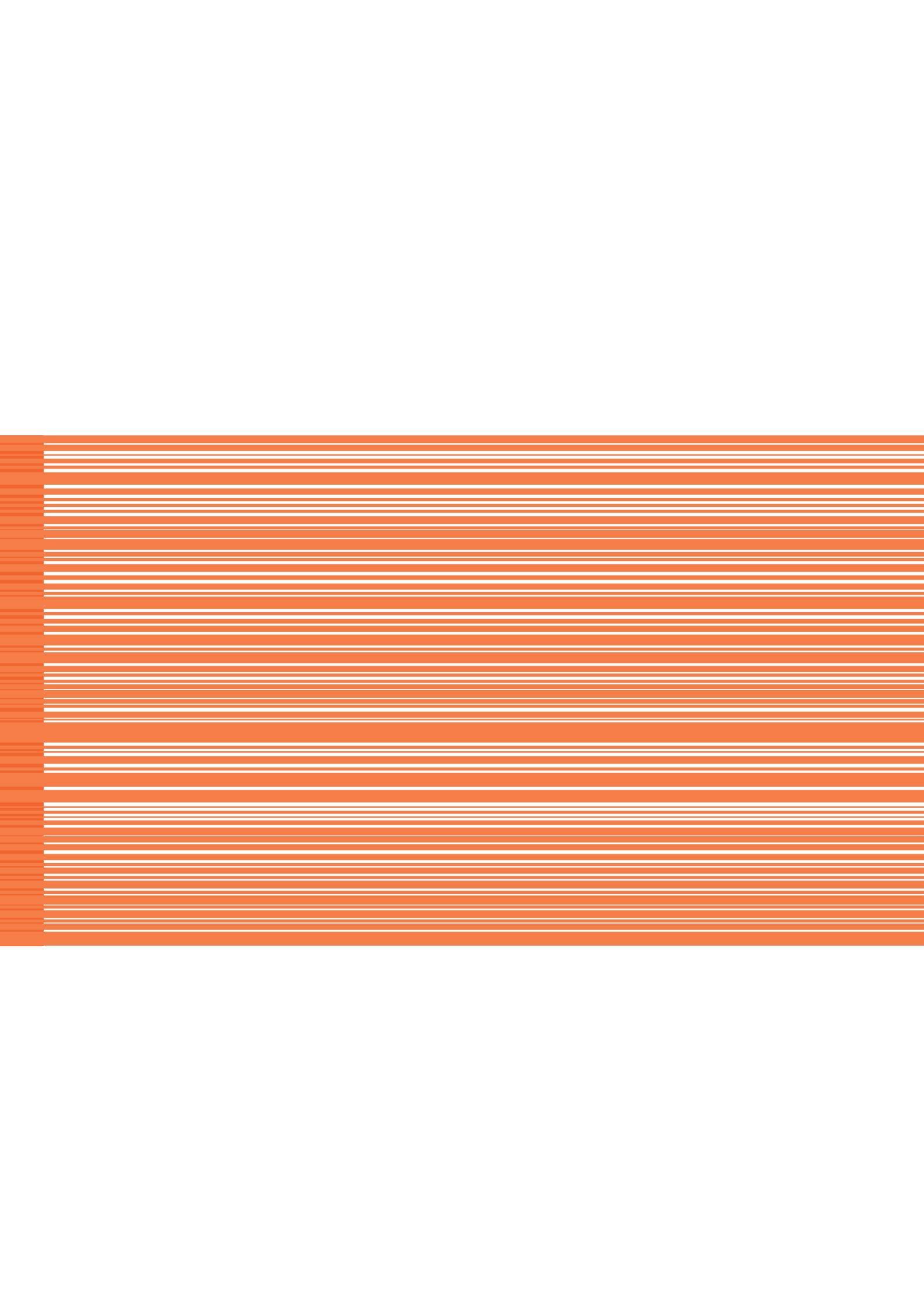
BESEDILNO POLJE

#### Book review

I have read the book Forrest Gump. It was written by Winston Groom. The setting is in Alabama in town Mobile where Forrest was born, in Vietnam and in many other countries and even in space! The main character is Forrest Gump. Forrest Gump is a man of low intelligence but he is friendly and good-hearted. Other main characters are Mrs. Gump, Jenny Curran and Bubba.

The book is novel. The plot is about Forrest Gump's adventures. He was born an idiot but he was very good runner so he was admitted to the university where he was playing for their football team. But he couldn't stay at university because he wasn't clever enough. So he became a soldier in the army in Vietnam. There he met a friend Bubba. When enemy soldiers attacked them Bubba died. But Forrest survived and he was very brave. He met the President of the United States and President gave him a medal. Then somehow Forrest went to space and he met new friend, a monkey Sue. When he came back on Earth he met Jenny after very long time. Jenny was Forrest's love throughout his whole life. But Jenny left him and Forrest started with The Shrimp Business as he promised to Bubba. Business was doing well. But Forrest still loved Jenny. Someday he met Jenny again and she was married. Forrest was very sad because of that. But next to Jenny there was a boy. It was Forrest's son! He was Forrest too.

I like the plot because it's funny but I don't like the end of book... I think Jenny and Forrest should marry and live happy lives. But anyway I liked book and maybe someday I will read original novel which is much longer. I watched movie too! Movie is amazing!





# 3 SLOVENIAN LANGUAGE, GEOGRAPHY, ETHICS, PHYSICS: Travelling to Australia

Jožica Tratar, Slavica Balek Haddaoui, Breda Kerčmar, Sandra Vereš,  
Primary school Šalovci

Subject	Slovenian language, Geography, Ethics, Physics
Learning Design Title	TRAVELLING TO AUSTRALIA (Interdisciplinary learning unit)
Year group	Grade 8 (average age: 13–14 years)
Language	Slovenian
Duration	Five 45-minute lessons (two lessons in the computer room, other lessons in the classroom)
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• learn how to apply knowledge and use classroom task procedures as well as skills in a new, real world situation connected to different subject areas in a logical context,</li> <li>• develop critical thinking skills by formulating questions and their own arguments,</li> <li>• evaluate the credibility of the available sources,</li> <li>• improve their literacy.</li> </ul>
Concise description of the content	Students create their own learning plan in the Mahara learning environment following the steps of formative assessment. They fill in the <i>My learning</i> tab where they activate their prior knowledge, set their learning goals and incorporate them into the cross-curricular goals, find strategies to achieve the goals, collect evidence, evaluate their work, give feedback to peers etc. Searching the web, they find appropriate data and design a travel brochure using their text editing knowledge and skills.
Keywords	ePortfolio, e-learning environment Mahara, cross-curricular connections
Methodology	group work, individual work, cooperative learning
21 <sup>st</sup> century skill(s)	ICT skills, critical thinking
ICT tools used	Mahara, Microsoft office – Word, Internet

Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• activate their prior interdisciplinary knowledge by brainstorming, e.g. about natural and cultural sights of Australia, religions etc.,</li> <li>• fill in the rubrics of the <i>My learning</i> tab in Mahara</li> <li>• look for and gather necessary and useful data, practising critical evaluation of the sources,</li> <li>• prepare and design a travel brochure (group work),</li> <li>• present their product (oral presentation),</li> <li>• interview the opposite team about their work (practising question formation and argument presentation skills),</li> <li>• give peer feedback on oral presentations; the feedback is based on the jointly set success criteria,</li> <li>• reflect on their own learning progress,</li> <li>• evaluate both their own work and the work of their schoolmates.</li> </ul>
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Brochures by different travel agencies, books on Australia, web sites, 'My learning': a collage of photos documenting the learning process, success criteria, reflection stems (Looking back, Looking forward)	A tab in the on-line E-portfolio (Mahara)	<a href="https://listovnik.sio.si/user/sinba/za-javnost">https://listovnik.sio.si/user/sinba/za-javnost</a>	Slovenian
	Reflection stems for self-evaluation	Scan of the reflection stem 'Looking forward'	Scan of a student's ePortfolio page in Appendix 1	
Students' artefacts	Student's personal learning plan: <i>My learning</i> in ePortfolio	A student's view in Mahara	<a href="https://listovnik.sio.si/user/ninaozvald/za-javnost">https://listovnik.sio.si/user/ninaozvald/za-javnost</a>	Slovenian
	Rubrics of <i>My learning</i> (key strategies of formative assessment)	Scan of a student's view in Mahara	Scan of a student's ePortfolio page in Appendix 2	
	Travel brochure with tourist information on Australia	Document	Scan of a student's product in Appendix 3	
	Student's self-evaluation	Scan of the ePortfolio page	Scan of a student's ePortfolio page in Appendix 4	
Implementation photos/videos	Group work Interview and evaluation of the presentations	Pictures		



Evaluation of the presentations

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	<p>The method of work was well received by the students as they were all constantly actively involved.</p> <p>The steps were well planned, the goals were specific, the product was as expected and in accordance with the set criteria. The students were actively engaged through cooperative learning.</p> <p>The students improved using their critical thinking skills in evaluating credibility of the gathered information and in forming questions, as well as in trying to find good arguments (e.g. reasons for the choice of the content, selection of the brochure pictures etc.).</p> <p>The quality of peer feedback greatly improved.</p> <p>The students took much more responsibility for their learning as well as for their individual and group achievements.</p>
What did not go well	<p>Due to the openness of the topic more time was needed than originally planned, and for this reason the student self-evaluation activity had to be done at home, with no immediate feedback and support available.</p> <p>We can conclude that the students need more explicit instructions for group work (e.g. for allocating roles).</p>
Lessons learnt	<p>Teachers should activate students' prior interdisciplinary knowledge regularly and empower them to be able to find meaningful connections, and use them in authentic, specific real-life situations where different subject areas interconnect; crosscurricular learning and creativity should be encouraged through cooperative learning with specific instructions for student work.</p>

## APPENDIX 1

### Reflection stem for self-evaluation



## APPENDIX 2

### Scan of a student's view in Mahara

#### POTOVANJE V AVSTRALIJO

##### Postavljanje ciljev

- navedla bom zanimive informacije
- želim privabiti veliko turistov z zanimivo zloženko
- pazila bom na pravopisne napake
- predstavitev bo zanimiva in informativna
- turistom hočem čim bolj predstaviti Avstralijo
- povezala bom vso znanje iz geografije, fizike, slovenščine in etike
- hočem premagati nasprotno ekipo in dobiti odlično oceno
- postavljala bom smiselna vprašanja nasprotni ekipi in jih znala argumentirati

##### Predznanje

- pri geografiji poznam naravno in družbene geografske enote, znam razložiti s čim se ukvarjajo prebivalci, kdo so bila prva ljudstva v Avstraliji
- pri fiziki znam izračunati pot, čas in hitrost ( $v = s/t$ ), ( $s = v/t$ )
- pri slovenščini vem prosto, sproščeno, glasno in tekoče govoriti
- pri etiki poznam verstva, ki se nahajajo v Avstraliji, kdo so njihovi utemeljitelji, njihove verske knjige in njihova verska svetišča
- znam razložiti podnebje in rastje v Avstraliji in kako podnebje vpliva na rastje
- poznam Oceanijo, kjer so zanimivi otoki, ki privabljajo turiste
- poznam večšine kritičnega mišljenja, ki jih bom uporabila pri postavljanju vprašanj nasprotni ekipi (zakaj so se odločili za te ponudbe)

##### Strategije

- poiščem vire: različno literaturo, ki nam bo pomagala, različne spletne strani
- naredimo si zapiske
- izdelamo zloženke
- pridobljeno znanje povežemo z znanjem, ki ga že imamo
- predstavimo ponudbo iz oblikovane zloženke (govorimo razločno in tekoče),
- poslušamo predstavitev nasprotno skupine in oblikujemo kritična vprašanja
- zapišemo semoevalvacijo
- podamo povratno informacijo drugi skupini

##### Dokazi

- dobra izvirna zloženka
- izpolnjen zavihek Moje učenje
- dobra predstavitev, ki bo prepričala učiteljice

##### KRITERIJ:

- pisava Times New Roman (pisava 10)
- 5 do 7 slik
- kriteriji govornega nastopa
- obojestranski list in trije stolpci



## APPENDIX 3

### Scan of a student's product: Travel brochure

#### AVSTRALIJA

##### NAJLEPŠA DOŽIVETJA

###### OSNOVNI PODATKI:

URADNI JEZIK: Angleščina

PREBIVALSTVO: 17,8 milijonov

POVRŠINA: 7,687,000 km<sup>2</sup>

NAJVIŠJI VRH: Mount Kosciuszko 2228m

LEGA: Tihi in Indijski ocean

VERA: Rimokatoliška 26%, protestantska 34,8%, metodisti, prezbiterijanci, luteranci, baptisti in grški otodoksi 24,3 %



Avstralija je otok, država in celina v enem. Dežela Aborignov, kengurjev in koral je privlačna predvsem zaradi njene raznolikosti. Razkriva prostrane puščave, ki po navikni zažarijo v raznolikih barvah in skrivnostne deževne gozdove. Z letalom premagamo velike medkrajevne razdalje. Zadihajmo v deželi svobode in naj se čas ustavi na dolgih peščenih plažah ter ob odkrivanju podvodnega sveta na čudovitem koralnem grebenu. Dobrodošli v Avstraliji.

##### KORALNI GREBEN

Greben, ki se drži roba celinske konice ob SV obali Avstralije. Je dolg okoli 2030 km in dosega širino med 30 do 150 km. Med grebenom in celino so 20 do 80 km široke lagune. Je pravi kraj za radovedne potapljače, ki jih pritegnejo zanimive morske živalske vrste.



##### JEZERO EYRE

Jezero Eyre leži v depresiji, kar pomeni, da leži nižje od morske gladine. To vodo uporabljajo za namakanje polj. Jezero je veliko 140km<sup>2</sup>.



##### SYDNEY

Sydney je glavno mesto avstralske zvezne države Novi Južni Wales in največje ter najstarejše mesto Avstralije. V Sydneyu je najbolj znana operna hiša. Znana je tudi Sydneyški pristaniški most (Sydney Harbour Bridge) tudi plaža Bondi. Prestolnica spada med najlepša in življenju najpriaznejša.







## 4 CHEMISTRY:

### Hardness and soft water

Vesna Kodrič, Primary school Globoko

Subject	Chemistry
Learning Design Title	HARDNESS AND SOFT WATER
Year group	Grade 7 (average age: 12–13 years)
Language	Slovenian
Duration	One cycle (four 45-minute lessons: two lessons in the computer room, others in the classroom + experimenting and experiment analysis)
Goals	Students: <ul style="list-style-type: none"> <li>• can tell the difference between various types of water in nature,</li> <li>• understand the terms hard water, soft water, water softening,</li> <li>• understand the connection between water and soap foaming.</li> </ul>
Concise description of the content	In Mahara's 'My Learning' tab I outlined the goals I wanted the pupils to achieve. The pupils read the goals and reflected the themes they could remember from previous lessons. To make the task easier and more accessible for them I used animation <a href="http://www.safe.si/kotiček">www.safe.si/kotiček</a> za otroke (special part dedicated to children) – game called <i>Cevko</i> . Another way of providing support was my extra explanation. The pupils' task in <i>My learning</i> tab was to describe the ways they used in order to achieve the goals. Teacher's help – instructions about detergent powder. The next step was doing the experiments and analysing them.
Keywords	skills of experimenting, observing and deduction
Methodology	group and individual work
21 <sup>st</sup> century skill(s)	ICT skills, critical thinking
ICT tools used	<ul style="list-style-type: none"> <li>• Mahara – a fully featured web application to build your electronic portfolio</li> <li>• The game <i>Cevko</i> on <a href="http://www.safe.si">www.safe.si</a></li> </ul>
Students' activities	Students: <ul style="list-style-type: none"> <li>• read the goals in 'My learning' tab,</li> <li>• reflect on what they already know about hardness of water,</li> <li>• write this down in 'My learning' tab – background knowledge,</li> <li>• check the didactic material (game <i>Cevko</i>),</li> <li>• describe the strategy they will use to achieve their goals,</li> <li>• do the experiment in groups – foaming of soapy water,</li> <li>• present their findings in groups,</li> <li>• write down the evidence and self-evaluation in 'My learning' tab.</li> </ul>
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Page/view for the students (guiding them through all the steps of the cycle)	View/page in Mahara	<a href="https://listovnik.sio.si/group/ucenci-7-r-os-globoko">https://listovnik.sio.si/group/ucenci-7-r-os-globoko</a>	Slovenian
Students' artefacts	Memes created by students	Pictures	Appendix 1	Slovenian
	A student's lesson plan	An AfL tab in Mahara, where students plan their own learning	<a href="https://listovnik.sio.si/user/marusarus/moje-ucenje">https://listovnik.sio.si/user/marusarus/moje-ucenje</a> <a href="https://listovnik.sio.si/user/gabrijelaivancic/moje-ucenje">https://listovnik.sio.si/user/gabrijelaivancic/moje-ucenje</a>	English
	A student's book review and cover	a view/page in Mahara		English
Implementation photos/videos				

## Teacher's reflection on the results and the lessons learnt

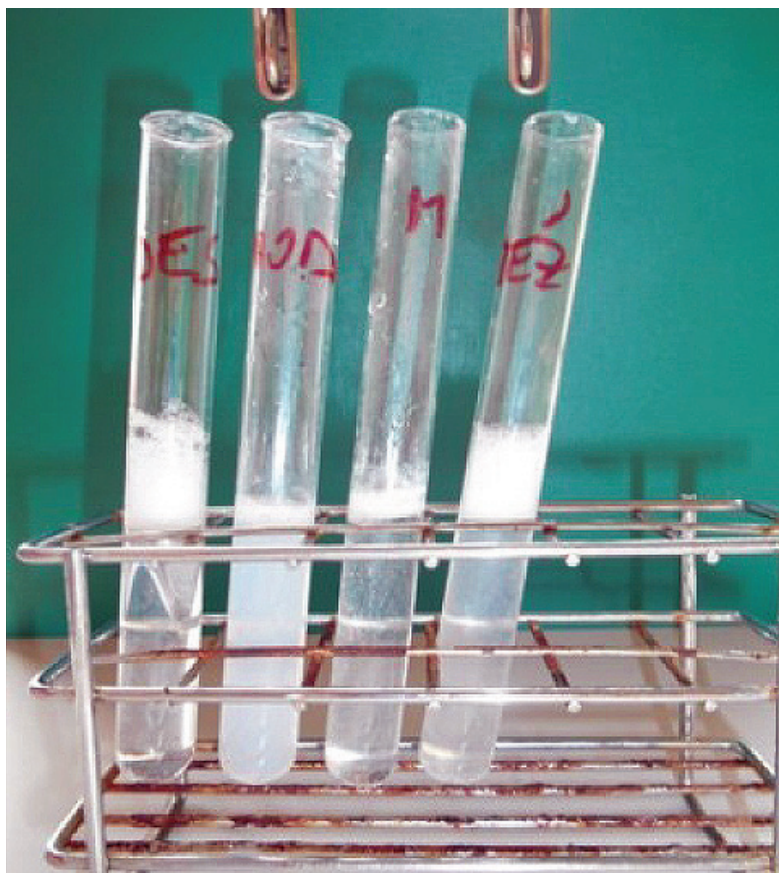
	Description
What went well	The students liked working with computers. They liked doing experiments. They learned how to use the knowledge gained at school in their everyday life.
What did not go well	Some students found it difficult to activate their previous knowledge. Problems occurred in strategy planning, when looking for information. Some students found it difficult to provide explanation of their findings/ results.
Lessons learnt	It is important that students look for information by themselves, experiment and test new things because this is how they can remember and understand the subject matter better.

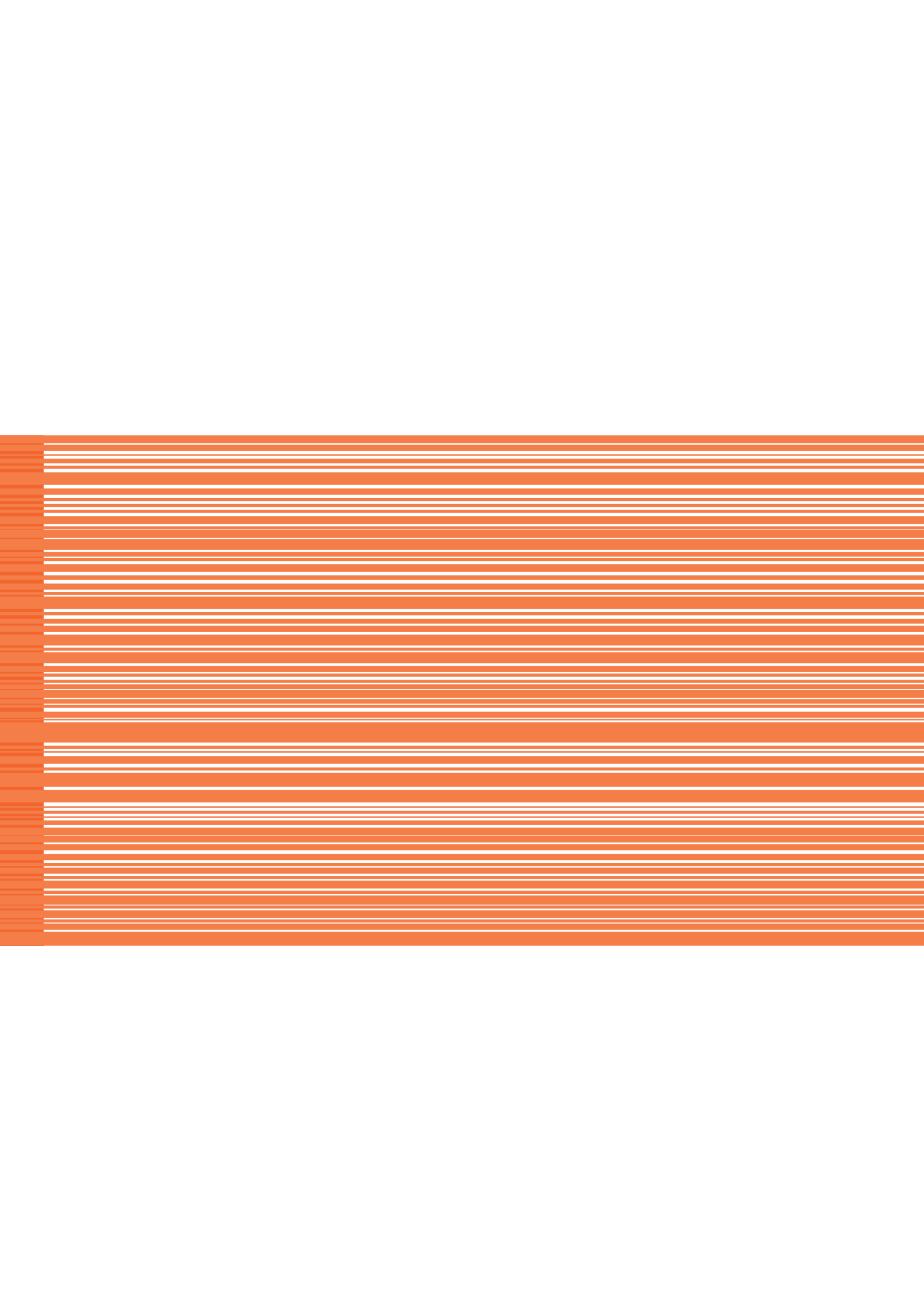
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## APPENDIX 1

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### Memos created by the students





## 5 CAREER GUIDANCE:

### Use of “My learning” in career guidance

Bojana Breznikar, Primary school Logatec

Subject	Career guidance
Learning Design Title	USE OF “MY LEARNING” IN CAREER GUIDANCE
Year group	Grade 9 (average age: 14–15 years)
Language	Slovenian
Duration	One cycle (two lessons in the computer room, other lessons in the classroom, the main activity as a home study)
Goals	Students: <ul style="list-style-type: none"> <li>• develop their self-evaluation skills,</li> <li>• learn about a useful instrument for the last step in the process of choosing their profession,</li> <li>• raise their self-awareness of their interests, abilities, personality traits etc.</li> </ul>
Concise description of the content	<p>The aim of the learning cycle is, for each student, to go through the steps of an efficient decision-making process. The content is relevant as the students are just about to change their level of education – moving from primary to secondary school.</p> <p>The teacher prepares a template for ‘<i>My learning</i>’ – a so called “My true calling” in Mahara and shares it with the group. The subject is introduced in the classroom, where we define interest, ability and personality traits (minimum two sessions). Then students begin to fill in the first four of ‘<i>My learning</i>’ steps in the computer room, where they need guidance during the process. They continue researching their interests, abilities and personality traits at home. They use different sources to collect information (they fill out questionnaires at <i>e-svetovanje</i>, ask their parents, peers etc.). Then they create ‘<i>My learning</i>’ view and share it with the teacher. They can reflect on the process (step 5 in ‘<i>My learning</i>’) and at the same time, or later, create a new view and share it with the teacher. The teacher provides feedback.</p>
Keywords	career guidance, decision making process
Methodology	group work, individual work
21 <sup>st</sup> century skill(s)	<ul style="list-style-type: none"> <li>• ICT competences (the ability of communication and on-line cooperation, the ability to plan, monitor and self-assess using ICT)</li> <li>• the ability to make a responsible decision</li> <li>• the ability to raise self-awareness</li> </ul>
ICT tools used	Mahara – a fully featured web application to build your electronic portfolio

Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• fill out the 'My learning' tab – the first four steps;</li> <li>• conduct a research about their interests, abilities, personality traits;</li> <li>• use different sources to get the necessary information (fill out questionnaires at <i>e-svetovanje</i>, interview their parents etc.);</li> <li>• create a view and share it with the teacher;</li> <li>• reflect about the process (step 5 in 'My learning');</li> <li>• create a new view and share it with the teacher.</li> </ul>
Other	
Website	

### Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Page/view for the students (guiding them through all the steps of the task)	View/page in Mahara	<a href="https://listovnik.sio.si/user/bbrezn/moj-srcni-poklic">https://listovnik.sio.si/user/bbrezn/moj-srcni-poklic</a>	Slovenian
Students' artefacts	'My learning' tab – filled out	An AfL tab in Mahara, where students plan their own learning	Appendix 1	Slovenian
Implementation photos/videos				

### Teacher's reflection on the results and the lessons learnt

	Description
What went well	The work in the computer room.
What did not go well	Students still have difficulties sharing their views. They needed a lot of instructions in how to do things. Motivation wasn't very high.
Lessons learnt	<ol style="list-style-type: none"> <li>1. More time should be allowed for students to work in the computer room with support of a teacher-instructor.</li> <li>2. Importance of spreading feedback activities, including peer feedback.</li> </ol>

# APPENDIX 1

## Example of a student's learning plan

### Q MOJ SRČNI POKLIC

#### Postavljanje ciljev

##### MOJ CILJ

moj cilj je da do konca decembra 2014 naredim seznam svojih dobrih in slabih lastnosti, da vidim kje ustrezajo mojemu poklicu in kje ne.

#### Predznanje

##### 1. INTERESI

moji najljubši predmeti v šoli so angleščina in šport. Nimam nobenih ID. Zanimajo pa me šport, jeziki...odločila pa sem se tudi, da se bom učila nemščino.

##### 2. OSEBNOSTNE LASTNOST

sem potrpežljiva, prijazna, razumem se lahko z vsemi, včasih sem pesimistična, včasih pa optimistična, zanimam se za ljudi (dobro se razumem z odraslimi ljudmi), nisem škrt, sem adrenalinski tip človeka...

##### 3. SPOSOBNOSTI

imam dobre gibalniške sposobnosti, sem športni tip človeka, prav tako imam tudi zelo razvite govorniške sposobnosti, zelo natančne praktične sposobnosti mi ne ležijo najbolje, vendar sem prilagodljiva za teke razmere. imam dobro sposobnost komunikacije z ljudmi, imam splošno razgledanost tako da lahko debatiram o skoraj vsaki temi.

##### 5. ZDRAVJE

sem odporna in redkokdaj zbolim, sem brez alergij in brez duševnih motenj, sem tudi brez fobij.

#### Strategije

kako bom dosegla svoj cilj?

- rekla bom staršem in prijateljem naj povejo moje osebne lastnosti
- izpolnila bom vsaj 3 poklicna kolesa

#### Dokazi

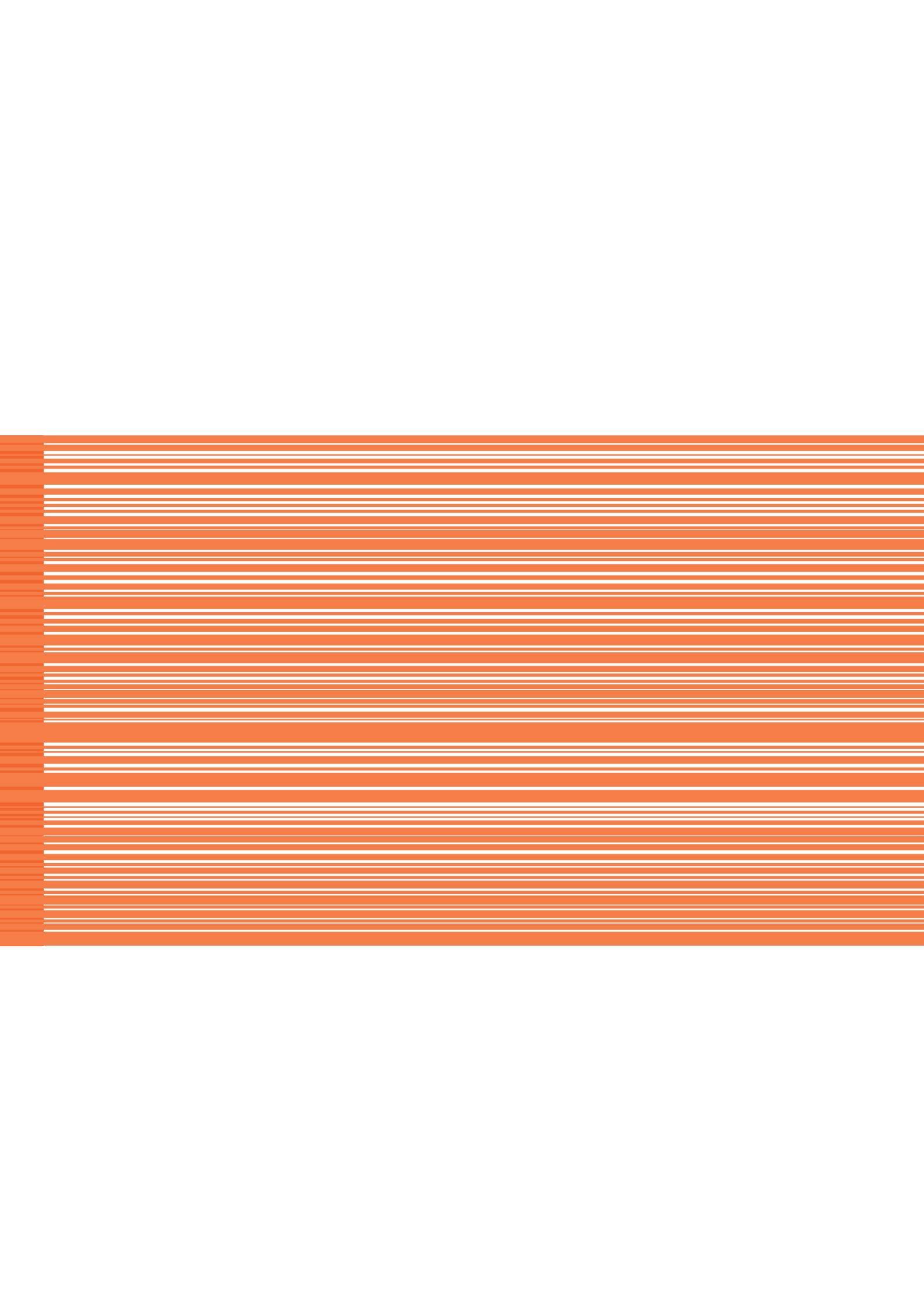
kako bom vedela da sem dosegla svoj cilj?

- znala bom napisati vsaj 15-20 svojih osebnostnih lastnosti

#### Samoevalvacija

vključiti malega sebe ki ti sedi na rami in opiši kaj on vidi, čuti, doživlja, kako mu je bilo s to nalogo...

- za zdaj mu je težko tako kot je meni, čuti se malo izgubljenega in nesigurnega, po drugi strani pa doživlja svet kot ga še nikoli ni, naloga mu je težka vendar se jo je lotil kakor je vedel in znal.





## 6 SLOVENIAN LANGUAGE: Making a telephone conversation

Suzana Cvirn Guček, Primary school Mirana Jarca, Ljubljana

Subject	Slovenian language
Learning Design Title	COMMUNICATIVE APPROACH TO TEACHING MAKING A TELEPHONE CONVERSATION
Year group	Grade 9 (average age: 14 years)
Language	Slovenian
Duration	One cycle (two lessons in the computer room, three lessons in the classroom + home study)
Goals	<p>Students enhance:</p> <ul style="list-style-type: none"> <li>• their communication skills in Slovenian language, namely: <ul style="list-style-type: none"> <li>- discussing about different types of conversations (on basis of their previous experience),</li> <li>- understanding and using the terminology of research, persuasive and negotiation conversation,</li> <li>- watching/listening, understanding, experiencing and assessing a recorded formal negotiation telephone conversation,</li> <li>- presenting and assessing pragmatic and linguistic elements and characteristics of a recorded conversation,</li> <li>- improve the quality of making a formal telephone call (negotiation),</li> <li>- developing conversational skills.</li> </ul> </li> <li>• other types of key skills, such as: <ul style="list-style-type: none"> <li>- a critical approach to peer communication,</li> <li>- explaining their own opinions,</li> <li>- logical thinking,</li> <li>- using acquired knowledge in everyday life situations,</li> <li>- initiative and creativity,</li> <li>- cooperative skills.</li> </ul> </li> </ul>
Concise description of the content	<p>One of the 21<sup>st</sup> century skills is pupils' ability to know how to successfully manage different spoken interaction situations, such as a conversation with an unknown person (official/clerk/worker etc). For this purpose, a role play activity was designed in which pupils had either a role of an official or a person talking to the official. Pupils chose different examples (a phone conversation with a nurse, a mechanic, a librarian etc.) We listened to all the recordings in the classroom and the pupils made comments.</p>
Keywords	formal conversation
Methodology	group work, project work, individual work, pair work
21 <sup>st</sup> century skill(s)	activating previous knowledge, defining goals, ICT skills, internet literacy, creative thinking
ICT tools used	<ul style="list-style-type: none"> <li>• Mahara – a web application to build your electronic portfolio,</li> <li>• Mobile phones – to record the phone conversations,</li> <li>• embedding – inserting media into a text document, forming a compound document</li> </ul>

## Students' activities

Students:

- activate their previous knowledge about making (e.g. phone) conversations,
- list types of conversations and look at the differences among them,
- listen to and watch the following types of recorded conversations (published in different media) and act out similar types of conversations:
  - informal and formal research personal/phone conversation,
  - informal and formal persuasive personal/phone conversation,
  - informal and formal negotiation personal/phone conversation,
- follow teacher's instructions regarding the preparation of a recorded formal negotiation phone conversation,
- students write down the goals and are supposed to create phone conversation assessment criteria (Appendix 1: Worksheet).

The students work in pairs and they create a group in Mahara.

**Before the listening and observing part** they get ready for the critical evaluation of the conversation. They, for example:

- describe a phone conversation,
- list the characteristics of a polite conversation,
- present the characteristics of a given type of a conversation,
- decide what they will pay attention to during the listening and observing part,
- describe their own experience with the given type of a conversation,
- present their expectations.

Students plan their roles in pairs.

They publish their work plan in Mahara's '*My learning*' tab, where they highlight and define their roles.

Students upload and publish the recorded negotiation conversation in the folder named *Slovenian* (after the name of the school subject).

Students share the '*My learning*' view with the teacher. (Appendix 4: An example of a view shared with the teacher)

Students listen to all the conversations/recordings; in pairs they discuss the problems they had, share experiences, they comment on their own and on their schoolmates' recordings. (Appendix 3: An example of a formal phone conversation)

Students pay attention to the circumstances of the conversation, its structure and the role of the co-speaker, the topic and the content of their conversation, as well as to the verbal and nonverbal responses of the speaker. They act out a specific type of a conversation – at this stage they follow the rules of an efficient and polite conversation.

Students:

- cooperate during the conversation (pair members assess their own and their schoolmates' share in the conversation),
- assess their ability to converse and their knowledge of the given type of the conversation,
- make a development plan of their conversation skills,
- evaluate the effect of the newly acquired knowledge on their ability to converse and on their previous knowledge about the characteristics of the type of the text.

In '*My learning*' tab students describe how efficient they were.

Students' activities	<p><b>After listening and observing</b> students:</p> <ul style="list-style-type: none"> <li>• discuss, summarise and assess the conversation and present their arguments,</li> <li>• identify and summarise the characteristics of a specific type of the conversation and compare them to the characteristics of other types of conversations,</li> <li>• describe their strategy of critical listening and compare it to the strategies used by their schoolmates,</li> <li>• get ready for team work in a specific type of a conversation – they choose their co-speaker, define the circumstances, the topic and content of the conversation, activate their knowledge about the characteristics of the conversation and their knowledge of a polite conversation and plan a strategy of cooperation to be used during the conversation (Appendix 1: Worksheet).</li> </ul>
Other	
Website	

### Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	<i>'My learning'</i>	A tab in the on-line E-portfolio (Mahara)		Slovenian
Students' artefacts		<p>An AfL tab in Mahara, where students plan their own learning (teacher can comment on it) with the help of the following questions:</p> <p><b>Setting the goals</b> What is my goal? What do I want to achieve?</p> <p><b>Prior knowledge</b> What do I already know? What can I already do?</p> <p><b>Strategies</b> How can I achieve my goal?</p> <p><b>Evidence</b> How will I prove that I have achieved the goal?</p> <p><b>Self-evaluation</b> How successful have I been? Have I reached my goal?</p>	<p>Appendix 2.1: An example of 'My learning' tab: A formal phone conversation</p> <p>Appendix 2.2: An example of 'My learning' tab: A formal phone conversation</p>	Slovenian

Implementation photos/videos	Questions to help students to set their goal: <i>What is my goal?</i> <i>What do I want to achieve?</i>	Teacher helps students by giving questions to develop independence in planning.	<p>Example: <b>Setting the goals</b></p> <p>What is my goal? What do I want to achieve?</p> <p>Answer the following questions:</p> <p><i>Which types of phone conversations are you familiar with?</i></p> <p><i>Which phone conversations do you use the most?</i></p> <p><i>How good do you think you are when you talk to a third person on the phone and what do you want to improve?</i></p> <p><i>Do you use formal language when you talk to a third unknown person?</i></p>	Slovenian

### Teacher's reflection on the results and the lessons learnt

	Description
What went well	All the pupils, including those who normally have communication difficulties, responded to the task positively. It seems their attention was attracted by the part of the task which involved recording. By listening to and commenting on the recordings in front of the class, the pupils became aware of their own mistakes and showed interest in improving their conversational skills with the newly acquired knowledge. Some of them improved their conversational skills (polite behaviour towards an official, using formal language, self-correction of mispronunciation etc.).
What did not go well	We faced some difficulties in the computer room, since it wasn't fully functional at the beginning of the school year, so we were forced to start the tasks much later than planned. Most of the pupils didn't have problems with creating their profiles in Mahara. However, there were some pupils who were not able to use their e-mail accounts. The students who had difficulties creating their profiles in Mahara needed teacher's support.
Lessons learnt	The pupils enjoyed creating their profiles in Mahara; some of them even opened groups' forums. Students really showed a great interest in the part of the task when they had to act out different roles and record the phone conversations.

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## APPENDIX 1

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### Worksheet

#### Priloga 1

##### Navodila za delo

1. S sošolcem se spomnita značilnosti vseh obravnavanih pogovorov in razlik med njimi.
2. Napišita besedilo za uradni telefonski pogovor, si razdelita vlogi.
3. Pripravita se za snemanje pogovora.
4. Posnetek vključita v mapo Slovenščina vsak v svoj Listovnik.
5. V zavihek Moje učenje vključita tudi zapis o tem, zakaj je pomembno, da se znamo pogovarjati z osebami raznih institucij.

#### Priloga 2

##### Pogled nazaj

##### Ali sem cilj dosegel?

Kako sem zadovoljen s svojim delom, kaj mi je uspelo, kaj me je najbolj motilo?

Kaj sem vse delal, da sem zaključil naloge?

Kaj bi prihodnjič spremenil / izboljšal (kateri fazi učnega procesa moram posveti več pozornosti)?

Kaj sem se naučil/ kaj znam več? Kaj sem se naučil na poti do cilja?

Kaj bi svetoval sošolcu/ki?


## APPENDIX 2.1

### An example of 'My learning' tab: A formal phone conversation



#### Slovenščina

**Vsebina:**

Ime	Opis
 Opis osebe	
 Telefonski pogajalni pogovor.amr	
 William Shakespeare in Elizabetinski čas.ppt	

#### Uradni telefonski pogovor

#### Postavljanje ciljev

Da znam uporabljati različne pogovore ( uradne in neuradne)

#### Predznanje

Imam veliko predznanja že iz prejšnjih let, saj smo se učila veliko o njih in tudi dokazati smo se morali pri spraševanju

#### Dokazi

Zdaj znamo že čisto sami oblikovati in posneti uradni pogovor kar je zelo poučno kot dokaz je posneti uradni pogajalni pogovor.

---

## APPENDIX 2.2

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### An example of 'My learning' tab: A formal phone conversation



#### Uradni telefonski pogovor

**Priplete datoteke** 1 

##### Postavljanje ciljev

Da ponovimo različne vrste pogovorov. Sama tvorim "zaigran" uradni telefonski pogovor.

##### Predznanje

Poznam vrste pogovorov in osnovne pravine uradnega pogovora.

##### Strategije

S sošolko bova napisali besedilo, se ga tekoče naučili brati in ga kasneje posneli.

##### Dokazi

S sošolko sva posneli posnetek, kjer uradno govoriva. Učiteljica nama je rekla, da sva ga dobro odigrali.

##### Samoevalvacija

Znam tvoriti uradni pogovor. Menim, da je bil ključ do uspeha tudi dober osnutek.

## APPENDIX 3

### An example of a formal phone conversation

The screenshot shows the Mahara user interface. At the top, the user is logged in as 'Suzana Cvirn Guček' with links to 'Vsebina', 'Listovnik', 'Skupine', and 'Odjava'. The page title is 'Pogled za učitelja osebe Ana Česen'. Below this, the file 'Pogovor.m4a' is being uploaded. The file details are as follows:

Tip:	m4a datoteka
Opis:	
Ključne besede:	
Lastnik:	Ana Česen
Ustvarjeno:	torek, 26. november 2013, 9:41
Zadnja sprememba:	torek, 26. november 2013, 9:41
Velikost:	437,3K (447830 bajtov)
Prenos:	Prenos

At the bottom of the file details, there are links: 'Prijava neprimerno vsebino', 'Natisni', 'Add page "Pogled za učitelja" to watchlist', and an information icon.

A: Dober dan, tukaj Mladinska knjiga, ... pri telefonu, prosim.

B: Dober da, tukaj ... Kličem, ker sem v katalogu videla, da prodajate Shakespearjevo knjigo. Rada bi jo naročila.

A: Katero knjigo pa bi želeli naročiti?

B: Naročiti želim knjigo Romeo in Julija.

A: Žal mi je, toda te knjige nimamo na zalogi.

B: Imate morda kako drugo njegovo knjigo?

A: Seveda, imamo še tri izvode Ukročene trmoglavke.

B: Lahko naročim en izvod te knjige?

A: Seveda, naj vam jo pošljemo po pošti?

B: Ja, prosim, moj naslov je Kekčeva cesta 75, 1000 Ljubljana.

A: V redu, dobite jo v roku treh dni, prav tako pa tudi položnico.

B: Najlepša hvala in nasvidenje

A: Nasvidenje, lep dan.



---

## APPENDIX 4




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### An example of a view shared with the teacher

#### Pogled za učitelje

##### Slovenščina

###### Vsebina:

Ime	Opis
 Moja prijateljica-slovenščina.docx	
 Pogovor za slovenščino.m4a	
 Viri pri učenju o Hamletu.docx	

##### Uradni telefonski pogovor

###### Postavljanje ciljev

Moj namen je dobro poznati vse tri vrste pogovorov, torej pogajalni, prepričevalni in raziskovalni pogovor. Pri tem je zelo pomembno, da se znamo pravilno izražati, sploh, če tvorimo uradne vrste teh pogovorov, torej da vljudno pozdravimo, se predstavimo, osebo vlikamo in na koncu, vljudno odzdravimo, seveda.

###### Predznanje

V šoli smo spoznali že vse tri vrste pogovor, torej pogajalni, prepričevalni in vprašalni pogovor.

Ko tvorimo vprašanja in odgovore, tvorimo raziskovalni pogovor.

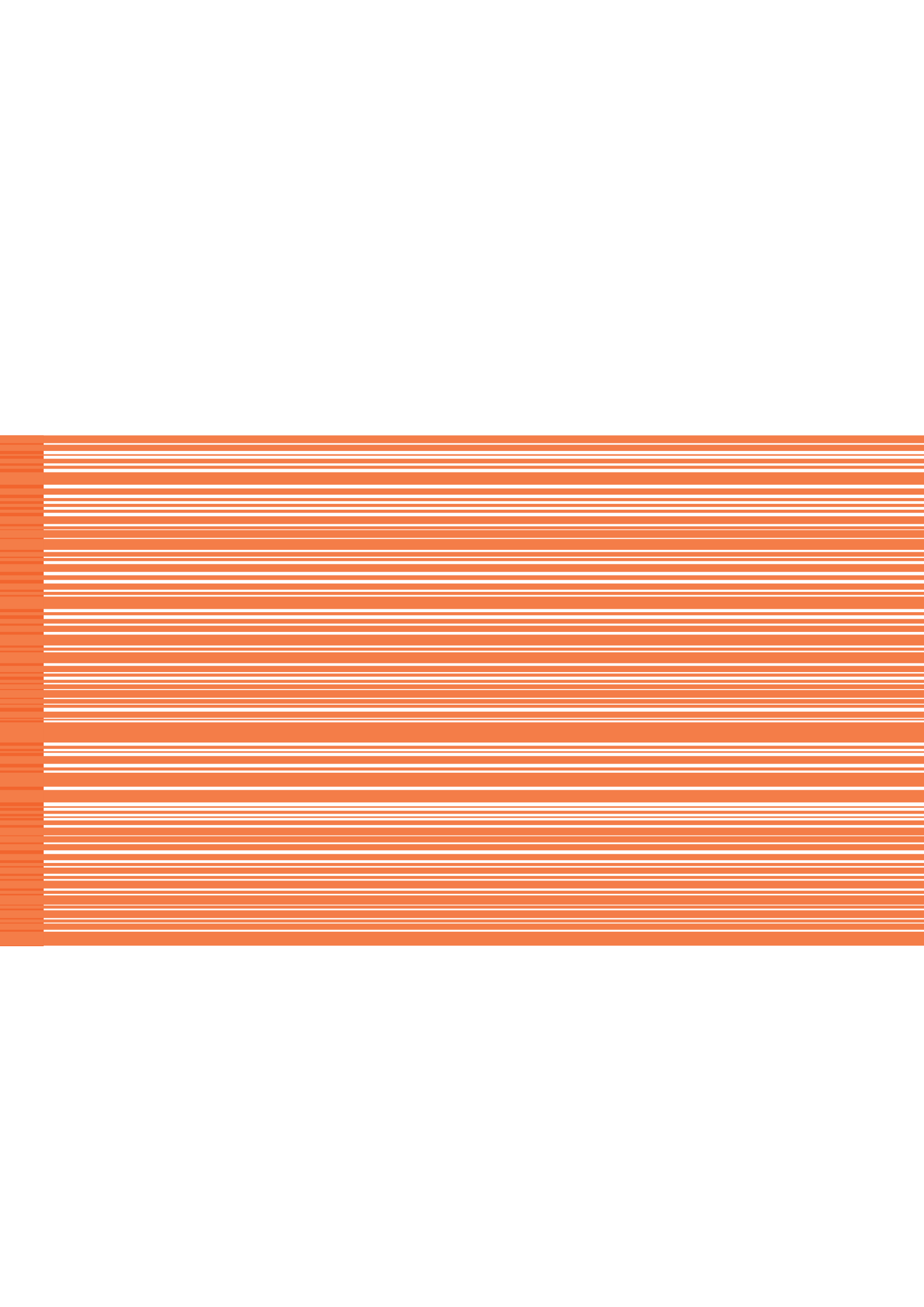
Ko želimo nekoga prepričati o dejanju, a se nam upira, tvorimo prepričevalni pogovor.

Ko želimo z nekom uskladiti mnenje, da bo ustrezalo obema, tvorimo pogajalni pogovor.

##### Slovenski in angleški časi

###### Postavljanje ciljev

Moj cilj je pravilna oziroma boljša uporaba slovenskih in angleških časov. Prav tako si želim boljšega pravilnega znanja, predvsem v angleškem



# 7 SLOVENIAN LANGUAGE:

## My portfolio

Tatjana Lotrič Komac, Primary school Naklo

Subject	Slovenian language
Learning Design Title	MY PORTFOLIO
Year group	Grade 8 (average age: 13–14 years)
Language	Slovenian
Duration	One cycle (three 45-minute lessons: one in the computer room, others in the classroom)
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• become familiar with Mahara, they design their profile,</li> <li>• introduce themselves, their interests and goals,</li> <li>• specify their strong fields,</li> <li>• think about their future, set short-term and long-term goals.</li> </ul>
Concise description of the content	<p>The purpose of this unit is to motivate pupils to work with the portfolio, to emphasise the importance of sharing personal data and looking for critical friends.</p> <p>Through presentation of their interests, music, photos and smells, pupils try to find out which things they have in common and where they differ. They also think about and discuss the fact that they often adapt to their peers because they don't want to stand out. Pupils support their findings with examples. In groups, they think about their sense of belonging to a group on one hand, and about their individuality on the other. Besides, they compare their findings and search for topic-related examples in Slovene literature.</p> <p>They insert an illustration with a brief description into their portfolio, complete their profile and respond to their friend's presentations (whereby they get a critical friend). Afterwards they group themselves according to certain interests. This is followed by students' careful consideration of their life goals, short-term as well as long-term goals. First pupils ask themselves about the meaning of setting goals. They try to define at least one personal short-term and one long-term goal, and then they define their educational goals. They reflect upon their choices as well as their friends' choices. However, they focus only on the practicability and not on the goal as such. By the end of the unit they grasp the idea behind setting goals.</p>
Keywords	introducing portfolio, setting goals
Methodology	group and individual work

<b>21<sup>st</sup> century skill(s)</b>	ICT skills, critical thinking
<b>ICT tools used</b>	Mahara – a fully featured web application to build your electronic portfolio
<b>Students' activities</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• introduce themselves with words and through art,</li> <li>• make a mind map and present it,</li> <li>• participate in a discussion, make critical friends,</li> <li>• think about dilemmas with completing profiles,</li> <li>• distinguish between their short-term and their long-term goals,</li> <li>• think about evidence for testing the efficiency of the set goals,</li> <li>• reflect on and evaluate their own and their friend's work.</li> </ul>
<b>Other</b>	
<b>Website</b>	

### Accompanying materials/resources for the learning design

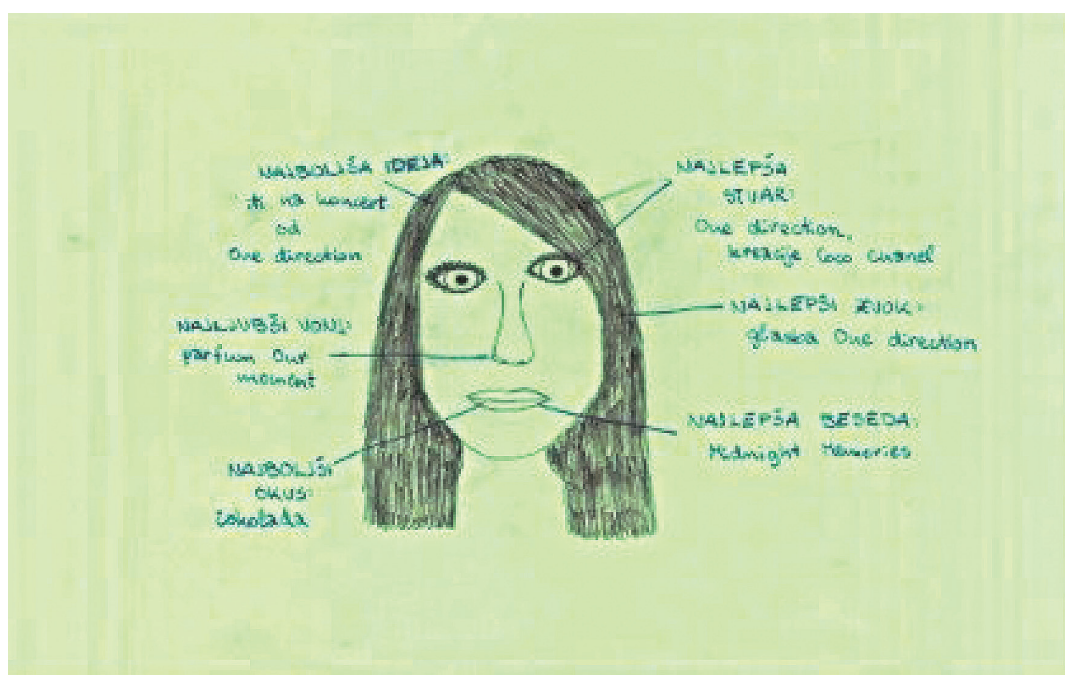
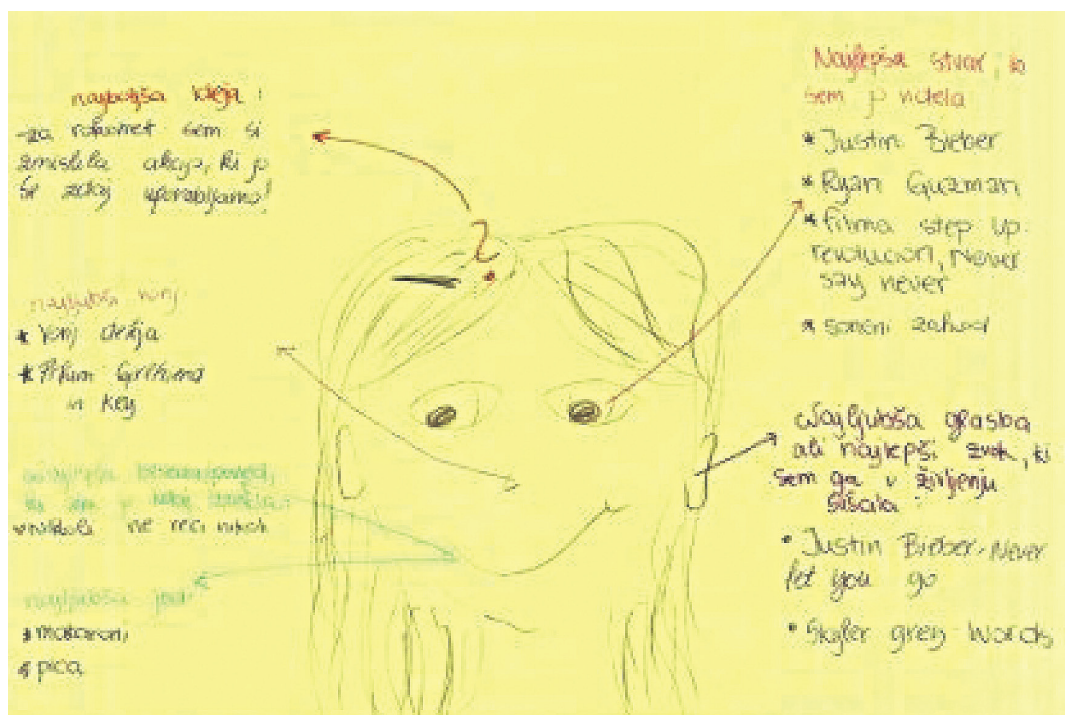
	Description	Type	File name / URL	Language
<b>Materials during activities</b>	Worksheet, oral instructions	Document		Slovenian
<b>Students' artefacts</b>	Memes created by students	Pictures	Appendix 1	English
	Completed profile and setting goals	An AfL tab in Mahara, where students plan their own learning	Appendix 2	Slovenian
<b>Implementation photos/videos</b>				

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	<p>Pupils showed great creativity in their presentations. They immediately realised that they had common views of the world, smell and music. This made them reconsider the question about reasons for their 'going with the flow': <i>Is it because they don't dare to stand out or is it the influence of the majority?</i> They were able to set short-term as well as long-term goals and find the purpose in this task.</p> <p>They started to realise the importance of sharing personal data.</p>
What did not go well	<p>Students needed a lot of encouragement, especially with setting goals since they dealt with the task in a stereotypical way. They hadn't thought about these questions before, therefore they found the task quite challenging. They made fun of other fellow students' goals quite often while playing the role of 'critical friends'.</p>
Lessons learnt	<ol style="list-style-type: none"> <li>1. More time should be spent on emphasizing the importance of setting goals.</li> <li>2. While presenting, students should be free to choose the media – including sound and video or even a website.</li> <li>3. Getting to know Mahara took a lot of time, therefore extra lessons should be planned.</li> </ol>

## APPENDIX 1

### Memes created by students




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## APPENDIX 2

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### Example of a student's learning plan

 **PODATKI PROFILA**

- Ime: Aleksander
- Priimek: Sokoevic

 **MOJI DOLGOROČNI CILJI**

Datum zaključka	Naslov
16. december 2016	Kdo sem cez 3 leta?
16. december 2018	Kdo sem cez 5 let?
16. december 2023	Kdo bom cez 10 let?

 **FIZIKA-TRENJE**

#### Postavljanje ciljev

Moji cilji so ,da bi vedel vse o trenju.

#### Predznanje

Vse kar vem o trenju, je to da je to sila, ki deluje nasproti premikajočem telesu.

#### Strategije

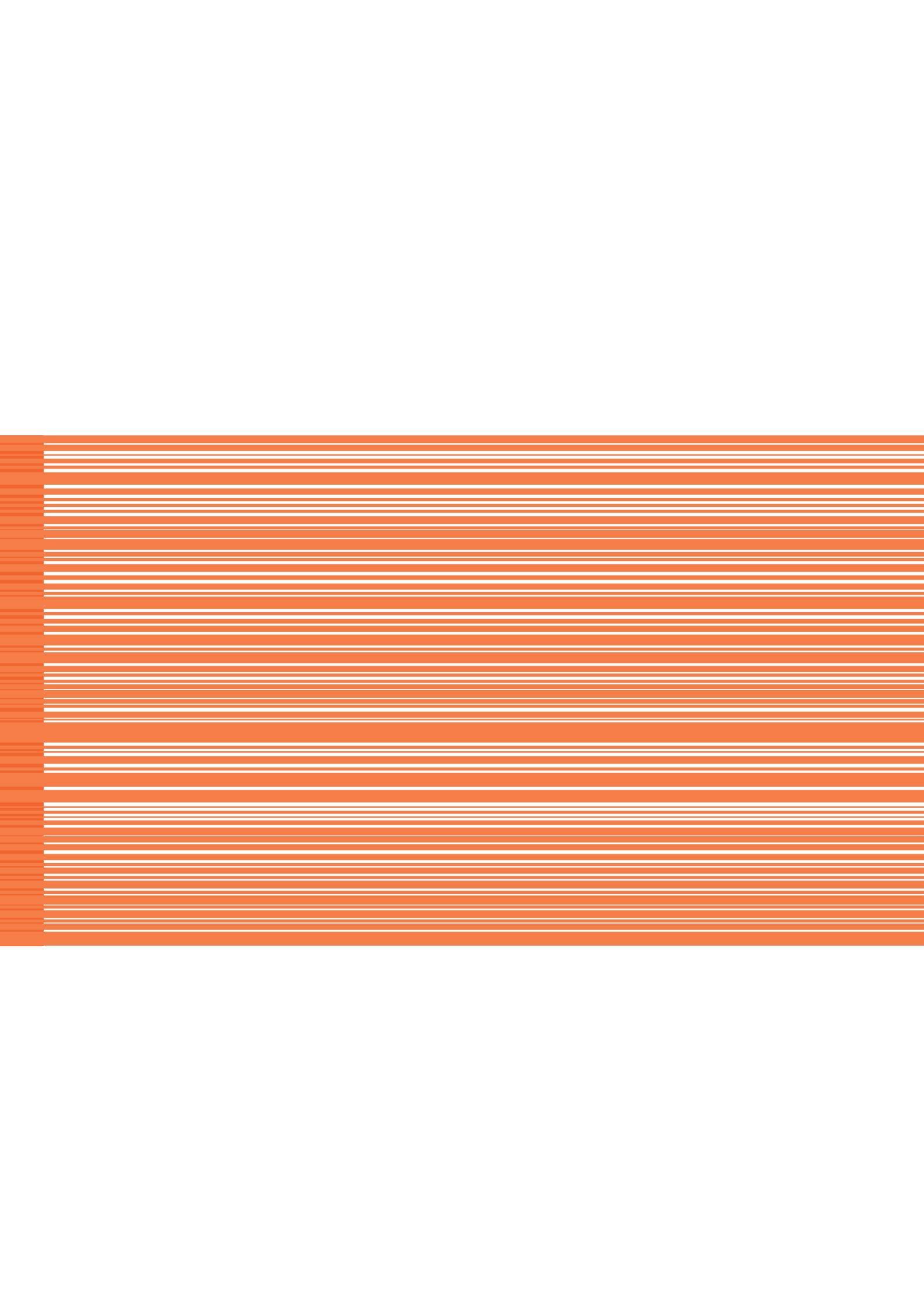
Poslušal bom učiteljske razlage in sodeloval pri poskusu.

#### Dokazi

Z odlično oceno.

#### Samoevalvacija

Svoje cilje sm uresničil dobil sm odlično oceno in vem vse o trenju.





# 8 NATURAL SCIENCE:

## The tree in three seasons

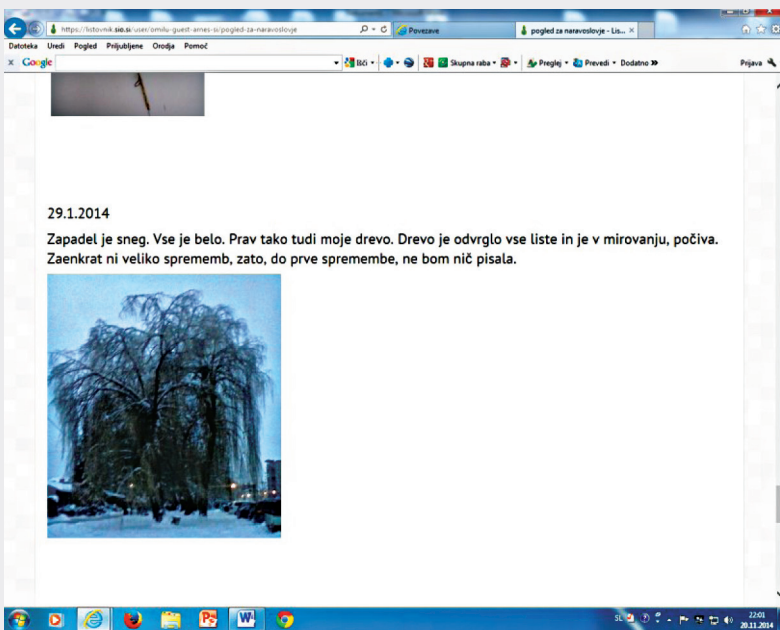
Simona Zobec and Ivanka Federnsberg Turinek, IV Primary school Celje

Subject	Natural Science
Learning Design Title	THE TREE IN THREE SEASONS
Year group	Grade 6 (average age: 12 years)
Language	Slovenian
Duration	One cycle (two months: October and November)
Goals	The learning goal of each student is to get familiar with the characteristics of their selected deciduous tree in autumn. They observe, analyse and evaluate the changes of the tree over time, making regular notes, so as to better understand the changes. Their observations help them understand the principles of natural phenomena and become more motivated for learning.
Concise description of the content	First, students are given general written instructions on how to observe their selected tree in autumn (Appendix 1). Then, they are instructed how to work with the ePortfolio. The ePortfolio learning platform becomes a space where students can make notes, store photos and drawings made during their observation of the selected tree. They deepen and enrich their knowledge of natural sciences using ICT and they also make critical friends with their classmates and teachers. By participating in the learning design students are familiarised with experiential and cross-curricular learning, team work, critical friendship, formative assessment and self-evaluation. This approach allows them an access to quick feedback, self-evaluation and self-regulation.
Keywords	ePortfolio, experiential learning, cross-curricular learning, self-evaluation, team work and communication, information and communication technology literacy
Methodology	students' individual work, ePortfolio
21 <sup>st</sup> century skill(s)	goal setting, developing problem solving strategies, reasoning, analysis, interpretation, synthesizing information, science literacy and reasoning, environmental and conservation literacy, ecosystem understanding
ICT tools used	ePortfolio (Mahara)
Students' activities	Each student chooses a particular deciduous tree near school/home that he/she finds interesting and creates the tree identity card. When the leaves begin shedding, the student starts collecting them; every week he/she picks one leaf and observes it closely, draws it, photographs it and identifies changes. The student monitors the shedding of leaves and critically discusses the phenomena with his/her classmates.
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
<b>Materials during activities</b>	Tree Paper (Coloured) pencils Camera Computer (ePortfolio, Mahara)	Various (see description)		Slovenian
<b>Students' artefacts</b>	The tree's ID (name in Slovenian and Latin, with etymology; the tree's height and trunk's circumference; the shape of the treetop; the bark's print; the name, drawing and photos of fruits and seeds; interesting facts, use and importance of the tree) Collection of autumn leaves Leaf prints Observation drawings and notes	Drawings, photos and notes scanned and saved in the Mahara learning environment (ePortfolio)	Appendix 2	Slovenian
<b>Students' artefacts in the Mahara</b>	The tree's ID Observation of the leaf during different seasons	Print screen of the student's Mahara environment	Appendix 3	Slovenian
<b>Implementation photos/videos</b>	Photos and a video recording of students' work in nature and in the classroom	Photos and a video recording	Appendix 4	Slovenian

## Teacher's reflection on the results and the lessons learnt

	Description
<p><b>What went well</b></p>	<p>At the beginning, the students showed great enthusiasm and interest, mainly concerning working with computers. They looked forward to using their ePortfolios, creating their personal profiles, having ePortfolio friends, exchanging messages with the teacher. Regular and immediate feedback was a great advantage as it allowed for continuous encouragement and guidance. The students also learnt how to upgrade their everyday routine usage of the computer applications (e.g. how to scan photos and how to transfer them to the computer from their phones).</p> <p>The learning design clearly improved students' ICT literacy as well as their science literacy and reasoning through experiential learning.</p>
<p><b>What did not go well</b></p>	<p>While about a third of the students successfully accomplished all the designed stages, roughly a sixth of them were less successful. After the initial excitement some of the students lost some interests – as soon as it became clear that quite some work was expected to be done (homework, observations, making prints etc.). In addition, some of the students found it difficult to get to grips with the Mahara learning environment (it seemed too complex for some, which may have been the result of the fact that it was redesigned during the course of their work).</p>  <p>Nevertheless, they all did their best in the end.</p>
<p><b>Lessons learnt</b></p>	<p>Students need clear and detailed instructions as well as considerable amount of encouragement. Clearer differentiation of stages of progress to support students' learning and regard for individual students' age would be welcome. Effective and open communication turned out to be of crucial importance.</p>

## APPENDIX 1

### General written instructions on how to observe the selected tree

#### THE TREE IN THREE SEASONS (autumn, winter, spring)

1. Select a tree close to your school or home.
2. You will be observing the tree for a longer period of time (autumn, winter, spring). In May you will prepare the final report on your findings about your selected tree (see instructions).
3. Get to know your selected tree (see **the identity card section**). Find out as many interesting facts about the tree as you can. Observe closely and note all the changes related to the tree during each season. To make your work easier, you will get specific instructions for each season.
4. **The tree's identity card:**
  - **The name of the tree** (Slovenian, Latin, etymology, if possible)
  - Draw your tree on a big sheet of paper. Draw the tree while actually observing it. Do it as carefully and realistically as possible. Use coloured pencils.
  - **The tree's height** (lean a meter long stick against the trunk and walk 20 steps away, hold a pencil in your stretched arm and measure the length of the stick; then move the length along the tree up to its top).
  - **The circumference of the trunk** (the circumference of the trunk 1 m above the ground and at the ground). What do you notice? Write down your observations.
  - **The treetop** – What is it like? Round, elongated, triangular etc.?
  - **The bark** – Look at the bark closely. Touch it – is it smooth or rough? Is the bark on the trunk the same as on the branches? Make a print of the bark on the trunk and a print of the bark on a branch, if possible (hold a sheet of paper tightly to the trunk/branch and use a soft pencil, coloured pencil or crayon to rub the paper – a picture of the bark will appear). Compare the two prints. Are they the same? Write down your observations and give explanations.
  - **Fruits and seeds** – Find, draw and photograph them. Name the fruit.
  - **Interesting facts**
  - **What is the tree used for?** (importance)
5. **Observing changes**
  - a) **AUTUMN**
    - **The leaves.** From spring, when leaf buds open and trees come into leaf, up to autumn, there are constant changes in leaves. Collect leaves in October and November. Put the collected leaves between sheets of paper and weigh them. By pressing them, you will get a collection of autumn leaves. Leaves contain a lot of water, so your paper sheets will become wet. Wet leaves can go mouldy and change colour. Therefore, change paper sheets every second day. When the leaves are completely dry, glue them onto empty paper sheets. Your collection should have a number of leaves (pick a leaf once a week and dry it). Add the date when the leaf was picked. What do you see? How do the colours change? Why does the leaf colour change? What does brown colour mean? Make a leaf print (see the instructions at the bark). There should be two prints – of both sides of the leaf. What do you see? Why? Scratch the leaf with your nail. Does it have a smell? Is the leaf hairy? Pay attention to leaf shedding. When did the leaves begin to fall? When did the majority of the leaves fall? Find out the reason for the falling of the leaves and for the tree shedding its leaves before winter.
    - **Plants on the tree** - look carefully at the tree's bark. Do you see any small plants: mosses, lichens? Draw and name them. How much of the bark do they cover (a little, quite some, a lot, most of it)? At what height of the trunk do they grow?
    - **Animals on the tree.** Do you see any birds, insects or other small animals on the tree? What colour are they? Where can you see them: in hollows, in the bark's cracks, on the surface of the bark? Draw and name them. Do you see any other evidence of animals, such as nests, holes, bites, etc.?

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## APPENDIX 2

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### Drawings scanned and saved in the Mahara learning environment



The leaf's print above and the bark's print below

## APPENDIX 3

### The tree ID from the student's Mahara environment

#### OSEBNA IZKAZNICA DREVESA

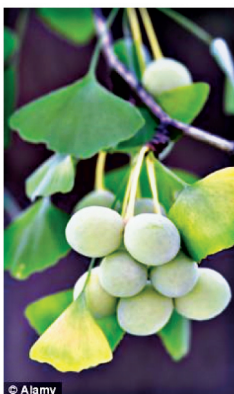
IME: Ginko latinsko-Ginko Biloba

VIŠINA DREVESA: 14m

KROŠNJA: Podolgovata

LUBJE HRAPAVO:

PLODOVI IN SEMENA: Plodovi so neprijetnega vonja. Semen še nisem opazila.



© Alamy

ZANIMIVOSTI: Ginko je daleč najstarejša še živeča drevesna vrsta na planetu. Preživel je vse katastrofe kljuboval, klimatskim spremembam, razvoj in izumrtje dinosavra, nastanek človeka, razmik kontinentov, ledeno dobo in na Japonskem v Hirošimi atomsko bombo.

UPORABNOST:

Njegovi listi so zdravilni.

28.11.2013

Drevo se ni spremenilo. Zato nisem ničesar napisala. Platana nima semen (nisem jih videla). Ima pa plodove, ki so podobni kostanju.



UGOTOVITVE:

Drevo se je v dveh mesecih spremenilo. Listi so začeli odpadati že takrat, ko sem začela opazovati drevo.

Listi so začeli odpadati, zato ker prihaja zima in bo bolj mrzlo, zaradi odmrtja tkiva. Večina listov je odpadlo pozimi, saj je bolj mrzlo in nimajo svojih potreb. Ko sem gledala in zbiralala liste sem ugotovila, da se barva spreminja. Na začetku so bili listi zeleni potem so pa bili vedno bolj rjavi.



ZIMA (december, januar)

16.1.2014

V Januarju sem odtrgala vejico iz drevesa in jo dala v vodo in v prostor kjer je primerno toplo za rastlino. Na začetku so bili popki zaprti. Poznamo stranski in končni popek.





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## APPENDIX 4

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### Photos of students' work in nature







## 9 FOLK DANCES: Creating a new folk dance choreography

Magda Dobršek, Primary school Dobje

Subject	Folk dances (optional subject)
Learning Design Title	CREATING A NEW FOLK DANCE CHOREOGRAPHY
Year group	Grade 7 and 8 (average age: 12–13 years)
Language	Slovenian
Duration	One cycle (six 45-minute lessons: two in the computer room, others in the classroom; work at home)
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• develop creativity by making their own folk dance choreography,</li> <li>• develop capability of cooperation and help,</li> <li>• develop the skill of planning and evaluating their work,</li> <li>• learn how to upload the video on YouTube; learn how to set the privacy when uploading the video.</li> </ul>
Concise description of the content	<p>Students learn about characteristics of different folk dances in Slovenia and create a new choreography. Meanwhile they also learn how to dance (Točak, Kovtre šivat', Marko skače, Lepa Anka kolo vodi). They set their goals and write down their learning plans ('My learning' tab in Mahara). Students share their planned strategies (share the 'view') for achieving the goals with the school friends from their group.</p> <p>They can work in pairs or in groups when adding new parts of their own choreography to the basic dance steps. They are supposed to follow the basic concept of folk dances, while using elements of their creativity.</p> <p>After practising their dances and when they are satisfied with their work, they make a video. The video is shown to the whole group. If necessary, they make changes or practise more.</p> <p>The video is students' artefact and they embed the link to Mahara. Students use the forum for discussion.</p> <p>At the end they reflect on their work by answering teacher's questions.</p>
Keywords	folk dance choreography, creativity, video
Methodology	work in pairs, group work, individual work
21 <sup>st</sup> century skill(s)	ICT skills, critical thinking, creating, evaluating, communicating

ICT tools used	<ul style="list-style-type: none"> <li>• Mahara – a fully featured web application to build your electronic portfolio</li> <li>• CD player</li> <li>• video camera</li> <li>• You tube</li> </ul>
Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• look for ideas for creating a dance choreography,</li> <li>• fill out '<i>My learning</i>' tab: goals, prior knowledge, strategies,</li> <li>• create and share views in Mahara,</li> <li>• create choreographies in pairs or in groups,</li> <li>• practise dancing,</li> <li>• dance and record a video with a video camera,</li> <li>• upload the video on You tube,</li> <li>• put the link of the video in '<i>My learning</i>' tab,</li> <li>• discuss their choreographies,</li> <li>• answer teacher's questions and write a critical reflection.</li> </ul>
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	'My learning'	A tab in the on-line E-portfolio (Mahara)		Slovenian
Students' artefacts	Student's lesson plan	an AfL tab in Mahara, where students plan their own learning: <b>Setting goals</b> <b>Prior knowledge</b> <b>Strategies</b> <b>Evidence</b> <b>Self-evaluation</b>	Appendix 1	Slovenian
	Video	Students' choreographies	<a href="http://youtu.be/E00QJVgQvQ8">http://youtu.be/E00QJVgQvQ8</a>	Slovenian
	Forum	Students exchange comments and give constructive feedback.	Appendix 2	Slovenian
	Video	Students present their own choreographies at a school event.	<a href="https://drive.google.com/folderview?id=0BxmbwGMw-QqlcHR4dFVmTktHREk&amp;usp=sharing">https://drive.google.com/folderview?id=0BxmbwGMw-QqlcHR4dFVmTktHREk&amp;usp=sharing</a>	Slovenian
Implementation photos/videos	CD and You tube	Slovenian folk music for dancing and preview of different folk dances.		Slovenian

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	Students were motivated; all of them were active and creative. Choreographies were corrected over and over again by them. Most of them took the work in 'My learning' tab very seriously and I was really satisfied with the results and evidence of their work.
What did not go well	We were pressed for time, while working in Mahara, because of one single lesson available per week.
Lessons learnt	Using the 'My learning' tab helped students to plan their learning better; their inner motivation for work was higher and I got good quality products from them.

## APPENDIX 1

### Example of a student's learning plan

#### Q USTVARJANJE LASTNE KOREOGRAFIJE ZA LJUDSKI PLES MARKO SKAČE

**Ključne besede:** koreografija, Marko skače

S sošolko bova ustvarili lastno koreografijo za ljudski ples Marko skače.

#### Postavljanje ciljev

Želim ustvariti lastno koreografijo za ljudski ples Marko skače. Pri tem želim biti ustvarjalna in inovativna. S sošolko bova poskusili čim bolje sodelovati in skupaj bova sestavili to koreografijo.

#### Predznanje

- poznam osnovni korak tega ljudskega plesa
- razvit ritem
- spoznala sem že veliko koreografij

#### Strategije

- poslušala bom pesem, da si čim boljše zapomnim ritem pesmi
- razmislila bom kakšno koreografijo bi sestavila
- s sošolko bova združili ideje za novo koreografijo
- v celotno koreografijo bova združili najine slike
- koreografijo bova pokomentirali in jo skušali dodelati

#### Dokazi

<http://youtu.be/EO0QJVgQvQ8>

<https://www.facebook.com/L.php?u=https%3A%2F%2Fdrive.google.com%2Ffolderview%3Fid%3D0BxmbwGMw-QqlcHR4dFVmTktHREk%26usp%3Dsharing&h=3AQEz5BrK>

#### Samoevalvacija

Svoj ritem sem popravila in izpolnila tako, da smo koreografijo večkrat ponovili. Tako sem si tudi hitreje zapomnila določene slike koreografij in jih lažje dodelala.

## APPENDIX 2

### Example of students' comment exchange on forum

**Forumi > Ustvarjamo koreografijo na ljudski ples Kovtre šivat'**
Uredi forum
Izbriši forum
Odjavi naročnino foruma

Pozdravljeni, učenci!

Za nami je prvo **skupinsko** ustvarjanje koreografije, ki smo jo tudi posneli. Na youtube-u si lahko ogledate posnetek na tem naslovu: <http://youtu.be/5d7TtBarJSs>

Zanima me, kako ste se ob ustvarjanju koreografije počutili? Ste bili dovolj ustvarjalni? Kaj bi želeli izboljšati, popraviti, spremeniti, dodati? Ali ste imeli ob tem kakršnekoli težave?

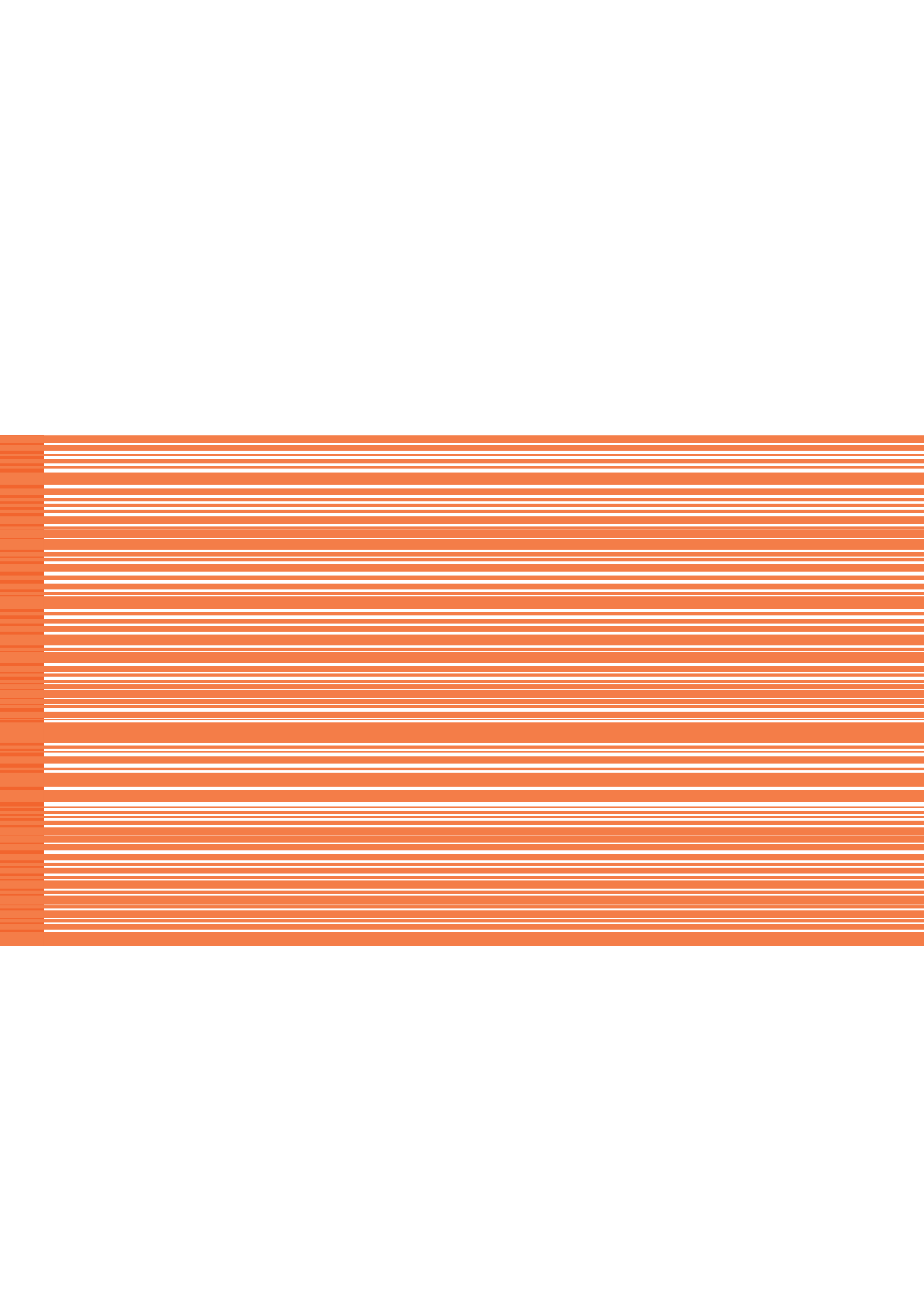
V pričakovanju vaših odgovorov vas lepo pozdravljam!

učiteljica Magda

Teme

Nova tema

	Tema	Objavil/a	Objave	Zadnja objava		
<input type="checkbox"/>	<b>Končno mnenje</b> Zahvaljujem se vam za odgovore v našem forumu. ...	Magdalena Doberšek	1	16. december 2013, 17:01 osebe Magdalena Doberšek		
<input type="checkbox"/>	<b>Moje mnenje</b> Počutila sem se super. Ja, bili smo ustvarjalni...	Nina	1	26. november 2013, 7:24 osebe Nina		
<input type="checkbox"/>	<b>Moje mnenje</b> Med ustvarjanjem sem se zabavala. Po mojem mne...	Lara Bezgovšek	1	25. november 2013, 12:56 osebe Lara Bezgovšek		
<input type="checkbox"/>	<b>Mnenje</b> Ob ustvarjanju koreografije sem se počutila zel...	Eva Vidic	1	25. november 2013, 12:54 osebe Eva Vidic		
<input type="checkbox"/>	<b>Mnenje</b> To, da smo se posneli se mi zdi super ideja, ob...	Patricija Tržan	1	22. november 2013, 20:17 osebe Patricija Tržan		
<input type="checkbox"/>	<b>Mnenje</b> Ob ustvarjanju koreografije sem se počutila sup...	Manca Kolman	1	21. november 2013, 21:41 osebe Manca Kolman		
<input type="checkbox"/>	<b>Moje mnenje</b> Ob ustvarjanju kreografije sem se počutila v re...	Eva Jeran	1	21. november 2013, 19:35 osebe Eva Jeran		
<input type="checkbox"/>	<b>Moje mnenje - popravek</b> Ob ustvarjanju koreografije sem se počutila vre...	Lavra Gajšek	1	21. november 2013, 19:24 osebe Lavra Gajšek		
<input type="checkbox"/>	<b>Mnjenje</b> Ustvarjanje plesa je bilo zanimivo in zabavno. ...	reneja	2	21. november 2013, 18:41 osebe reneja		
<input type="checkbox"/>	<b>Moje mnenje</b> Zaplesali smo vrede, vendar bo treba ples še ma...	nejar5	1	21. november 2013, 18:26 osebe nejar5		



# 10 ETHICS AND HISTORY:

## Development of the voting rights from the American revolution to the present days

Sonja Bregar Mazzini and Tatjana Kreč, Primary School Miško Kranjec, Ljubljana

Subject	Ethics and History
Learning Design Title	<p>DEVELOPMENT OF THE VOTING RIGHTS FROM THE AMERICAN REVOLUTION TO THE PRESENT DAYS</p> <p><b>ETHICS:</b> Lowering the vote right to age 16?</p> <p><b>HISTORY:</b> Social image of the USA and revolutionary France in the 16<sup>th</sup> century</p>
Year group	Grade 8 (average age: 13 years)
Language	Slovenian
Duration	<p><b>ETHICS:</b> 90 minutes (two lessons) in the Computer lab and work at home (forum, self-evaluation in 'My Learning' Tab)</p> <p><b>HISTORY:</b> 90 minutes (two lessons in Computer lab)</p>
Goals	<p><b>ETHICS:</b></p> <p><b>Content Goals:</b></p> <p>Students:</p> <ul style="list-style-type: none"> <li>• learn about political rights – the right to vote and the right to run for election,</li> <li>• learn about the possibilities of lowering the vote age to 16.</li> </ul> <p><b>Procedure Goals:</b></p> <p>Working with sources, students:</p> <ul style="list-style-type: none"> <li>• search the key information and important details, facts and proofs in the sources,</li> <li>• form their own answers, conclusions, explanation,</li> <li>• prepare and justify their personal opinion,</li> <li>• interpret their views from different aspects (perspectives).</li> </ul> <p><b>Relation Goals:</b></p> <p>Students get prepared to contribute at the elections and learn to act as responsible citizens.</p>

Goals	<p><b>HISTORY:</b>  <b>Content goals:</b>  Students:  <ul style="list-style-type: none"> <li>• explain the characteristics of the social and political image of the USA,</li> <li>• justify the influence of foundation of the USA on the old European order,</li> <li>• define social and political consequences of the French Revolution,</li> <li>• list the major changes brought by the Revolution into people's everyday lives.</li> </ul> <b>Procedure Goals:</b>  Working with sources students:  <ul style="list-style-type: none"> <li>• collect information from various historical sources,</li> <li>• form conclusions, explanations and opinions and define them,</li> <li>• compare the content of historical sources with that of today's democratic society.</li> </ul> <b>Relation Goals:</b>  Students:  <ul style="list-style-type: none"> <li>• use multiperspective historical sources to develop critical thinking,</li> <li>• form their own independent conclusions, opinions and standpoints/viewpoints.</li> </ul> <b>Common Cross Curriculum Goal:</b>  Students research the development of the right to vote through history.</p>
Concise description of the content	<p><b>ETHICS:</b>  The main goal of the learning unit is to inform students about the initiative to lower the voting right age in the Republic of Slovenia from 18 to 16, which is already implemented in some of the EU countries. Different sources on worksheets introduce various viewpoints (multiperspective) to students to compare arguments for and against lowering the voting right age to 16 as presented in the given sources. Students rank the arguments from the most to the least convincing one and justify their list. They conclude the activity by forming their own opinion of the issue in the Mahara forum. They have to support their opinion using arguments from the sources that best support their point of view.  They use the electronic worksheet and file it into ePortfolio in Mahara. They fill 'My learning' tab: <i>Vote right at 16</i> and the Worksheet into 'Teacher's view', which is used as evidence of their activity in addition to their Mahara forum cooperation.</p> <p><b>HISTORY:</b>  As part of the initial motivation students record their thoughts about the importance of the Statue of Liberty for the USA into Mahara tool. They explain the meaning of the 1789 French Revolution motto.  They write down about what they already know about democracy and human and citizen rights which refer to democracy of Slovenia in 'My learning' tab.  Working with sources, students learn about the content of the USA Declaration of Independence from 1776, Declaration of the human and citizen rights from 1789 and Constitution of the Republic of Slovenia.  They compare the content of the documents and determine which rights are mentioned. They learn about similarities and differences.  Using visual and written sources students explain who and why had no rights in the 18<sup>th</sup> century. The content of the Declaration on women from 1791 defines the women rights of that time.  To enrich their knowledge of cross-curricular lessons students are to explore the history of the development of the voting rights and fundamental documents with written vote and other human rights throughout history and during their ethics lessons they explore the situation today.</p>



Keywords	working with sources, formative assessment (focusing on four aspects of working with sources – comparison, reasoning, exploring multiple perspectives , evaluation), digital literacy, social and citizenship competences
Methodology	individual work
21 <sup>st</sup> century skill(s)	working with sources skills, digital literacy, social and citizenship competences, mother tongue communication, learning to learn
ICT tools used	Mahara
Students' activities	<p><b>ETHICS:</b> Students:</p> <ul style="list-style-type: none"> <li>• fill out '<i>My learning</i>' rubrics (goals, previous knowledge, strategies, evidence),</li> <li>• work with sources (worksheet): <ul style="list-style-type: none"> <li>- collect information from different historical sources,</li> <li>- make conclusions, explanations and opinions and justify them,</li> </ul> </li> <li>• compare historical sources' contents with contemporary democracy,</li> <li>• actively participate in Mahara forum,</li> <li>• write down their reflection on the work they have done into '<i>My learning</i>',</li> <li>• create »the view« in Mahara and share it with the subject teacher (upload the view with '<i>My Learning</i>' and a completed worksheet).</li> </ul> <p><b>HISTORY:</b> Students:</p> <ul style="list-style-type: none"> <li>• fill in '<i>My Learning</i>' tab that refers to the content goals of the learning design in the ePortfolio (they list the known information about democracy and human and citizen rights),</li> <li>• work with sources (they get to know the content of the three acts about human and citizen rights; compare the content and write down their opinions and arguments),</li> <li>• prepare their opinions and relevant arguments in a written form,</li> <li>• write a reflection,</li> <li>• do all the work in Mahara (they create their own document with the activities defined in the worksheet in the ePortfolio),</li> <li>• create »the view« in Mahara and share it with the teacher (all the mandatory activities).</li> </ul> <p><b>Cross curricular ETHICS and HISTORY activity:</b> Students write a History essay in which they think about limiting the right to vote to wealthy men and about universal voting rights – what human rights and equality before the law meant in the past and what they mean today. Students are free to use all the resources they have studied in Ethics and History.</p>
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Mahara activities	Work instructions, Worksheet, links with Mahara forum	Mahara link – students activities for ETHICS <a href="https://listovnik.sio.si/group/delo-z-viri-8-b-2014-15/dke-1-krog">https://listovnik.sio.si/group/delo-z-viri-8-b-2014-15/dke-1-krog</a>	Slovenian
		Work instructions, worksheet	Mahara link – students activities for HISTORY <a href="https://listovnik.sio.si/group/delo-z-viri-8-b-2014-15/zgodovina-2-krog">https://listovnik.sio.si/group/delo-z-viri-8-b-2014-15/zgodovina-2-krog</a>	
	'My learning' tab	<p>An AfL tab in Mahara, where students plan their own learning (teacher can comment on it) with the help of the following questions:</p> <p><b>Setting the goals</b> What is my goal? What do I want to achieve?</p> <p><b>Prior knowledge</b> What do I already know? What can I already do?</p> <p><b>Strategies</b> How can I achieve my goal?</p> <p><b>Evidence</b> How will I prove that I have achieved the goal?</p> <p><b>Self-evaluation</b> How successful have I been? Have I reached my goal?</p>	ETHICS: Appendix 1a HISTORY: Appendix 1b	Slovenian
Students' artefacts		Checklist (Formative assessment)	ETHICS: Appendix 2a HISTORY: Appendix 2b	Slovenian
	ETHICS: Evidence 1	A student's lesson plan: an AfL tab in Mahara, where students plan their own learning	ETHICS: Appendix 1a HISTORY: Appendix 1b	Slovenian
	ETHICS: Evidence 2	Worksheet	ETHICS: Appendix 3a HISTORY: Appendix 3b	Slovenian
	ETHICS: Evidence 3	Joining the forum	ETHICS: Appendix 4 HISTORY:/	Slovenian
Implementation photos/videos				

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	<p><b>ETHICS:</b> Students:</p> <ul style="list-style-type: none"> <li>• working with ICT was motivating,</li> <li>• took care of the quality of the written form (in mother tongue too) both in <i>'My Learning'</i> and in worksheet completion;</li> <li>• found working in Mahara dynamic and versatile.</li> </ul> <p><b>HISTORY:</b> Students:</p> <ul style="list-style-type: none"> <li>• working with Mahara tools went smoothly,</li> <li>• had no problems with worksheet completion,</li> <li>• think that the planned two lessons were appropriate.</li> </ul>
What did not go well	<p><b>ETHICS:</b> Students:</p> <ul style="list-style-type: none"> <li>• still too often just copied the information from the source and did not summarise it using their own words,</li> <li>• did not not fully understand the source information they read,</li> <li>• needed assistance at working with Mahara – technical aspect (processing »the view«, <i>'My learning'</i> tab, saving worksheet into ePortfolio document map).</li> </ul> <p><b>HISTORY:</b> Students needed:</p> <ul style="list-style-type: none"> <li>• additional information to set goals,</li> <li>• additional explanation of unknown words while reading written historical documents,</li> <li>• to pay attention to grammatically correct writing.</li> </ul>
Lessons learnt	<p><b>ETHICS:</b> Teacher: My worksheet was overloaded with sources and activities.</p> <p><b>HISTORY:</b> Teacher: Lesson planning needs to be simplified.</p>

## APPENDIX 1a

### ETHICS: »My Learning« – Student lessons' plan

#### VOLITVE PRI ŠESTNAJSTIH

##### Postavljanje ciljev

Kaj te v zvezi s znižanjem starosti za volilno pravico na 16 let zanima?

Zanima me ali o tem razmišlja EU ali samo Slovenija?

Kaj bi s tem Slovenija pridobila?

Ali smo pri šestnajstih dovolj zreli za volitve?

##### Predznanje

Kaj že veš o znižanju volilne pravice na 16 let?

Da se o tem govori, drugače pa še ne vem prav dosti.

##### Strategije

Kje bi lahko pridobil informacije, da bi prišel do zastavljenega odgovora (odgovorov)?

Informacije bom lahko dobila na internetu, v časopisih, vprašam lahko učiteljico in gledam kakšno informativno oddajo o tej temi.

##### Dokazi

Kako, s čim boš dokazal, da si dosegel zastavljen cilj?

Da sem dosegla zastavljen cilj bom dokazala tako da bom veliko vedela o tej temi, da bom znala utemeljiti svoje mnenje na to temo, da bom znala odgovoriti na učiteljičina in svoja vprašanja.

##### Samoevalvacija

Mislím da sem bila uspešna pri doseganju ciljev, saj:

-Vem veliko o tej temi.

- Znam odgovoriti na svoja vprašanja, ki sem si jih postavila pri postavljanju ciljev.

#### DATOTEKE ZA PRENOS

 [Ema-UL-volilna pravica pri 16-ih\\_Mahara.docx.1.docx](#)  
40,8kB | torek, 11. november 2014 | [Podrobnosti](#)

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## APPENDIX 1b

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### HISTORY: »My Learning« – Student lessons' plan

#### DATOTEKE ZA PRENOS



##### Delovni list ZGO 8.odt

485,8kB | četrtek, 13. november 2014 | [Podrobnosti](#)

#### ZGODOVINA 2. KROG-MATIC M.

##### Postavljanje ciljev

Želim izvedeti ali sta Dekleraciji o neodvisnosti kaj vplivali na današnjo Slovensko ustavo.

Želim si tudi izvedeti kaj vse piše v Dekleraciji.

Želim si izvedeti kako sta deklaraciji nastali.

Želim si tudi izvedeti kaj so v tistem času želeli spremeniti in če je sedaj tako kot so si zamislili.

##### Predznanje

Državljeni, ki so polnoletni lahko volijo.

Lahko smo voljeni.

Ljudje se lahko uprejo, s peticijami ali protest, ki ne vključujejo nasilja.

Ljudje imajo pravico nekoga tožiti na sodišču in do odvetnika.

Demokracija je prišla iz besede ljudstvo(demos) in je oblika družbenega sistema kje so si vsi ljudje enaki.

Pravice državljanov so zapisane v ustavi.

##### Strategije

Prebral bom deklaracije in ustavo Slovenije, da bom lahko tako primerjal pravice.

Prebral si bom kaj o začetku deklaracije na internetu ali v knjigi.

##### Dokazi

Da bom uspešno izpolnil delovni list. Da bom imel neko znanje o primerjanju deklaracij in ustave.

##### Samoevalvacija

Delovni list sem uspešno opravil. Delovni list je bil dobro m sestavljen in sem se veliko novega naučil, mislim da če bi bili vsi učenci pri stvari

## APPENDIX 2a

### ETHICS: Checklist (Formative assessment)

#### ČEKLISTA

UČENEC	Iz danih virov izbere ključne informacije in pomembne podrobnosti, dejstva in dokaze			Oblikuje samostojne odgovore, sklepe, razlage			*Pripravi svoje mnenje ter ga utemelji			**Interpretira dogajanje, pojave, procese z več vidikov (perspektiv)		
	1. krog	2. krog	3. krog	1. krog	2. krog	3. krog	1. krog	2. krog	3. krog	1. krog	2. krog	3. krog

## APPENDIX 2b

### ETHICS: Checklist (Formative assessment)

Učenec	Zna utemeljiti vsebino virov			Odgovori so poglobljeni			Znajo narediti primerjavo med različnimi viri – podobnosti/razlike			Zna sklepati glede na vsebino virov		
	DA	DELNO	NE	DA	DELNO	NE	DA	DELNO	NE	DA	DELNO	NE

---

## APPENDIX 3a

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### ETHICS: Example of a completed worksheet

gledajo poročila, ampak ljudje vedo kaj se dogaja in se vseeno nič ne spremeni. Morali bi se izvesti bolj močni prijemi. Po moje se tudi osebe na vodilnih položajih ne bi zamenjale. Glede na to, da je veliko upokoјencev, ki radi volijo, bi bila vplivnost mladih v državi mogoče malo povečana s to pobudo.

**Vir 6:** Rok, 19 let, dijak

Menim, da se možnost voliti pri 16 letih ne bi odnesla, saj v tem obdobju mladostniki še niso dozoreli oz. so še v puberteti, zato je še ne zna razmišljati niti za svoje dobro. Zato menim, da se v te vode mladi ne bi smeli spuščati. Definitivno dvomim, da bi se udeležba na volitvah povečala, s tem pa tudi dvomim, da bi bili mladi bolj aktivni državljani, saj jih ta tema pretirano ne zanima. Zelo dvomim, da bi se z pobudo zamenjali ljudje na vodilnih mestih v RS, saj mladi že zdaj nimamo veliko besede pri tem. In tudi mladi ne bi prišli do večje vplivnosti v državi, če bi se to sprejelo.  
<http://mlad.si/novica/2098-Anketa-med-mladimi-o-znizanju-starostne-meje-za-udelezbo-na-volitvah-na-16-let>  
(15. 10. 2014)

- **Preberi Lukovo in Rokovo izjavo o možnosti volitev pri 16.ih. Kakšno je njuno stališče do tega?**

Z volilno pravico pri šestnajstih se ne strinjata.

- **S čim utemeljujeta svoje stališče?**

Menita da s volilno pravico pri šestnajstih, ne bi pridobili, saj mladi v teh letih še niso dovolj zreli,

In jih ne bi veliko volilo. Rok meni da se mladi tako ali tako ne zanimajo pretirano za politiko, Luka

pa da so mladi že brez volilne pravice pri šestnajstih dovolj aktivni.

- **Čemu meniš, da se razlikujeta stališče Sveta Evrope in bivše slovenske vlade, ki jo je vodila Alenka Bratušek?**

Razlikujeta se, saj imajo različna mnenja in in so oboji navedli realistične argumente, ki jih morajo pri odločitvi upoštevati.

## APPENDIX 3b

### HISTORY: Example of a completed worksheet

Človekove pravice in temeljne svoboščine se uresničujejo neposredno na podlagi ustave. /.../ Človekove pravice in temeljne svoboščine so omejene samo s pravicami drugih in v primerih, ki jih določa ta ustava. /.../

#### 43. člen

Volilna pravica je splošna in enaka.

Vsak državljan, ki je dopolnil 18 let, ima pravico voliti in biti voljen. /.../

<http://www.urban.si/temeljne-svoboscine-blasa-iz-hrvatske-ustave-ustava-mlje-slovenije/> (Dostop: 3. 11. 2014)

1. Katere demokratične pravice zagotavlja naša Ustava?  
Volilno pravico, enakost pred zakonom, varovanje človekovih pravic,...

#### Naloga 2: Primerjava listin

	Deklaracija o neodvisnosti	Deklaracija o pravicah človeka in državljana	Ustava
Katere pravice so omenjene v listinah?	Neodvisnost, življenje, sreča, izbira in odstavitev vlade.	Enakost pred zakonom, svoboda mišljenja in tiska, sodelovanje pri postavljanju zakonov, obračun dela, poštenih predstavnikov.	Demokracija, varovanje človekovih pravic, enakost pred zakonom, volilna pravica.



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## APPENDIX 4

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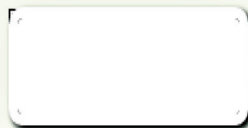
### ETHICS: Example of a student's opinion from Mahara – Forum

#### DELO Z VIRI - 8.b (2014/15)

TABS

#### Forumi > Kaj meniš ti o znižanju starostne meje za volitve na 16 let?

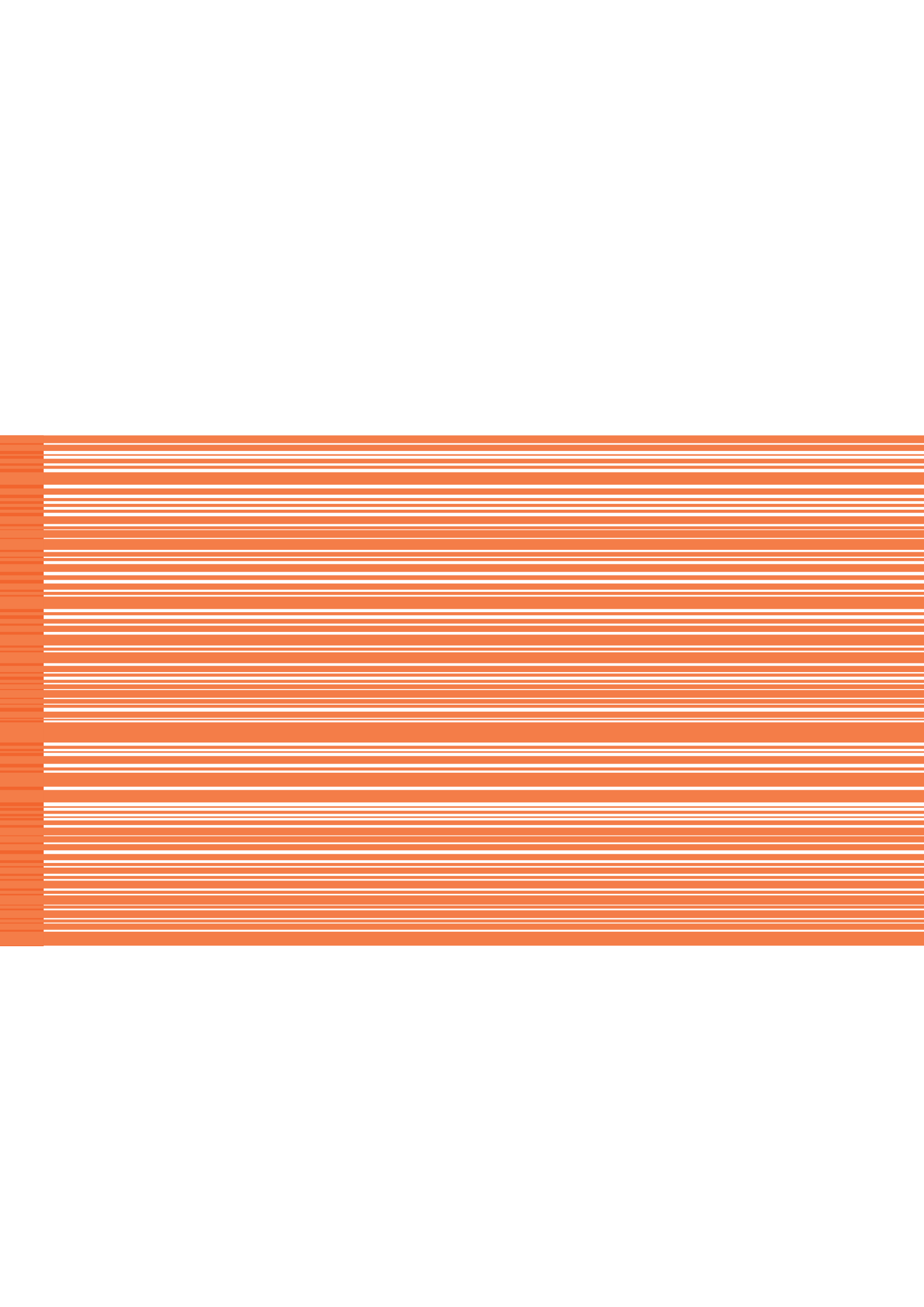
Proti



Včeraj, 21:20

Sem proti volilni pravici pri šestnajstih, saj so mladi pri teh letih še nezreli in se v večini ne zanimajo za politiko. Menim da se to z volilno pravico pri šestnajstih ne bi spremenilo in država s tem ne bi pridobila.

1 rezultat



# 11 PHYSICS:

## The pressure in solids

Valentina Mlakar, Primary school Sava Kladnika, Sevnica

Subject	Physics
Learning Design Title	THE PRESSURE IN SOLIDS
Year group	Grade 8 (average age: 13 years)
Language	Slovenian
Duration	Three lessons (135 minutes)
Goals	<p>Students</p> <ul style="list-style-type: none"> <li>• gain knowledge about pressure (understand the concept of pressure, learn how to calculate pressure – using the correct formula),</li> <li>• increase active participation and involvement during lessons,</li> <li>• activate cross-curricular skills' integration,</li> <li>• establish learning methods that bring sustainable knowledge,</li> <li>• develop effective learning strategies,</li> <li>• reinforce their reading comprehension skills.</li> </ul>
Concise description of the content	<p>Open-ended assignments are given to students in order to encourage them to further reflect on the lessons learned and to help them develop interdisciplinary connections and reasoning.</p> <p>Furthermore, in order to increase their involvement and overall participation, each task is solved individually. While reporting on their findings and results, a tabular form is created by the teacher for each student. This table allows students to reflect on their findings and broaden their critical thinking capabilities. For instance, a simple experiment involving a screw placed between two fingers has proved to increase critical thinking of each individual student. Namely, each student must perform the experiment on his/her own and comment on the outcome by using his/her own experience and knowledge.</p> <p>Each student also has to plan his/her own learning strategies by using web application named Mahara and the '<i>My learning</i>' tab. Such a strategy not only further increases effectiveness of learning, but it also encourages students to take the responsibility for their own learning.</p> <p>When students are to study new themes on their own (e.g. self-directed learning) they are given appropriate supplementary materials in electronic form. Such learning material is accompanied with extensive explanation, images and figures and examples of answer sheets. The learning material also contains several topic-related questions. This allows students to better understand, conceptualise and visualise the topic discussed and encourages them to read the material carefully.</p>

<b>Concise description of the content</b>	<p>In order to make the newly-acquired knowledge more lasting and to discuss and use it with greater ease, students are also encouraged to draw mind maps. The mind maps, as drawn by students, are also used while solving problems specified on learning sheets. They are given out and completed during classes. Such an approach has proved to have a positive impact on both content understanding and sustainability of knowledge. The completed learning sheets are corrected by the teacher. This in turn gives students direct feedback on the quality of the acquired knowledge.</p> <p>Motivation for learning and close reading with reasoning (e.g. active reading) is greatly increased by optional assignments, which students completed as survey questionnaires and delivered as Google documents (e.g. Google Docs).</p> <p>The text-based assignments are done in e-Portfolio (si. E-listovnik). Although students work in smaller groups, each of them must complete the assignment on his/her own. Individual groups are differentiated according to the complexity of the given assignments. While solving these assignments, tailored to students' abilities, students develop and expand their critical thinking skills. Additionally, the assignments are designed to induce interdisciplinary connections of their background knowledge. Each assignment is reviewed and corrected and appropriate feedback is given to each individual.</p> <p>The acquired knowledge must then be used when performing, observing and experimenting. Namely, in the given experiment the students must determine the pressure under a cylindrical container. Therefore, in order to be able to use the formula for calculating the pressure, students must first decide on how to determine the area of the bottom of the container (e.g. area of the circle).</p>
<b>Keywords</b>	interdisciplinary connections, feedback, active learning
<b>Methodology</b>	individual work, group work and work in pairs
<b>21<sup>st</sup> century skill(s)</b>	<ul style="list-style-type: none"> <li>• critical thinking, in particular self-reflection,</li> <li>• skills and strategies to enable students to use the program Mahara and similar software,</li> <li>• cooperation, communication and teamwork,</li> <li>• responsibility to obtain their own knowledge and to learn about active methods, which help students to gain more sustainable knowledge more efficiently</li> </ul>
<b>ICT tools used</b>	Mahara – 'My learning' tab, forum, views

Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• activate their prior knowledge and their abilities of interdisciplinary integration while solving an open type assignment (e. g. an assignment which contained an image of the rectangular block and data about the mass and the edges of the block, stimulated the students not only to consider what can be calculated using the given data, but also to check or calculate the newly emerging considerations),</li> <li>• design and carry out a simple experiment by using a screw. They are supposed to clarify the observed phenomena and provide convincing explanations through which they are further familiarized with the concept of pressure,</li> <li>• plan and design their own learning in Mahara software ('<i>My learning</i>'). They fill out the forms of the phases named '<i>Prerequisites</i>' (Predznanje) and '<i>Setting goals</i>' (Postavljanje ciljev). As an assisting tool, they are free to use the materials/sources, text and images, prepared in the ePortfolio,</li> <li>• read the prepared material on the subject of pressure,</li> <li>• solve problems (test/task sheets) in order to reinforce the knowledge about pressure:             <ul style="list-style-type: none"> <li>- conversion between units for measuring pressure,</li> <li>- calculating the pressure,</li> <li>- understanding the pressure,</li> <li>- while solving the given problems, students are allowed to use mind maps and the materials prepared in ePortfolio,</li> </ul> </li> <li>• review how an individual student understands the newly-learned knowledge about pressure; using multiple-choice assignments prepared by Google Docs technology,</li> <li>• enhance and consolidate knowledge and interdisciplinary integration by doing ePortfolio text assignments. The assignments are differentiated among several groups of students and tailored to their abilities (each group consists of students with similar level knowledge of physics),</li> <li>• have to determine the pressure under the cylindrical container during the experimental work,</li> <li>• complete a report about their learning and activities in Mahara: learning strategies, self-evaluation and evidence.</li> </ul>
Other	
Website	

## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Explanation of pressure – material for self-directed learning – electronic slides in PowerPoint	Web link to Mahara	<a href="https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/gradivo-o-tlaku">https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/gradivo-o-tlaku</a>	Slovenian
	Multiple choice assignments for reviewing the individual's knowledge about pressure	Prepared by using Google Docs technology – Web link to Mahara	<a href="http://url.sio.si/emX">http://url.sio.si/emX</a>	Slovenian
	Group assignments – assignments are solved by groups of students in order to gain feedback (easier assignments)	Word document – Web link to Mahara	<a href="https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/kvader">https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/kvader</a>	Slovenian
	Group assignments – assignments are solved by groups of students in order to gain feedback (intermediate assignments)	Word document – Web link to Mahara	<a href="https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/kvadra">https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/kvadra</a>	Slovenian
	Group assignments – assignments are solved by groups of students in order to gain feedback (advanced assignments)	Word document – Web link to Mahara	<a href="https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/valja">https://listovnik.sio.si/group/fizika-8-d-sile-os-sevnica/valja</a>	Slovenian
	A product of a student – open-type assignment solved on a task sheet	Scan of a student's product	Appendix 1	Slovenian
	Mind map drawn by a student – a part of results generated by students during self-directed learning about pressure	Scan of a student's product.	Appendix 1	Slovenian
	Assignments solved by students for the consolidation of knowledge about pressure	Scan of a student's product	Appendix 1	Slovenian
	Assignments are solved after the material on pressure has been processed			
	Students plan and design their own learning by using 'My learning' tab in Mahara software	Scan of a student's product (Mahara record)	Appendix 2	Slovenian
	Survey, multiple-choice assignments – Google Docs technology. The surveys are answered via web-link in Mahara software	Survey scan taken from Mahara software	Appendix 3	Slovenian

	Summary of the completed surveys	Results scanned from Google Docs	Appendix 4	Slovenian
	Example of a group assignment: Pressure under cylinders	Scan of the given assignment	Appendix 5	Slovenian
	Solution of the assignment as solved by students – their feedback	Scan of a feedback as provided by Mahara software	Appendix 6	Slovenian
	Example of a group assignment: Pressure under a block (easier assignment)	Scan of interface in Mahara	Appendix 7	Slovenian
	Example of a group assignment: Pressure under a blocks	Scan of the given assignment	Appendix 8	Slovenian
	Solution of the assignment as solved by students – their feedback and, feedback given to students by the teacher	Scan of interface in Mahara	Appendix 9	Slovenian
Implementation photos/videos	Experimental work executed in the classroom – measuring pressure under the cylindrical container	Photos of students		

## Reflection on the results and on the lessons learnt

	Description
What went well	<p>Open-ended type of assignments were well received. I was quite surprised at their enthusiasm and commitment.</p> <p>The tabular picture, generated on basis of students' reports, enabled students to have freedom of judgment about the accuracy of their own claims and results. At the same time students saw how far their knowledge already reaches, which further increased their motivation.</p> <p>Due to the open type assignments students filled out the '<i>My learning</i>' tab (in Mahara), especially the part on background knowledge, with greater ease. While reading the materials and self-monitored mind map studying, they had to draw and were encouraged to repeatedly return to the material and read through it more carefully. Furthermore, since they were allowed to use the mind maps during solving numerical problems, the given assignments were completed quite successfully. Students completed the open type assignments with enthusiasm. When they asked me about the correct answer, I directed them to read the question carefully and use the mind map, rather than giving them more concrete or direct answers. In this way I tried to familiarise them with the concept of independent, self-monitored learning and its implications in practice.</p> <p>Students also solved assignments in groups for the first time. All members of each group were solving given problems at the same time and were also able to observe progress and ideas of each individual in the group. This certainly increased motivation as well as productivity of each individual member. Besides, the approach allowed them to communicate and exchange ideas freely, "all in one".</p> <p>To sum up, formative assessment and interdisciplinary cooperation definitely increase active involvement of students in the classroom work, as well as students' motivation and responsibility to learn. By using ICT, I found different effective ways of connecting the content across disciplines and formatively monitoring work and progress of each individual student.</p>
What did not go well	<p>While doing text assignments in groups the students expressed a concern regarding the indication of the potencies, especially units (e. g. square meters). Namely, in Mahara software students cannot indicate potencies, nor does a tab for equations (e. g. Word equations) exist. As a result the equations and the problem solving process were written down into notebooks, and only the final results were posted into Mahara. The downside of such technique is also reflected in the review process. Namely while reviewing student's work teacher cannot indicate where (at which equation) in the problem solving process the student made a mistake.</p> <p>Furthermore, in order to implement the described teaching process, each lesson has to be well prepared in advance, which requires a lot of pre-prepared material. However, the lesson itself brings satisfaction to both the students and the teachers and allows for teachers to provide each individual student with detailed and structured feedback on the quality of his/her learned knowledge.</p> <p>The major problem, however, still lies mostly in the eyes and minds of the students. Namely, most of the students who knew what had to be improved or what had to be studied in more detail, were still not prepared to perform the extra effort in order to implement the strategies suggested by/in the feedback.</p>



### Lessons learnt

The review of multiple choice assignments, solved in Google Docs is a time consuming effort. The results have to be analysed immediately and the incorrect answers clarified. The summaries of the completed survey (multiple choice assignments), must be prepared, analysed and further discussed with students.

It seems that teachers should also pay more attention while communicating the feedback to students and also observe how students react to the given feedback.


Most of the students are already quite skillful with the Mahara software. Since solving assignments via the software increases their motivation and due to the fact that results are reviewed and corrected in Mahara with a certain degree of ease, some of the homework is already given out to the students electronically via Mahara software.

## APPENDIX 1

### Examples of students' products

1. Na tla smo postavili kvader. Na sliki najdeš nekatere podatke o kvadru. Kaj vse lahko izračunaš s temi podatki.

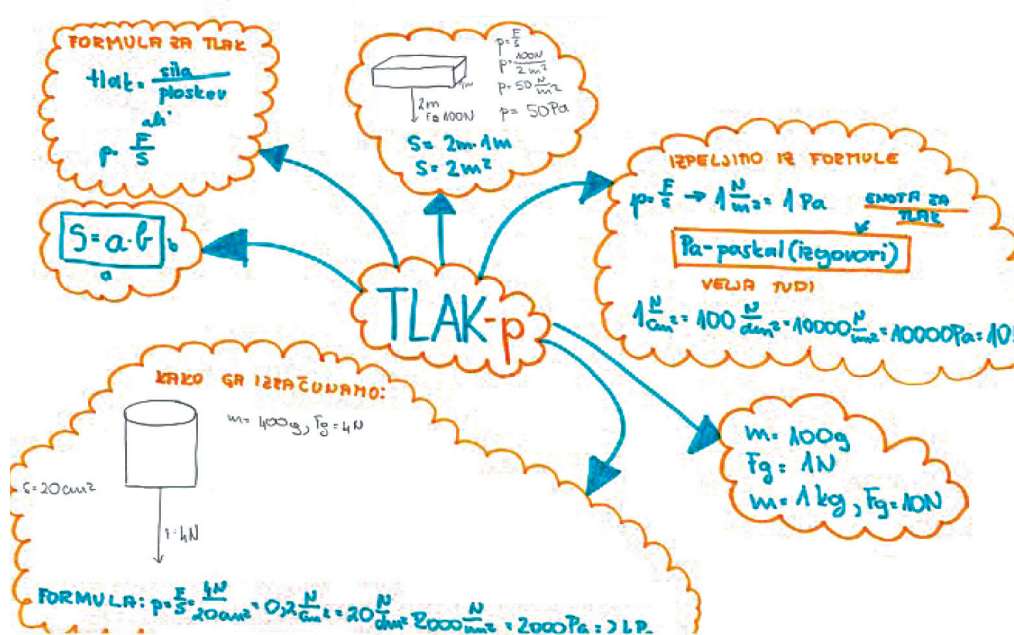
$m = 20 \text{ kg}$



5dm 1dm 2dm

$F_t = 200 \text{ N}$      $\rho = \frac{m}{V} = \frac{20 \text{ kg}}{10 \text{ dm}^3} = 2 \frac{\text{kg}}{\text{dm}^3}$   
 $V = a \cdot b \cdot c = 5 \text{ dm} \cdot 1 \text{ dm} \cdot 2 \text{ dm} = 10 \text{ dm}^3$   
 $F_g = 200 \text{ N}$      $B = 5 \text{ dm} \cdot 2 \text{ dm} = 10 \text{ dm}^2$   
 $S = a \cdot b = 5 \text{ dm} \cdot 1 \text{ dm} = 5 \text{ dm}^2$      $C = 1 \text{ dm} \cdot 2 \text{ dm} = 2 \text{ dm}^2$

Picture 1: Open-type assignment solved on a task sheet.



Picture 2: Mind map drawn by a student – a part of results generated by students during self-directed learning about pressure.

Preverjanje znanja :

1. Pretvori :

a)  $0,2 \frac{N}{cm^2} = 20 \frac{N}{dm^2} = 2000 \frac{N}{m^2} = 2000 \text{ Pa}$

b)  $4500 \text{ Pa} = 4500 \frac{N}{m^2} = 4,5 \frac{N}{dm^2}$

c)  $0,05 \frac{N}{mm^2} = 5 \frac{N}{cm^2} = 500 \frac{N}{dm^2} = 50000 \frac{N}{m^2} = 50000 \text{ Pa} = 50 \text{ kPa}$

2. Vsi kvadri na slikah so enaki. Kvadre smo postavili na tla. Masa vsakega kvadra je 0,5 kg. Kvader se dotika tal po ploskvi veliki 1 dm<sup>2</sup>. Koliko je tlak pod kvadrom, ki se dotika tal?



$m_1 = 0,5 \text{ kg}$     $m_2 = 1 \text{ kg}$     $m_3 = 1,5 \text{ kg}$

$p = 5 \frac{N}{dm^2}$

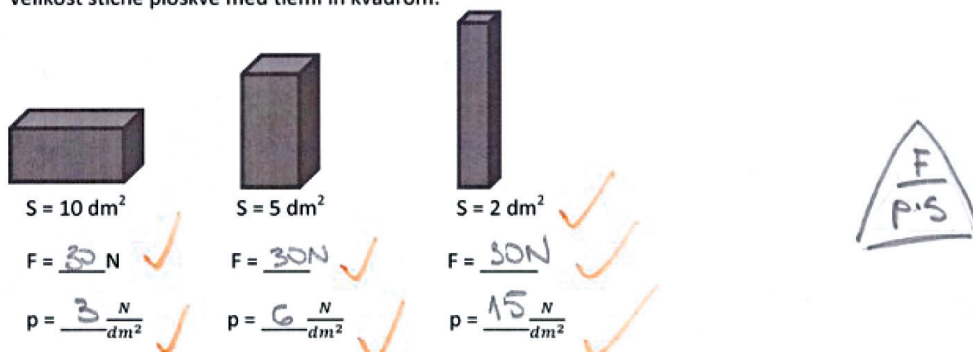
$p = 10 \frac{N}{dm^2}$

$p = 15 \frac{N}{dm^2}$

Kako se spremeni tlak, če silo dvakrat, trikrat povečamo, stična ploskev pa ostane nespremenjena.

Poveča se 2x, 3x, 4x...

3. Vsi kvadri na sliki imajo enako težo 30 N in smo jih postavili na tla. Pod vsako sliko je zapisana velikost stične ploskve med tlemi in kvadrom.



Kako se spremeni tlak, če se stična ploskev dvakrat, petkrat zmanjša, sila pa ostane nespremenjena?

se 2x, 5x, zmanjša

4. Naj ima maso 64 kg. Površina vsakega njegovega stopala je 80 cm<sup>2</sup>. Naj stoji na obeh nogah.

a) Kolikšen je tlak pod vsako nogo?   b) Kolikšen je tlak pod obema nogama?

Naj nato stopi na eno nogo. Koliko je tlak pod nogo?

$64 \text{ kg} = 640 \text{ N}$   
 $32 \text{ kg} = 320 \text{ N}$   
 $4 \frac{N}{cm^2} = 400 \frac{N}{dm^2} = 40000 \text{ Pa}$   
 $8 \frac{N}{cm^2} = 80000 \text{ Pa}$   
 $40 \text{ kPa}$

Picture 3: Assignments solved by students for the consolidation of knowledge about pressure.

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## APPENDIX 2

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### Example of a student's learning plan

#### Postavljanje ciljev

- naučila bi se enote za tlak
- kako izračunati tlak
- kako pretvarjati enote za tlak
- se naučiti kako izračunati tlak

#### Predznanje

- znam izračunati ploščino ploskve
- znam izračunati gostoto telesa
- znam izračunati težo
- znam izračunati gostoto, prostornino, silo zemlje na telo ter silo tal

#### Strategije

- branje snovi v wordu in zapisovati snov v zvezek
- izpolnili smo miselni vzorec
- branje snovi v učbeniku
- razlaga učitelja in sodelovanje
- anketni vprašalnik

#### Dokazi

- učni list
- zapisana snov v zvezku
- narejen miselni vzorec
- izpovnjen zavihek moje učenje

#### Samoevalvacija

- računanje teže
- računanje gostote
- učni list mi ni bil preveč težek razen pri pretvarjanju sem bila malo slabša.
- znam izračunati tlak

## APPENDIX 3

### Example of a survey in Google Docs technology



### Tlak

**Kako izračunamo tlak ?**

- ☐ Da silo, ki deluje na telo množimo s ploščino, na kateri deluje sila..
- ☐ Da silo, ki deluje na telo delimo s ploščino, na kateri sila deluje.
- ☐ Da ploščino po kateri deluje sila delimo s silo.

**Količina, ki nam pove, kolikšna sila deluje na določeno ploskev se imenuje :**

**Kako se spremeni tlak, če silo dvakrat povečamo, stična ploskev ostane nespremenjena?**

- ☐ Tlak se dvakrat poveča.
- ☐ Tlak se dvakrat zmanjša.
- ☐ Tlak se ne spremeni.

**Tlak se v opisanih primerih ne spremeni. Kako moramo spremeniti stično ploskev, če spremenimo silo ?**

	Ploščina po kateri sila deluje bo trikrat večja.	Ploščina po kateri sila deluje bo trikrat manjša.
Silo trikrat zmanjšamo.	<input type="radio"/>	<input type="radio"/>
Silo trikrat povečamo.	<input type="radio"/>	<input type="radio"/>

**Kako nas ščiti čelada pred udarci ?**

- ☐ Poveča tlak.
- ☐ Poveča ploskev, po kateri sila deluje.
- ☐ Zmanjša tlak.
- ☐ Zmanjša silo.

**Namesto čevljev obuješ krplje. Pojasni, kako se spremenijo sila, ploščina po kateri sila deluje in kako tlak.**

- ☐ Sila se bistveno ne spremeni.
- ☐ Ploščina po kateri sila deluje se poveča.
- ☐ Ploščina po kateri sila deluje se zmanjša.
- ☐ Tlak se poveča.
- ☐ Tlak se zmanjša.

Uporablja tehnologijo  Google Forms

Google ni niti ustvaril niti odobril te vsebine.  
Prijavite zlorabo - Pogoji storitve - Dodatni pogoji

## APPENDIX 4

### Example of results scanned from Google Docs

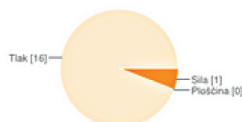
#### Povzetek

Kako izračunamo tlak ?



Da silo, ki deluje na telo delimo s ploščino, na kateri deluje sila.	1	6 %
Da silo, ki deluje na telo delimo s ploščino, na kateri sila deluje.	16	94 %
Da silo, ki deluje na telo delimo s ploščino, na kateri sila deluje.	0	0 %

Količina, ki nam pove, kolikšna sila deluje na določeno ploskev se imenuje :



Sila	1	6 %
Ploščina	0	0 %
Tlak	16	94 %

Kako se spremeni tlak, če silo dvakrat povečamo, stična ploskev ostane nespremenjena?



Tlak se dvakrat poveča.	13	76 %
Tlak se dvakrat zmanjša.	3	18 %
Tlak se ne spremeni.	1	6 %

## APPENDIX 5

### Example of a group assignment: Pressure under cylinders

1. Dva valja smo položili na tla. Nad vsakim valjem je narisana stična ploskev med valjem in tlemi.

Masi obeh valjev sta enaki. Vsak valj ima maso 1,57 kg.

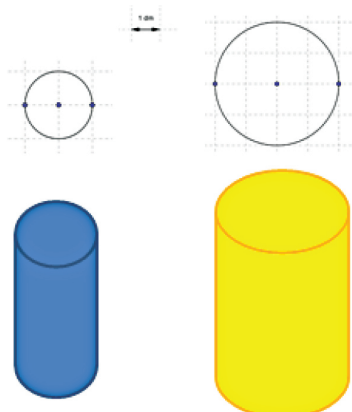
a) Odčitaj polmer prvega valja in drugega valja. Kolikokrat je polmer drugega valja večji od polmera prvega valja.

b) Izračunaj stično ploskev prvega valja  $S_1$  in stično ploskev drugega valja  $S_2$ .

Kolikokrat je stična ploskev drugega valja večja od stične ploskve prvega valja?

c) Izračunaj tlak pod prvim valjem  $p_1$  in ga izrazi v Pa. Izračunaj tlak pod drugim valjem  $p_2$  in ga izrazi v Pa.

d) Kolikokrat je tlak pod drugim valjem manjši od tlaka pod prvim valjem?



## APPENDIX 6

### Example of feedback as provided by Mahara software

#### DATOTEKE ZA PRENOS



Tlak pod valjema.docx

39,9kB | Četrtek, 24. april 2014 | Podrobnosti

#### Povratna informacija



Lejla Škobić - 25. april 2014, 8:26

a) 1. Valj:  $F = 15,7\text{N}$   
 $S = 12,56\text{dm}(\text{kvadrat})$   
 $p = 125\text{Pa}$

Valj2:  $F = 15,7\text{N}$   
 $S = 3,14\text{dm}(\text{Kvadrat})$   
 $p = 500\text{Pa}$

Polmer večjega vala je 4 krat večji.  
Tlak pod drugim valjem je 4 krat manjši.



Mihael Zeme - 25. april 2014, 8:27

a) 1. Valj:  $F = 15,7\text{N}$   
 $S = 12,56\text{dm}(\text{kvadrat})$   
 $p = 125\text{Pa}$

Valj2:  $F = 15,7\text{N}$   
 $S = 3,14\text{dm}(\text{Kvadrat})$   
 $p = 500\text{Pa}$

Polmer večjega vala je 4 krat večji.  
Tlak pod drugim valjem je 4 krat manjši.



Kantužar - 25. april 2014, 8:28

a) 1. Valj:  $F = 15,7\text{N}$   
 $S = 12,56\text{dm}(\text{kvadrat})$   
 $p = 125\text{Pa}$

Valj2:  $F = 15,7\text{N}$   
 $S = 3,14\text{dm}(\text{Kvadrat})$

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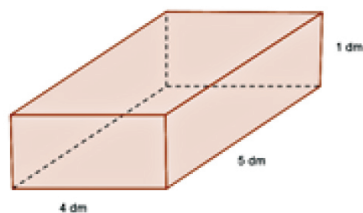
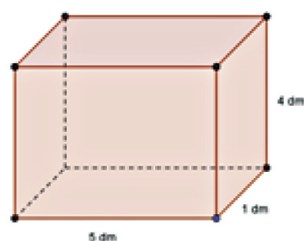
## APPENDIX 7

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### Example of a group assignment: Pressure under a block

Masa vsakega lesenega kvadra na sliki je 10 kg.

- a) Koliko je teža vsakega kvadra ?      b) S kolikšno silo pritiska vsak kvader na tla ?
- c) Izračunaj velikost stične ploskve  $S_1$  med kvadrom in tlemi na prvi sliki in velikost stične ploskve  $S_2$  med kvadrom in tlemi na drugi sliki .
- d) Izračunaj tlak pod prvim kvadrom  $p_1$  in tlak pod drugim kvadrom  $p_2$ . Izrazi ga v Pa.
- e) Po kolikokrat večji ploskvi deluje sila kvadra na tla v drugem primeru ?
- f) Kolikokrat je tlak pod prvim kvadrom večji kot pod drugim kvadrom ?





## APPENDIX 8

### Example of feedback as provided by Mahara software

#### DATOTEKE ZA PRENOS



#### Tlak pod kvadrom.docx

24,2kB | Četrtek, 24. april 2014 | [Podrobnosti](#)

#### Povratna informacija



[Ana Š.](#) - 25. april 2014, 8:32

Lahko izračunamo tlak in stično ploskev.

Pri matematiki smo se naučili izračunati ploščino in prostornino.



[Aleksandra Spaseski](#) - 25. april 2014, 8:33

- Lahko izračunamo stično ploskev, tlak.

- Pri matematiki smo se naučili računati ploščino in prostornino.



[Valentina Mlakar](#) - 28. april 2014, 21:23

Prosim, če to vse tudi izračunata in objavita.

#### DATOTEKE ZA PRENOS



#### Tlak pod dvema kvadroma.docx

36kB | Četrtek, 24. april 2014 | [Podrobnosti](#)

#### Povratna informacija



[Nika Šantej](#) - 25. april 2014, 8:28

a) teža prvega kvadra je 100N teža drugega pa 100N

b) vsak kvader pritiska na tla s silo 100N

c) velikost stične ploskve na prvi sliki je 5 dm<sup>2</sup>; velikost stične ploskve na drugi sliki pa 20dm<sup>2</sup>

d) tlak pod prvim kvadrom je 2000Pa ; tlak pod drugim kvadrom pa 500 Pa

e) po štirikrat večji ploskvi

f) tlak pod prvim kvadrom je štirikrat večji kot tlak pod drugim kvadrom



[Luan Karavidaj](#) - 25. april 2014, 8:32

a) teža prvega kvadra je 100N teža drugega pa 100N

b) vsak kvader pritiska na tla s silo 100N

c) velikost stične ploskve na prvi sliki je 5 dm<sup>2</sup>; velikost stične ploskve na drugi sliki pa 20dm<sup>2</sup>

d) tlak pod prvim kvadrom je 2000Pa ; tlak pod drugim kvadrom pa 500 Pa

e) po štirikrat večji ploskvi

f) tlak pod prvim kvadrom je štirikrat večji kot tlak pod drugim kvadrom



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## APPENDIX 9

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### Example of feedback as provided by Mahara software



**nadina avdagić** - 25. april 2014, 8:35

a) Teža obeh kvadrov skupaj je 200N.  
b) Vsak kvader pritiska na ploskev s 100N.  
c)  $S_1 = 5\text{dm} \times 1\text{dm} = 5\text{dm}^2$   $S_2 = 4\text{dm} \times 5\text{dm} = 20\text{dm}^2$   
d)  $p_1 = F/S = 100\text{N}/5\text{dm}^2 = 20\text{N}/\text{dm}^2 = 2000\text{N}/\text{m}^2 = 2000\text{ Pa} = 2\text{kPa}$   
 $p_2 = F/S = 100\text{N}/20\text{dm}^2 = 5\text{N}/\text{dm}^2 = 500\text{N}/\text{m}^2 = 500\text{Pa} = 0,5\text{kPa}$   
e) Po 4x večji ploskvi.  
f) Tlak je 4x večji.



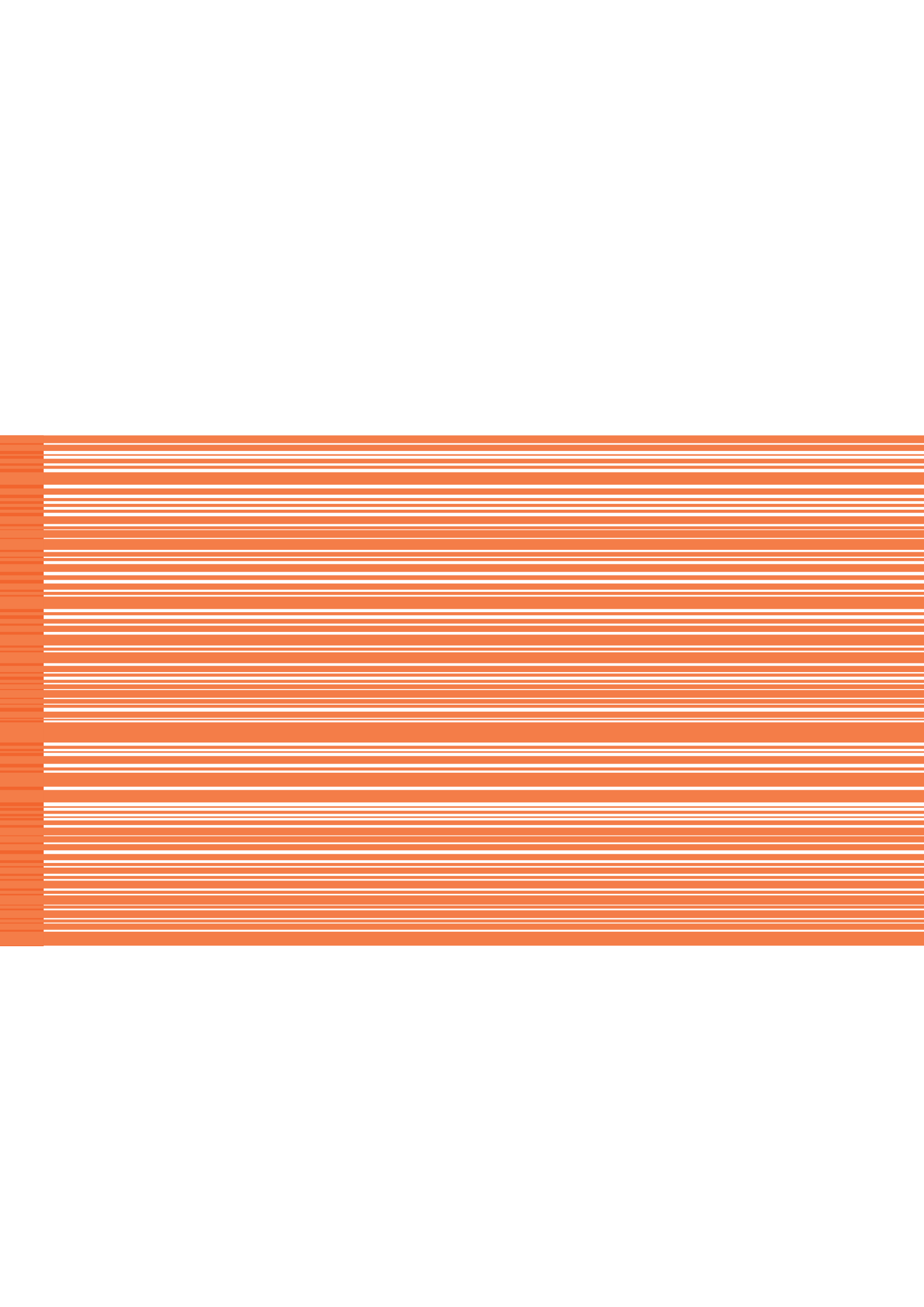
**Desi A** - 25. april 2014, 8:37

a) Teža obeh kvadrov skupaj je 200N.  
b) Vsak kvader pritiska na ploskev s 100N.  
c)  $S_1 = 5\text{dm} \times 1\text{dm} = 5\text{dm}^2$   $S_2 = 4\text{dm} \times 5\text{dm} = 20\text{dm}^2$   
d)  $p_1 = F/S = 100\text{N}/5\text{dm}^2 = 20\text{N}/\text{dm}^2 = 2000\text{N}/\text{m}^2 = 2000\text{ Pa} = 2\text{kPa}$   
 $p_2 = F/S = 100\text{N}/20\text{dm}^2 = 5\text{N}/\text{dm}^2 = 500\text{N}/\text{m}^2 = 500\text{Pa} = 0,5\text{kPa}$   
e) Po 4x večji ploskvi.  
f) Tlak je 4x večji.



**valentina mlakar** - 08. maj 2014, 22:27

Vsi ste lepo in pravilno rešili nalogo. Nadina in Desislava odgovor za vprašanje f malo bolj natančno dopolnita in rešita.



# 12 GEOGRAPHY, ENGLISH: Apartheid

Katja Knific and Maruša Bogataj, OŠ Predoslje, Kranj

Subjects	Geography, English
Learning Design Title	APARTHEID
Year group	Grade 8 (average age: 13–14 years )
Languages	Slovenian & English
Duration	One cycle (about six lessons: one 45-minute lesson in the computer room, other lessons are home study – reading about the topic, writing about it, expressing arguments – every student should have enough time for searching the topic information)
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• find new information about a given topic and everything connected with it,</li> <li>• find an appropriate photo,</li> <li>• think about the reasons for racism,</li> <li>• consider the reasons for and consequences of racial segregation,</li> <li>• develop the skill of planning and evaluating their work,</li> <li>• share their thinking with their critical friends in Mahara,</li> <li>• improve their own critical thinking skills and autoregulative behaviour,</li> <li>• integrate content and learning (CLIL).</li> </ul>
Concise description of the content	<p>The main aim of the learning cycle for the students is to do a research about the topic, get more information about it, get to know Nelson Mandela, make their own opinion about him and the situation in South Africa in Slovenian and in English. At the same time students plan and evaluate their work.</p> <p>First of all, students are informed about the topic for their work and are given short instructions. They need to fill out the <i>'My learning'</i> tab in Mahara, refresh their pre-knowledge, set their own goals and learning plans. They fill in the <i>'My learning'</i> tab for both subjects, Geography and Slovenian.</p> <p>Then their homework starts. They watch a short video. The link for it was provided by the Geography teacher. They try to find different information about apartheid and Nelson Mandela. They design a short presentation about it, which includes their own thinking and arguments for their statements. They also add an appropriate photo. Then they share the presentation with their critical friends and discuss the topic in Mahara. They share their work and discussion with the teacher as well.</p> <p>Now, when they better understand the topic and they have some more information about apartheid and Nelson Mandela, it is time to make a step forward. There is another title to think about. This time in English. Students think and write about <i>Black is beautiful</i>. They express their thoughts, opinions, make arguments for their statements. Again they share their work in Mahara with their critical friends and their teacher.</p> <p>At the end they evaluate their work by filling out <i>'My learning'</i> tabs in Mahara.</p>

<b>Keywords</b>	apartheid, Nelson Mandela, Black is beautiful
<b>Methodology</b>	work in groups, in pairs and individually
<b>21<sup>st</sup> century skill(s)</b>	ICT skills, critical thinking, CLIL (Content and Language Integrated Learning)
<b>ICT tools used</b>	<ul style="list-style-type: none"> <li>• Mahara – a fully featured web application to build your electronic portfolio</li> <li>• Google – the internet search for information</li> </ul>
<b>Students' activities</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• fill out the 'My learning' tab in Mahara (they plan and monitor their work),</li> <li>• watch a video, taken in the streets of Johannesburg,</li> <li>• find and choose a photo, which represents the sentence <i>Black is beautiful</i>,</li> <li>• write about apartheid, Nelson Mandela and his influence using their mother tongue,</li> <li>• discuss the subject with their critical friends,</li> <li>• think about the sentence <i>Black is beautiful</i> again, trying to find different arguments for their statements and write a short presentation of their thinking/views in English.</li> </ul>
<b>Other</b>	
<b>Website</b>	

### Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
<b>Materials during activities</b>	Teachers' guidance, introduction and instruction for 'My learning'	Instructions for Geography and English work in the school e-class	Appendix 1 and 2	Slovenian English
		An AfL tab in Mahara, where students plan their own learning made for Geography	Appendix 3 and 4	Slovenian
	At the beginning of their work students watch a short video.	Instructions in School e-class	<a href="http://www.youtube.com/watch?v=UjjxadhhV5sv=UjjxadhhV5sv=UjjxadhhV5s">http://www.youtube.com/watch?v=UjjxadhhV5sv=UjjxadhhV5sv=UjjxadhhV5s</a>	
	Students choose appropriate photos.	Students' chosen photos	Appendix 5 and 6	
<b>Students' artefacts</b>	Students write about Apartheid and about their reactions to the sentence <i>Black is beautiful</i> .	Student's page in Mahara	Appendix 7 and 8	Mother tongue
<b>Implementation photos/videos</b>				

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	Most students did not have any difficulties finding the information, using the Internet, and they did not have difficulties using Mahara either. They enjoyed watching the video, searching for appropriate photos and sharing their thoughts and ideas.
What did not go well	<p>Students needed a lot of encouragement and a lot of help at filling out their learning plans – they are still not used to taking control of their own learning.</p> <p>It was a real challenge for everyone to express their arguments.</p> <p>Students found it really difficult to discuss about the topic in English. Some of them did it in Slovenian.</p>
Lessons learnt	<p>We should use English outside the classroom (English lessons) more often, so that students have an opportunity to use their knowledge and become more self-confident in speaking and expressing their thoughts in a foreign language.</p> <p>They should have more opportunities to create their learning goals and plans and to express their thoughts/views and ideas.</p>

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## APPENDIX 1

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### Instructions for Geography

1. Oglej si video, ki je bil posnet na ulici Johannesburga.
2. V e-listovnik pod razdelkom Vsebina\_Dnevnik naredi nov vnos Geografija Apartheid.
  - a) Izberi in vnesi fotografijo z naslovom »Črna je lepa«.
  - b) Zapiši svoje razmišljanje o apartheidu in o vlogi, ki jo je pri tem imel Nelson Mandela. Svoje razmišljanje strni v vsaj desetih povedih.
  - c) Svojemu kritičnemu prijatelju pošlji vprašanje na to temo. Njegov odgovor nato vključi v svoje besedilo.
3. Svoj zapis o apartheidu deli z učiteljico.

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## APPENDIX 2

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### Instructions for English

V E-listovniku ponovno odpri novo stran v razdelku Dnevnik. Poimenuj jo Black is beautiful. In kaj te čaka tokrat?

BLACK IS BEAUTIFUL

*What do you think about this sentence? Do you agree or maybe disagree? Why?  
Do you think there are different meanings of the sentence possible? Can you explain?  
Write at least 10 sentences, thinking about the title Black is beautiful. Don't forget to include arguments for your statements.*

Kaj meniš o zgornji povedi? Se z njo strinjaš ali mogoče ne? Zakaj?  
Misliš, da se v njej lahko skrivajo različni pomeni? Lahko to razložiš?  
Napiši vsaj 10 povedi o zgornjem naslovu »Black is beautiful«. Ne pozabi vključiti argumentov za svoje trditve.

Napisanega ne pozabi shraniti.  
Shranjeno besedilo deli s kritičnim prijateljem ter učiteljicami.  
In seveda, komentar prijatelju naj bo vzpodbuden. Povej, kaj ti je pri njegovem zapisu všeč in kaj ne. Svoj komentar argumentiraj.

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## APPENDIX 3

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### Example of student's "My learning" rubrics for Geography

#### geografija 2. naloga

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Apartheid

##### Postavljanje ciljev

- naučila se bom kaj več o Apartheidu (kaj sploh je, od kdaj do kdaj je trajal, kaj se je v tem obdobju dogajalo)
- izvedela bom več o Nelsonu Mandeli, njegovem delu in življenju
- izvedela bom zakaj je bil Nelson Mandela zaprt in kako je prišel iz zapora
- izvedela bom kaj več o človeku, ki je začel to obdobje
- poizvedela bom kateri ljudje so bili za konec tega obdobja pomembni

##### Predznanje

- vem že nekaj o Nelsonu Mandeli
- vem, da je bil Apartheid obdobje, ki je bilo za ljudi črne rase zelo grozno

##### Strategije

- na internetu bom poiskala bom podatke o Apartheidu in o dogajanju med tem obdobjem
- poiskala bom informacije o Nelsonu Mandeli (o njegovem življenju, delu)

##### Dokazi

- imela bom več znanja
- vedela bom več o Nelsonu Mandeli in o Apartheidu
- če me bo kdo vprašal kaj o tem obdobju mu bom znala razložiti

##### Samoevalvacija

- ta naloga se mi je zdela res zanimiva zato sem se vanjo tudi zelo poglobila
- mislim, da sem podatke lepo povezala v celoto saj mi je to vzelo kar nekaj časa
- ob pisanju sem se veliko naučila, kar mi je zelo všeč
- z mojim opisom Apartheida sem zelo zadovoljna

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## APPENDIX 4

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### Example of student's "My learning" rubrics for English

#### angleščina 3. naloga

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black is beautiful

#### Postavljanje ciljev

- naučila se bom mnenja pisati tudi v angleščini
- v angleščini bom znala bolje pisati tudi besedila, ki niso tako enostavna

#### Predznanje

- angleščina mi gre kar dobro
- podobno besedilo smo imeli za nalogo pri geografiji (zato imamo že nekaj podatkov o tej temi)

#### Strategije

- vadila bom pisanje angleščine saj včasih pozabim, kako se določene besede napišejo
- še enkrat bom prebrala besedilo, ki sem ga napisala za geografijo in bom verjetno izvedela še kakšen nov podatek

#### Dokazi

- besedilo je berljivo in se da razumeti bistvo
- napak je malo

#### Samoevalvacija

- mislim, da sem napisala precej dober spis o ojem mnenju o črni rasi
- imela sem manjše težave s pisanjem nekaterih besed a se na srečo to ni zgodilo pogosto
- mislim, da sem zajela bistvo in upam, da je moje besedilo razumljivo
- z mojo nalogo sem zadovoljna



## APPENDIX 6

### Example of a student's presentation for Geography (Apartheid) in Mahara

#### GEOGRAFIJA-APARTHEID

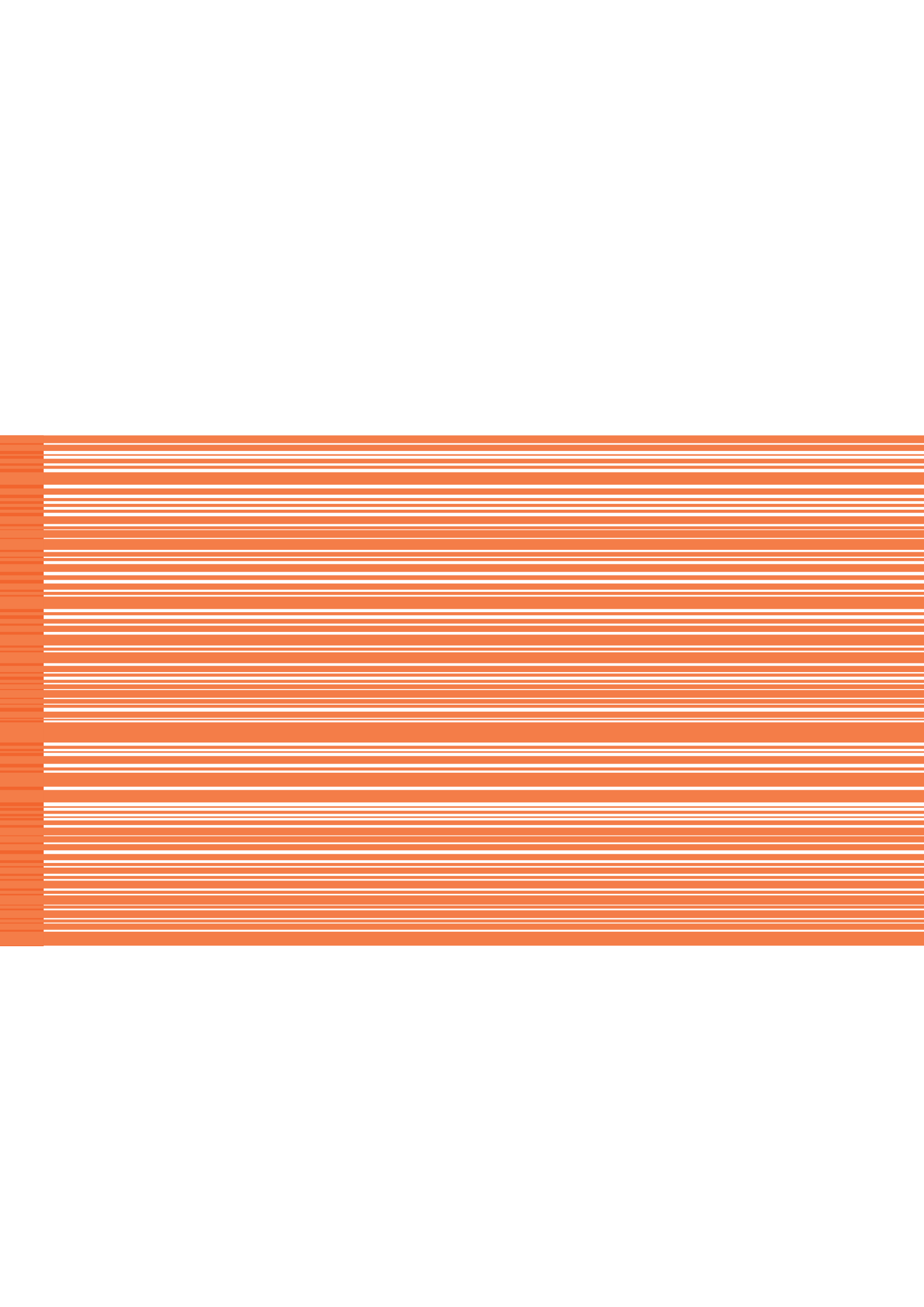
Nelson Rolihlahla Mandela je bil južnoafriški politik in državnik in borec proti apartheidu. Rodil se je 18. julija leta 1918 v Mvezu na Transkeiju v Južni Afriki. Nelson je bil eden vodilnih borcev proti apartheidu v Južni Afriki. Mladost je preživel v klanu plemena Thembu, pozneje pa je študiral pravo. V 50. letih 20. stoletja je postal aktivist Afriškega narodnega kongresa, ki se je zavzemal za enake pravice vseh državljanov ne glede na raso. Leta 1962 so ga zaradi delovanja v oboroženem krilu ANC zaprli, kazen pa leta 1964 podaljšali na dosmrtno. Zaradi pritiska ANC in tujine je tedanji južnoafriški predsednik Frederik Willem de Klerk februarja 1990 Mandelo izpustil, kar je obema priskrbelo Nobelovo nagrado za mir za leto 1993. Maja 1994 je bil Mandela izvoljen za predsednika države. Po izteku mandata leta 1999 je ostal dejaven v prizadevanjih za svetovni mir in v boju proti AIDS-u. Umrli je 5. decembra leta 2013 v Johannesburgu v Južni Afriki. Jaz menim, da bi morali imeti ljudje črne rase zagotovljene pravice, ter da bi lahko tudi črnci vodili politiko, ne pa samo ljubje belih ras, saj je bilo belcev manj kot petino vsega prebivalstva. V Apartheidu so črnce izkoriščali in zatirali. To se mi ne zdi prav, da so tako ravnali z ljudi druge rase.

## APPENDIX 7

### Example of student's presentation for English (Black is beautiful) in Mahara

#### ANGLEŠČINA-BLACK IS BEAUTIFUL

Black is beautiful is a cultural movement that was started in the United States of America in the 1960's by African Americans. It later spread to much of the black world, most prominently in the writings of the Black Consciousness Movement of Steve Biko in South Africa. It aims to dispel the notion in many world cultures that black people's natural features such as skin color, facial features and hair are inherently ugly. John Sweat Rock was long thought to be the first to coin the phrase "black is beautiful" – during a speech in 1858 – but historical records indicate he never actually used the specific phrase on that day. The movement also encouraged men and women to stop trying to eliminate African-identified traits by straightening their hair and attempting to lighten or bleach their skin. It wasn't right, because white people were insulting and hitting black people. Whites were so strict, so they put blacks in jail. They put Nelson Mandela in the jail too. But when he came out he became confederate of the blacks. So what I'm trying to tell, it's that whites shouldn't do that things, because it's all wrong.



# 13 GEOGRAPHY:

## Problems of the modern world

Marjetka Čas, Primary school Gustava Šiliha Laporje


Subject	Geography
Learning Design Title	PROBLEMS OF THE MODERN WORLD
Year group	Grade 8 (average age: 13–14 years)
Language	Slovenian
Duration	Three lessons
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• familiarise themselves with the current problems of the modern world,</li> <li>• analyse case studies,</li> <li>• identify the causes and consequences of these problems,</li> <li>• evaluate meaningful solutions to problems,</li> <li>• develop the ability to plan, assess and evaluate their own progress, document their own progress,</li> <li>• develop critical thinking, in particular self-reflection,</li> <li>• develop skills of cooperation and communication (cooperative learning, live communication, communication with ICT).</li> </ul>
Concise description of the content	<p>By discussing the theme <i>Problems of the Modern World</i> we want to sensitise students for the knowledge, understanding and appreciation of current problems of the modern world, with an emphasis on their finding solutions for them.</p> <p>By using ePortfolio students develop their ability to plan, monitor and evaluate their own progress. Their skills are built on basis of reading a selected range of books and electronic resources, which they use to extract relevant data and write them in the PowerPoint presentation using keywords. Students make their learning plans – they create a set of learning objectives and plan appropriate strategies for achieving those objectives.</p> <p>They express their understanding of the topic by creating a PowerPoint presentation and with persuasive oral performance in the classroom.</p> <p>To make the knowledge more sustainable, students form cooperative groups to carry out cross-examination questions about the theme at various levels of taxonomy.</p> <p>Formative assessment plays a special role, as we observe students' knowledge; students plan, monitor, evaluate and document their own progress with their own personal learning goals. They express motivation for learning within the online learning environment Mahara that becomes also as a kind of a new social network through which students make »friends«. The role of ePortfolio is most distinctive in developing skills of distance cooperation and communication in terms of quality feedback among students themselves as well as between students and teachers. The knowledge acquired in this way of work is certainly longer lasting. Students develop important key competences of lifelong learning.</p>

<b>Keywords</b>	feedback, peer assessment, active learning, interdisciplinary linking
<b>Methodology</b>	Individual work, group work and work in pairs
<b>21<sup>st</sup> century skill(s)</b>	<p><b>Cooperation, communication and teamwork</b> Students develop skills of cooperation and communication in terms of feedback, critical friendship, which are developed through collaborative learning.</p> <p><b>Responsibility to obtain their own knowledge and to learn about active methods which help students to gain more sustainable knowledge more efficiently</b> Students:</p> <ul style="list-style-type: none"> <li>• are aware of their own knowledge in relation to the problems of the modern world on basis of the current problems in Africa,</li> <li>• formulate a learning objective set in the explanatory personal form,</li> <li>• seek strategies for their own learning,</li> <li>• plan their strategies for achieving the objectives,</li> <li>• work through experience and design expertise,</li> <li>• gather evidence of their own learning and knowledge.</li> </ul> <p><b>Critical thinking and, in particular, self-reflection</b> Students:</p> <ul style="list-style-type: none"> <li>• develop metacognitive skills,</li> <li>• make self-reflection of the whole learning process.</li> </ul> <p><b>Skills and techniques to enable students to use Mahara and similar software</b> Students develop skills of critical thinking with self-analysis, reflect on the entire process, plan improvements ... according to the ePortfolio code.</p>
<b>ICT tools used</b>	Mahara – (tabs <i>My learning</i> , <i>Forums</i> , <i>Views</i> )
<b>Students' activities</b>	<p><b>Part 1: Students plan the process of learning</b> Plan and design learning in Mahara software ('<i>My learning</i>' tab). Students fill out the forms of the phases named 'Prerequisites' and 'Setting goals'. As an assisting tool, students may also use the materials, texts and images, prepared in ePortfolio.</p> <ol style="list-style-type: none"> <li>a) Students activate their prior knowledge about the theme <i>Problems of the modern world</i> by brainstorming and extracting the most critical problems. They choose a topic problem that will be investigated.</li> <li>b) Students plan their personal goals. From the set of targets to choose from, they select the most important ones for them and record the information in the ePortfolio.</li> <li>c) Students plan strategies to achieve goals while considering the activities that will lead them towards achieving the set goals. The strategies get recorded in the ePortfolios. They compare their strategies with their classmates' objectives and provide peer-feedback.</li> <li>d) Students co-create the criteria on basis of which the product will be evaluated.</li> </ol>

Students' activities	<p><b>Part 2: Learning process</b></p> <p>a) Pupils make meaningful statements from various books and online resources and create a PowerPoint presentation. Pupils write down keywords or phrases. In the introduction, the students write down goals and purpose, define the research question or the hypothesis; in the core they analyse the problem (causes, consequences, solutions); in conclusion they sum up the findings and support or reject the hypothesis. At the end they add a reference list of the resources. Participation is included in the peer evaluation criteria. Students deliver their PowerPoint presentations. They get feedback from classmates.</p> <p>b) After the presentation students answer classmates' and teacher's questions.</p>
	<p><b>Part 3: Evaluation</b></p> <p>a) The ePortfolio recorded evidence of their learning.</p> <p>b) The teacher moderates discussion about the PowerPoint presentations in a "round table", asks questions, and together with pupils evaluates the presentation against the criteria. Pupils provide peer feedback.</p> <p>c) Students write the final self-reflections on the lessons learned while addressing the problems of the modern world tracked and recorded in the ePortfolio. Students complete a report on their learning in Mahara: learning strategies, self-evaluation and learning evidence.</p>
Other	
Website	

### Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	Criteria rubrics for the preparation of presentations	Document	Appendix 1	Slovenian
	Students share the views that enable them to express feedback on the evidence for each other.	Web link to Mahara Scan of interface in Mahara	<a href="https://listovnik.sio.si/">https://listovnik.sio.si/</a> Appendix 2	Slovenian
	List of the problems of the modern world, that students investigated	Word document – link to Mahara	Appendix 3	Slovenian

Students' artefacts	Final presentations of learners – evidence	Scan of a product of a student – PowerPoint  Evidence in Mahara	Appendix 4  Evidence for discussion: Problem of the disappearance of islands in Oceania	Slovenian
	Final presentations of learners - evidence	Scan of a product of a student – PPT  Evidence in Mahara	Appendix 4  Evidence for discussion: Problem of weather changes in Central America	
	Final presentations of learners - evidence	Scan of a product of a student – PPT  Evidence in Mahara	Appendix 4  Evidence for discussion: Problem Maori and their culture	
	Evidence of completion of the assignment - given feedback (teacher) and peer feedback	Scan of interface in Mahara	Appendix 5	
	Students plan and design their own learning by using 'My learning' tab in Mahara software.	Scan of a product of a student (Mahara record).	Appendix 6	
	Evidence of completion of the assignment – given feedback (teacher) and peer feedback	Scan of interface in Mahara	Appendix 7 Feedback of evidence: Sexually Transmitted Diseases in Africa	
Implementation photos/videos		Video of students about work with ePortfolio  Photos of students	<a href="http://url.sio.si/predstavitevni_video">http://url.sio.si/predstavitevni_video</a> 	

## Teacher's reflection on the results and the lessons learnt

	Description
What went well	<p>Cooperative learning in pairs or groups in which students were actively involved and responsibly took on their roles, developing the art of cooperation and communication (live and on-line communication) worked out most successfully. To a large extent students' literacy skills were enhanced as they used various reading and learning strategies, such as searching for key information from different sources. Students developed critical thinking skills through self-analysis. They reflected on the whole learning process and planned improvements according to the ePortfolio code.</p> <p>Integration of formative assessment to address the problems in the field of geography is a very effective approach, as it allows greater active involvement of students in all stages of education. It increases students' motivation and their responsibility for their own learning and achievements. Cooperation with peers, peer learning and feedback information has proved to be most encouraging. By using ePortfolio learners can explore a particular problem of their own choice and plan their working strategies. As a teacher, I can monitor progress of each student. Such approach can be transferred to other topics and subject areas, e.g. history, because it is efficient and up-to date.</p>
What did not go well	<p>The initial obstacles: mainly poor knowledge on how Mahara works and my weakness in giving quality and in-depth feedback. Later the quality of feedback was improved, because we used the 'Sandwich approach' and related the feedback to the learning objectives.</p> <p>We did not achieve all the desired goals. Nevertheless, it isn't the goal, it's the path itself, which is the most important.</p> <p>One of the possible disadvantages of formative assessment is monitoring students without their feeling »involved« in the process itself. I myself always try as much as possible to involve students as well. The disadvantages of working with ePortfolio compared with its benefits are negligible. They are mainly of technical nature, such as lack of adequate ICT equipment, and even that is gradually improving.</p>
Lessons learnt	<p>The most important achievement of this lesson is the development of students' (self-) evaluation skills in terms of (self-)regulation, ie. planning (designing their own learning objectives), choosing the strategies to achieve the objectives, choosing the activities, monitoring and evaluating their own progress, because in this way they proved that they can take responsibility for their own learning.</p> <p>The students showed great knowledge, which they discussed with confidence and in a variety of formats.</p> <p>Students became efficient in working with ePortfolio in Mahara. All subsequent lessons were increasingly more effective, time-saving, and technical problems were fewer and fewer. Students became »Mahara tutors« to one another, as well as to younger lower grade students.</p>

## APPENDIX 1

### Criteria rubrics for the preparation of presentations

<b>Vsebinska zasnova</b>	PPT je vsebinsko kvalitetno zasnovan. Vsebuje dovolj bistvenih informacij o temi. Namen sporočila je jasen in takoj razviden. Celovito so predstavljeni vzroki in posledice ter predlagane rešitve problema.	PPT ima večino zahtevanih elementov. Vsebuje nekaj bistvenih informacij o temi. Namen sporočila je razviden. Navedeni so le nekateri vzroki in posledice problema. Rešitve so nejasne in nepregledne.	PPT ima le nekaj zahtevanih elementov in je vsebinsko skromen. Vsebuje nekaj bistvenih informacij. Namen sporočila je manj pregleden. Iz vsebine je težko razbrati vzroke in posledice problema. Rešitve niso navedene.
<b>Oblikovanje</b>	Vsebuje uvod (namen, raziskovalno vprašanje, hipoteza), jedro (razčlemba problema) in zaključek (ugotovitve, rešitve). Zanimivo, estetsko in izvorno oblikovanje vseh elementov.	Vsebuje le dva poglavja. Večina elementov je zanimivo in estetsko primerno oblikovanih.	Vsebuje le eno poglavje. PPT ima vsaj en element, ki je zanimivo in estetsko oblikovan.
<b>Viri</b>	Informacije so jedrnaty povzete po tehtnih virih. Navedeni so vsaj trije viri (2 knjižna, 1 spletni).	Informacije so primerno povzete po ustreznih virih. Navedena sta le dva vira.	Informacije so primerno povzete po vsaj enem ustreznem viru.
<b>Jezik</b>	Zgradba besedišča je ustrezna in izvorna. Jezik je jasen in tekoč ter slovnično pravilen.	Posamezni deli besedila so jezikovno ustrezni, posamezni ne. Besedilo vsebuje nekaj pravopisnih napak.	Veliko je različnih ali ponavljajočih se pravopisnih napak.
<b>Predstavitev</b>	Predstavitev je jasna in tekoča. Učenec suvereno odgovori na vprašanja.	Predstavitev je jasna in na trenutke zatikajoča. Učenec odgovori na vprašanja, vendar ni najbolj suveren.	Predstavitev je slabo pripravljena. Učencu se zatika. Ne zna odgovoriti na vprašanja.

## APPENDIX 2

### Example of students' feedback on the evidence to each other

**O MENI**

**POGLEDI OSEBE NIKA ŠELA**

- Brez naslova
- Brez naslova (6)
- Bročerjeva lestvica
- Elementi v periodnem sistemu
- Elementi v PSE - kovine
- Geo
- NOVOŠIRJENJE MEST IN KRIMINALA V JUŽNI AMERIKI
- Okrogla miza: Uničenje Amazonskega pragozda
- Problemi sodobnega sveta
- Slovenci v prvi svetovni vojni
- Slovenci v prvi svetovni vojni
- Slovenci v prvi svetovni vojni
- Slovenci v prvi svetovni vojni
- Za učitelje

**SKUPINE OSEBE NIKA ŠELA**

- 9.a Laporje 2014-15 - Član
- lab.sio.si - Član

**PRIJATELJI OSEBE NIKA ŠELA**

Ines Koščak
 Katarina Erker
 Katja Rober
 Nejka Otorcpec
 Nuša Ganzitti

Primož Ačko
 Rok Perkovič
 Sandi Stojko
 Špela Perkovič
 Tajda Čes

Tilen Požgan
 Timotej Gril
 Tim Štamberger
 Vid Žišt

14 prijateljev

**ZID OSEBE NIKA ŠELA**

Največ 1500 znakov na objavo. Svojo objavo lahko oblikujete z uporabo BBCode. [Več informacij](#)

Naj bo objava zasebna? ☐

**Objava**

Nika Šela - 13. november 2014, 15:50  
ja,nova,je sam stara heeh:3

[Ogled celega zidu »](#)



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## APPENDIX 3

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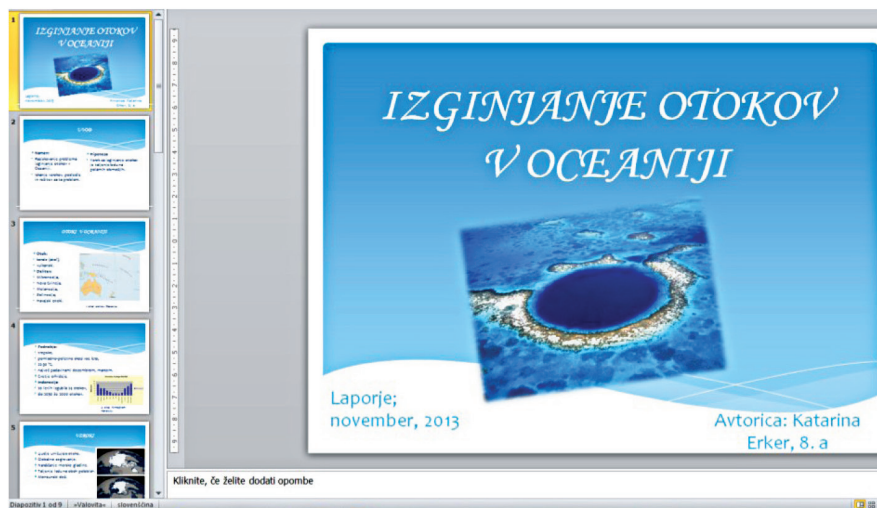
### List of the problems of the modern world investigated by students

1. Revščina in lakota v Sahelu
2. Maori in njihova kultura danes
3. Izginjanje otokov v Oceaniji
4. Vremenske ujme v Srednji Ameriki
5. Jedrski poskusi v Oceaniji
6. Problemi polarnih območij
7. Problemi Aboriginov
8. Islamski terorizem
9. Širjenje Sahare
10. Spolno prenosljive bolezni v Afriki
11. Izsekavanje amazonskega pragozda
12. Ogroženost Velikega koralnega grebena
13. Težave v prometni povezanosti Avstralije
14. Širjenje mest v Južni Ameriki
15. Problemi Indijancev v severni Ameriki
16. Izumiranje živalskih vrst v Avstraliji

- 
1. Poverty and famine in the Sahel
  2. Maori and their culture today
  3. The disappearance of islands in Oceania
  4. Extreme weather conditions in Central America
  5. Nuclear test in Oceania
  6. Problems polar regions
  7. Problems of Aboriginal
  8. Islamic terrorism
  9. The spread of the Sahara
  10. Sexually Transmitted Diseases in Africa
  11. Deforestation of the Amazon
  12. Threats to the Great Barrier Reef
  13. Problems in the transport links of Australia
  14. Urban expansion in South America
  15. The problems of Indians in North America
  16. The extinction of animal species in Australia

## APPENDIX 4


### Examples of students' final presentations



## APPENDIX 5

### Evidence of completion of the assignment – teacher and peer feedback


**Problemi sodobnega sveta**

 Povratna informacija poslana


oddele Tajda Čas


**Maori in njihova kultura**

**Vsebina:**





Ime	Opis
 maori in njihova kultura.ppt	

**Povratna informacija**

 **Nika Šala** - 30. november 2013, 13:57  
Tajda!  
Tvoj Power point mi je sicer zelo všeč, vendar je v njem tudi nekaj pravilnih napak. Sicer pa je v redu.  
LP, NIKI :)

 **Marjeta Čas** - 30. november 2013, 16:38  
Tajda potrdila si se pri prenosu PPT. Čestitavo si ga tako in vsebina točno. Popravi pravilne napake. Malce bolj se potrdi pri snovanju zaključka.

2 komentari

 Opiši povratno informacijo  Prijavi neprimerno vsebino  Nalaganje  Dodaj pogled na različni seznam 0

## APPENDIX 6

### Example of a student's learning plan

#### PROBLEMI SODOBNEGA SVETA

Obravnavali bomo aktualne probleme sodobnega sveta.

##### Postavljanje ciljev

- Spoznala bom probleme Južne Amerike,
- analizirala bom vzroke problemov, ki se navezujejo na širjenje kriminalain mest,
- predlagala bom rešitve,
- izdelala bom kvaliteten ppt

##### Predznanje

Vem, da je v Južni Ameriki velik problem kriminal, predvsem mafija, ki je zelo nevarna.

##### Strategije

- Iskala sem spletne in knjižne vire,
- izluščila sem pomembne podatke

##### Dokazi

- Narejen ppt,
- pridobila bom nova znanja,
- seznanila sem se z največjimi problemi sodobnega sveta,
- poiskala sem vzroke, posledice in rešitve posameznaga problema,
- spoznala, kako se pravilno citirajo viri.

##### Samoevalvacija

- Všeč mi je bilo, ker smo delali v šoli;
- všeč mi je bilo, saj sem raziskovala zanimive probleme;
- spoznala sem probleme sodobnega sveta;
- lahko bi imeli več časa za izdelavo in pripravo govora pri PPT-ju,
- izdelala sem kvaliteten PPT.

## APPENDIX 7

### Evidence of completion of the assignment – teacher and peer feedback

osebe [Tilen Požgan](#)

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**Q** DATOTEKE ZA PRENOS

 [SPOLNO PRENOSLJIVE BOLEZNI V AFRIKI 4.pptx](#)  
921,4kB | sreda, 11. december 2013 | [Podrobnosti](#)

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**Povratna informacija**

 [Marjeta Čas](#) - 11. december 2013, 16:50

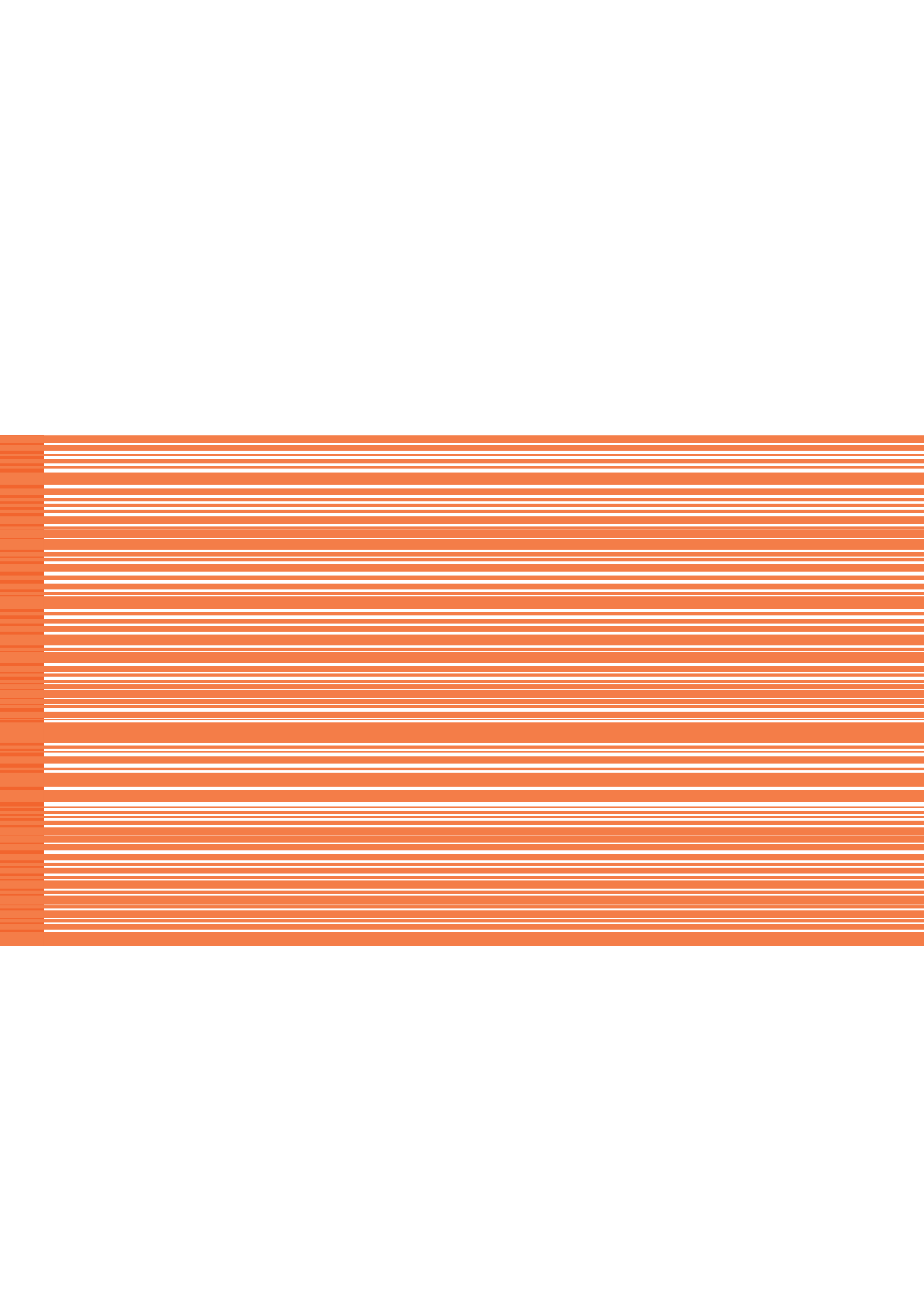
Tilen pozdravljen!

Potrudi si se pri svojem power pointu. V uvodu dodaj še raziskovalno vprašanje ali hipotezo. Zamenjaj vrste spolno prenosljivih bolezni (daj gor) in šele nato daj znake okužbe. Govoriš precej na splošno, malce premalo za Afriko. Rešitve zapiši na koncu, pred zaključkom in naj bodo dejansko zapisane le za Afriko. Dopolni viire.

Lp, Učiteljica

1 komentar

 [Objavi povratno informacijo](#)  [Prijavi neprimerno vsebino](#)  [Natisni](#)  [Dodaj pogled na nadzorni seznam](#) 



# 14 MATHEMATICS:

## Using Math/finding Math in everyday life

Mojca Novoselec, High School for Cosmetics, Pharmacy and Health, Ljubljana

Subject	Mathematics
Learning Design Title	USING MATH / FINDING MATH IN EVERYDAY LIFE
Year group	High school, Grade 3 (average age: 17–18 years)
Language	Slovenian
Duration	October – December 2014
Goals	Students: <ul style="list-style-type: none"> <li>• connect the learning goals with facts outside the class,</li> <li>• see the usefulness and importance of math,</li> <li>• observe their math progress by saving their evidence of learning in Mahara,</li> <li>• communicate in the Mahara learning environment,</li> <li>• learn to use new learning environment.</li> </ul>
Concise description of the content	Students find and describe the facts learned at school in everyday life. They prepare different presentations (PowerPoint, Prezi etc.). They create their own math problems and reflect on what is important and what not. Then they prepare for the final exams (theory).
Keywords	Mahara, geometric shapes
Methodology	individual work or in pairs Mahara is used at school during regular hours.
21 <sup>st</sup> century skill(s)	creativity, communication
ICT tools used	computers, smart phones, digital cameras

Students' activities	<ol style="list-style-type: none"> <li>1. After discussing plain geometrical shapes (for almost two months) and their characteristics, we look for basic geometrical objects on the web (<a href="http://www.e-um.si">www.e-um.si</a>). I invite students to take their smart phones and go around the school building. I give them 15 minutes to find and take a photo of some shapes they can find. Absent students can take photos on their way home at some other opportunity.</li> <li>2. We make an account in Mahara and create 'Matavventura': I ask them to write down some words about their life and goals to introduce themselves. They make a diary note.</li> <li>3. We open 'My learning': <i>Geometric shapes</i> and together we fill in the gaps (because they think they do not have any knowledge so far). Referring to students' previous knowledge increases their motivation (Appendix 1, 2 and 3).</li> <li>4. Students create their profiles and set their photos in Mahara.</li> <li>5. Together we set their photos from activity 1 to Mahara (Appendix 4).</li> <li>6. Everyday work and learning in class (books, notebooks).</li> <li>7. Students make a conclusion in 'My learning' tab and reflect on their test grades.</li> </ol>
Other	In January the work in Mahara will be connected to the topic entrepreneurship. Work in Math will continue on the field of functions.
Website	Mahara

### Accompanying materials/resources for the learning design

	Description	Type	File name/URL	Language
Materials during activities	Instructions			Slovenian
	Books, Web page e-um.si		<a href="http://www.e-um.si">www.e-um.si</a>	
	Wire models			
Students' artefacts	Photos			Slovenian
	Word document			
	My learning in Mahara			
Implementation photos/videos	Digital photos			Slovenian



# Teacher’s reflection on the results and the lessons learnt

	Description
What went well	Taking photos, arranging Mahara, connecting with student’s career interests.
What did not go well	Too much Math theory. They are not coping well with Math and therefore it is hard for them to connect theory and practice.
Lessons learnt	<p>Mahara should stay fun, it’s not to be overused; can be used as a supplement.</p> <p>My learning is useful as it shows at the beginning that students have some prior knowledge from primary school, and then at the end they can look back and see what was done. Students’s reflection on their results is very precious.</p>

# APPENDIX 1

## Some words about me in 'My learning' – Geometrical shapes

### MATAVANTURA

osebe Urša Dobovšek

#### NEKAJ BESED O MENI

Objavi/la Urša Dobovšek v 14. oktober 2014, 8:56

Sem Urša Dobovšek doma iz Sidraža. Rodila sem se 25.4.1997 v Kranju. Imam dva brata. Oba sta že poročena. Eden ima 3 otroke, drugi pa 2. Hodim na srednjo šolo za farmacijo, kozmetiko in zdravstvo, smer farmacevtski tehnik. Vpisala sem se, ker je v tej smeri še nekaj prihodnosti. Nimam najljubšega predmeta. Za naprej imam želje, da bi mogoče delala v lekarni ali Kirki, Leku. Imam pa veliko željo da bi šla po končani srednji šoli v tujino, tam nadaljevala šolanje, ali pa kasneje tam dobila službo, in si uredila življenje.

Komentarji (0)

#### DATOTEKE ZA PRENOS

 **MAT.docx**

420,6kB | sreda, 12. november 2014 | [Podrobnosti](#)

#### GEOMETRJSKA TELES

##### Postavljanje ciljev

1. Znam izračunati prostornino in površino valja, stožca, prizme, piramide in krogle.
2. Znam uporabljati kotne funkcije, sinusni izrek, kosinusni izrek, formule za ploščine geometrijskih telesov.

##### Predznanje

- Prepoznam sinusni in kosinusni izrek.
- Ločim geometrijska telesa.
- Znam uporabljati formule za ploščine geometrijskih likov.

##### Strategije

- reševanje nalog v šoli
- risanje skic geometrijskih teles
- reševanje domačih nalog in sprotno spraševanje in urejanje neresenih primerov

##### Dokazi

1. ocena testa
2. word dokument s slikami

##### Samoevalvacija

Kako sem zadovoljna z ocenjo?

## APPENDIX 2

### Some words about me in 'My learning' – Geometrical shapes

#### SLIKA



#### NEKAJ BESED O MENI

Objavil/a Sara Štih v 14. oktober 2014, 8:55

Sem Sara Štih, rojena sem 23.5.1997 v Ljubljani. Imam brata dvojčka, ime mu je Matic. Skupaj z družino živimo v Kompoljah, v Dobropolju. Med šolanjem pa stanujem v Ljubljani.

Za Srednjo šolo za farmacijo, kozmetiko in zdravstvo Ljubljana, smer farmacija, sem se odločila zaradi perspektivnega poklica in dobre možnosti za zaposlitev, ter predloga staršev za to šolo. Vendar sem kmalu ugotovila, da mi ta smer ne ustreza. Po uspešno končani srednji šoli, želim šolanje nadaljevati v pedagoški smeri, vsekakor pa ne želim nadaljevati v trenutni smeri.

Najljubši predmet so mi oblikovanje zdravil, saj pri tem predmetu izdelujemo izdelke in se učimo tehnik, ki jih bomo potrebovali na naši poklicni poti. Na naši šoli me motijo halje, saj bi jih lahko nosili le pri praktičnem pouku in ne tudi pri splošnih predmetih. Sploh pa so halje v poletnem času čisto preveč, saj nam je v njih še bolj vroče.

Komentarji (0)

#### GEOMETRIJSKA TELESA

##### Postavljanje ciljev

1. Znam izračunati prostornino in površino pokončnega valja, stožca, prizme, piramide in krogle

2. Znam uporabljati kotne funkcije, sinusni izrek, kosinusni izrek, formule za ploščine geometrijskih likov

##### Predznanje

prepoznam sinusni in kosinusni izrek

ločim geometrijska telesa

znam uporabljati formule za ploščine geometrijskih likov

##### Strategije

reševanje nalog v šoli

risanje skic geometrijskih teles

reševanje domačih nalog in sprotno spraševanje in urejanje nerešenih primerov

##### Dokazi

1. ocena testov

2. word dokument slikicami

##### Samoevalvacija

kako se zadovoljna z oceno

#### DATOTEKE ZA PRENOS



SLIKE geometrijska telesa.docx

610,6kB | sredi, 12. november 2014 | Podrobnosti

## APPENDIX 3

### Example of a student's learning plan – Geometrical shapes

#### MATEMATIKA - GEOMETRIJSKA TELESA

##### Postavljanje ciljev

1. V vseh življenjskih in matematičnih situacijah prepozna :

- kvader
- kocko
- prizmo
- stožec
- piramido
- kroglo

2. Vem, kaj je prostornina telesa.

3. Vem , kaj je površina telesa.

4. Veselim se reševanja nalog s prostorninami in površinami.


##### Predznanje

Okoli sebe, v svojem okolju znam poiskati preproste primere teles.


##### Strategije

1. Ogledale si bomo čimveč modelov teles (iz žice ).
2. Aplikacije iz spleta.
3. Reševanje nalog s telesi.

##### Dokazi

 Ocena pisnega testa ( želim si, da bi bila petica ) .

##### Samoevalvacija

Ocena je bila 4 , a sem vseeno zadovoljna 

#### SPA

Objavil/a Maša Vajda v 14. marec 2014, 8:59

# APPENDIX 4

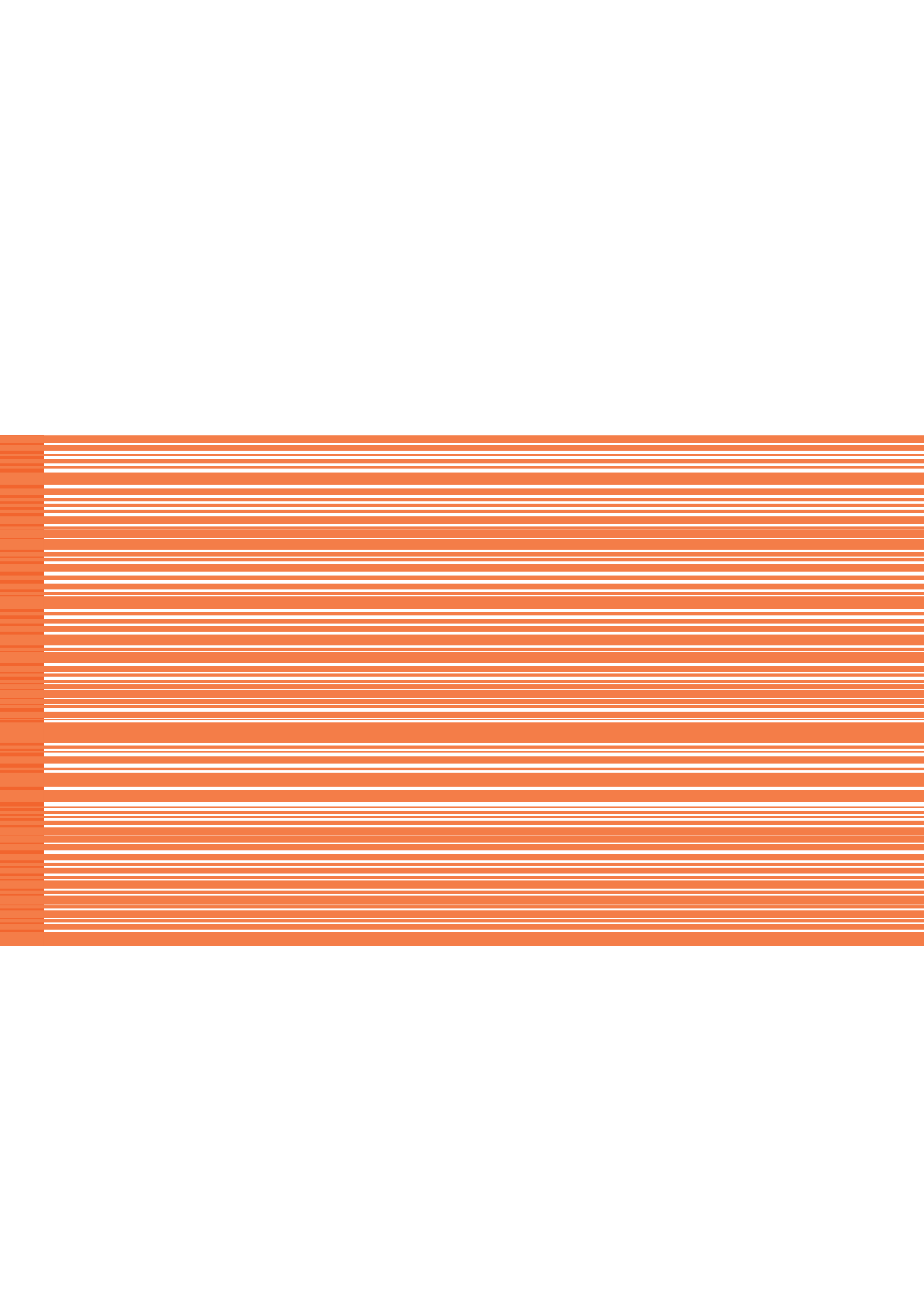
## Examples of photos of geometrical shapes taken by students



Geometrical shapes at school



Geometrical shapes at home



# 15 HISTORY:

## Traces of Roman influence on the Slovenian territory

Mitja Turk, High School Grm, Novo mesto

Subject	History
Learning Design Title	TRACES OF ROMAN INFLUENCE ON THE SLOVENIAN TERRITORY
Year group	Grammar School, Grade 1 (average age: 15 years)
Language	Slovenian
Duration	45-minute lesson in the computer room + 45-minute lesson in the regular classroom
Goals	<p>Students:</p> <ul style="list-style-type: none"> <li>• use a variety of historical sources to describe some of the Roman cultural monuments on the territory of today's Slovenia,</li> <li>• determine the appropriate time and space the selected historical monuments belong to,</li> <li>• develop skills of collecting, selecting and critically assessing the value and usefulness of images available on the World Wide Web.</li> </ul>
Concise description of the content	<p>The purpose of the lesson is to learn about the Roman cultural heritage on the territory of today's Slovenia. Students get a worksheet with eight cultural monuments (via e-mail) that are inadequately described (just the name of the discovery, a photograph or a description of the findings). Students complete the worksheet by using the Internet where they find the appropriate sources and the missing information. They must consider the credibility of the images from various online sources, cite the sources correctly and describe the monument. Students fill out an AfL tab during the lesson.</p> <p>After they complete their worksheets, they load them into Mahara. They send their worksheets to the teacher who prints them out by the next lesson. Students work in pairs and talk about what they have learnt during the lesson.</p>
Keywords	using sources, using the Internet
Methodology	individual work
21 <sup>st</sup> century skill(s)	ICT skills, digital literacy, critical thinking
ICT tools used	Mahara – a fully featured web application to build your ePortfolio

Students' activities	<p>Students:</p> <ul style="list-style-type: none"> <li>• fill out 'My learning' tab,</li> <li>• fill out the worksheet: <ul style="list-style-type: none"> <li>- insert appropriate illustrations or photos,</li> <li>- cite sources properly,</li> <li>- describe historical monuments,</li> <li>- indicate the sites,</li> <li>- indicate the time of occurrence/date of origin,</li> <li>- describe the characteristics of the findings,</li> <li>- recognise the importance of Roman finds as an integral part of the cultural heritage of Slovenia,</li> </ul> </li> <li>• check the worksheets during the lesson,</li> <li>• sum up the learning results and process through interaction,</li> <li>• reflect upon their achievements – they complete at least one the following sentences: <i>The hardest part was ...; Now, when I have filled out the worksheet, I understand ...; I was surprised ...; I enjoyed the process, because ...</i></li> </ul>
Other	
Website	



## Accompanying materials/resources for the learning design

	Description	Type	File name / URL	Language
Materials during activities	'My learning' tab	A tab in the on-line ePortfolio (Mahara)		Slovenian
		<p>An AfL tab in Mahara, where students plan their own learning (teacher can comment on it) with the help of the following questions:</p> <p><b>Setting the goals</b> What is my goal? What do I want to achieve?</p> <p><b>Prior knowledge</b> What do I already know? What can I already do?</p> <p><b>Strategies</b> How can I achieve my goal?</p> <p><b>Evidence</b> How will I prove that I have achieved the goal?</p> <p><b>Self-evaluation</b> How successful have I been? Have I reached my goal?</p>		Slovenian
		Empty worksheet	Appendix 2	Slovenian
		Success criteria for the worksheet evaluation	Appendix 3	Slovenian
Students' artefacts	A student's learning plan	An AfL tab in Mahara, where students plan their own learning	Appendix 1	Slovenian
	Evidence	Student's worksheets filled with required information		Slovenian
Implementation photos/videos				

## Teacher's reflection on the results and the lessons learnt

Description	
What went well	<p>Students:</p> <ul style="list-style-type: none"> <li>• were very excited to work with the selected resources (and computers),</li> <li>• gained basic knowledge about how to search for historical sources on the internet,</li> <li>• felt responsible for the quality of the materials and their knowledge,</li> <li>• were motivated for this kind of work (though not very highly motivated).</li> </ul>
What did not go well	<p>Students:</p> <ul style="list-style-type: none"> <li>• needed a lot of help and suggestions when creating their learning plans,</li> <li>• were mostly satisfied with the brief descriptions and findings in an AfL tab in Mahara, where they planned their own learning,</li> <li>• were reluctant to fill in the formative assessment sheet,</li> <li>• had difficulties in using the Mahara application – e.g. they were unable to upload attachments.</li> </ul> <p>Teacher also faced various technical problems using the Mahara application.</p>
Lessons learnt	<p>Teacher should:</p> <ul style="list-style-type: none"> <li>• encourage interaction among students,</li> <li>• encourage students to use the success criteria in order to improve their worksheets,</li> <li>• provide timely feedback on what the students did well and what could have been done better,</li> <li>• encourage further progress of students' ICT skills.</li> </ul>

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## APPENDIX 1

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### Example of a student's learning plan

#### **POMEMBNEJŠE NAJDBE NA TLEH DANAŠNJE SLOVENIJE**

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##### **Postavljanje ciljev**

- Zvedeti želim najdbe, ki so jih našli pri nas
- navajati vere
- iskanje ustreznih informacij
- lepo oblikovati delovni list

##### **Predznanje**

- Znam iskati po internetu
- Znam "približno" navajati vire

##### **Strategije**

- Delo z internetom
- Znašla se bom 😊

##### **Dokazi**

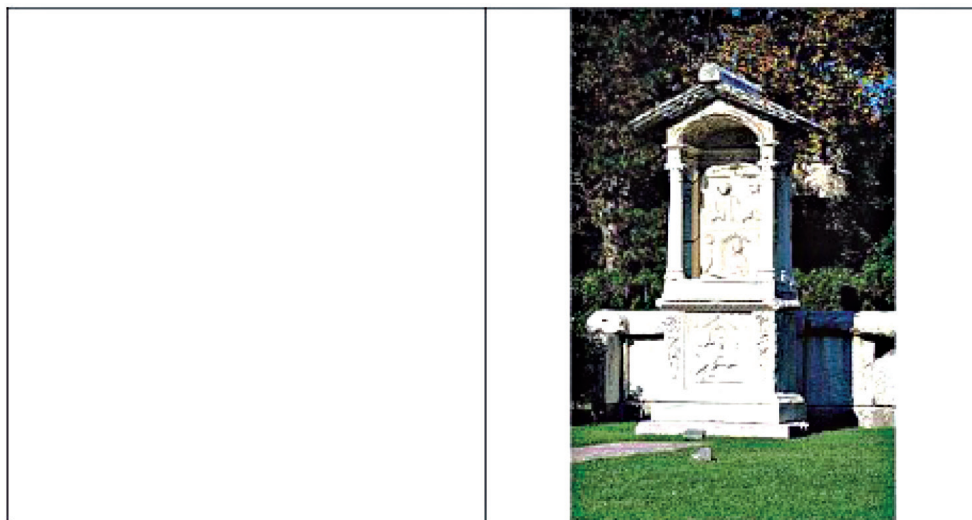
- Izpolnjen delovni list

##### **Samoevalvacija**

Zdi se mi, da sem bila zelo uspešna, saj mi je uspelo narediti čudovit delovni list

## APPENDIX 2

### Empty worksheet






Vir:

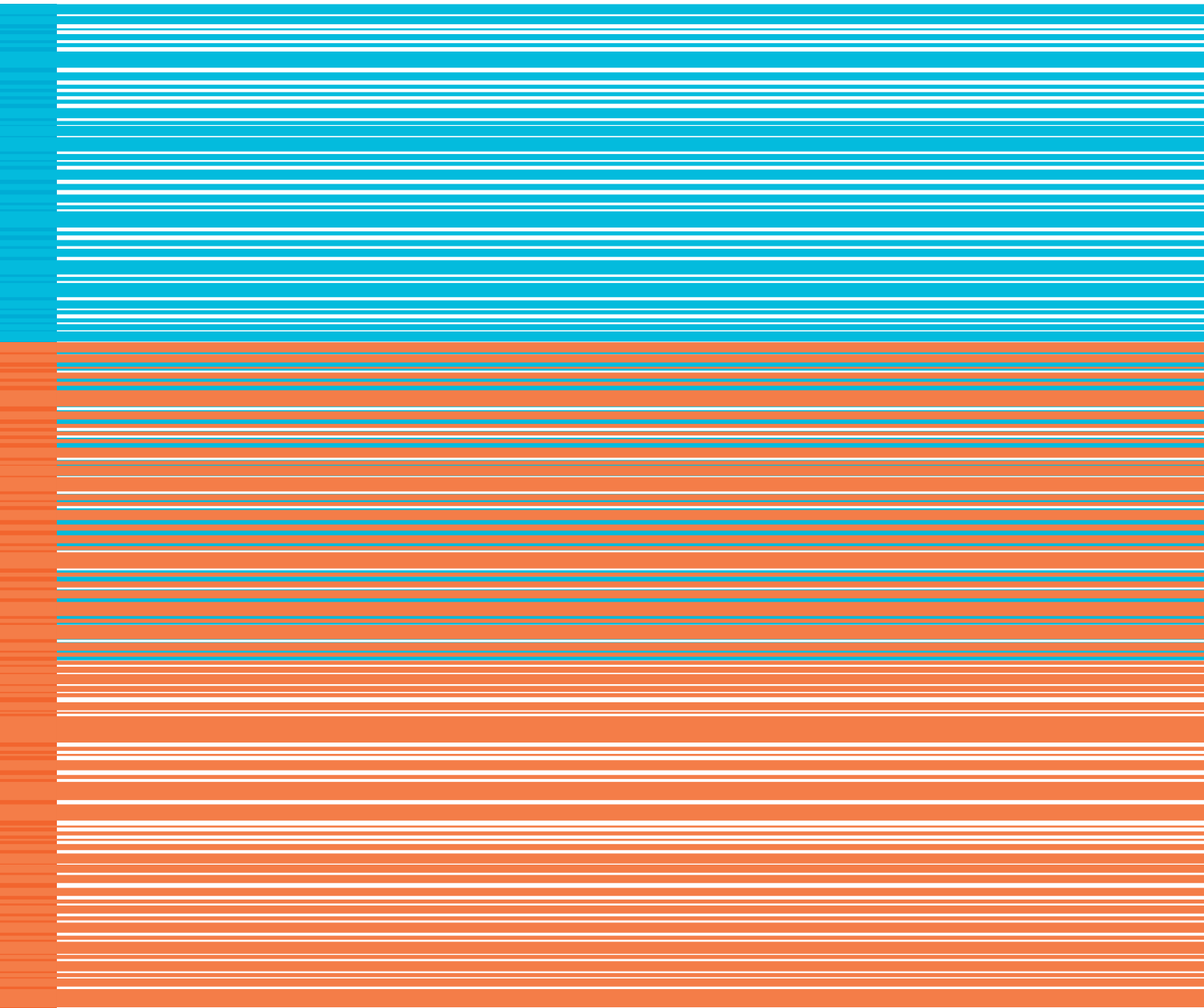
Vir: [http://www.gis-sj/egw/Z55\\_T02\\_P09/img/slika9-1.jpg](http://www.gis-sj/egw/Z55_T02_P09/img/slika9-1.jpg)

<i>Najdba</i>		
<i>Najdišče</i>		Šempeter v Savinjski dolini
<i>Čas</i>		
<i>Značilnosti</i>	Rimska utrdba Ad Pirum leži na poti rimske ceste, ki je vodila iz Aquileje (Oglej) čez Hrušico v Emono (Ljubljana). Cesta je bila zgrajena v času cesarja Avgusta, ko je bilo področje sedanje Slovenije vključeno v rimski imperij.	

## APPENDIX 3

### Success criteria for the worksheet evaluation

			
<b>VSEBINA</b>	Poišče in izbere ustrezne podatke s pomočjo interneta.  Vključena so vsa pomembna zgodovinska dejstva.	Poišče in izbere pretežno ustrezne podatke s pomočjo interneta.  Vključena je večina pomembnih zgodovinskih dejstev.	Poišče in izbere podatke s pomočjo interneta, vendar so le-ti skromni.  Vključenih je le del pomembnih zgodovinskih dejstev.
<b>VIRI</b>	Navajanje virov je ustrezno.  Kritično izbira vire in informacije.	Navajanje virov je pretežno ustrezno.  Deloma kritično izbira vire in informacije.	Navajanje virov je popolnoma ali pretežno neustrezno.  Vire in informacije izbira nekritično.
<b>TERMINOLOGIJA</b>	Uporaba pojmov in strokovne terminologije je pretežno ustrezna.	Uporaba pojmov in strokovna terminologija je vsaj deloma ustrezna.	Uporaba pojmov in strokovna terminologija je neustrezna.



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