Lesson plans of the final intervention

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| Lesson 1: Becoming engaged |
| Objectives. Student scan: * Explain how learning about futures involves multiple scenarios;
* Describe examples of creative scenarios for futures and name an advantage and disadvantages.
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| Description in phases: |
| Phase 1: Introduction and information (15’)The series starts with a provocative film fragment for getting engaged. A film fragment about a dystopian future is watched, from a animation film Wall E, a science fiction/comedy from Walt Disney: <https://www.youtube.com/watch?v=h1BQPV-iCkU>). The opening conversation about futures is demarcated by the clip, ‘a shared experience’/we all see the same clip. The debriefing conversation focuses on the question: what features of current times (2016) are dramatically enlarged in this future image? The teacher introduces the aim and approach of the lessons: thinking in multiple scenarios about futures, which will be focused on urban futures later on in the series;A second future image is shown, to put the dystopian Wall E image in perspective (of always multiple futures). It concerns a creative project, “the incredible shrinking man”, by Dutch designer Arne Hendriks. Proposes to shrink mankind, for a smaller ecological footprint. Phase 2: Main task (15’)Students choose one of three assignments: 1: Analyze the project ‘the incredible shrinking man”. Is it viable?2: Develop an alternative, creative futures plan (if wanted, the teacher can provide questions to assist you);3: Articulate your personal future images.The assignments are introductory and engaging, with focus on analysis (1), creativity (2) and personal ideas (3). A work sheet per assignment is provided.If students finish early, they can start working on their homework: see phase 4.Phase 3: Debriefing (15’)A number of students present their results. Questions to focus can be: * 1. The Incredible Shrinking Man: advantages and disadvantages? Think;
	2. What is new in the alternative creative futures? Imagine;
	3. How would you grade your personal future image? Evaluate.

Phase 4: Closure (5’)The teacher summarizes how the class got engaged in thinking about multiple futures. The teacher ensures a procedural closure (shares compliments, informs after/list remaining questions, etc.).Homework assignment: reading a text and making an assignment concerning food in urban futures. Food is a concrete and at the same time complex sub theme. In this reading text and assignment, food is approached with questions about everyday life of the students: they list and analyze their food consumption and talk with elderly for comparison.  |

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| Lesson 2: the study of trends – final intervention |
| Objectives. Students can: * List four trends that are consider influential in urban futures: *technology development, sustainability, individualization, deregulation;*
* Describe of each trend: key features; its recent past; its occurrence in current and future cities; its occurrence or its absence in other places (zoom out).
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| Phase 1: Introduction (5’):A few students share the results of their homework about food in past, current and future times. All students write down a lesson learned so far about food in the city (in silence, 1’).Phase 2: Information (10’)The teacher presents a photo (derived from the Dutch news) that shows a hypermodern truck that recently got stuck on a bridge that was built and renovated during the 14th -19th century. Key question is: what is happening here, where and why? In a conversation, all four trends can be related to the photo, for example: technology development can be recognized in the navigation in the truck. The teacher: 1) lists and steers towards the four trends during the conversation; 2) emphasizes that today is about the study of trends, since this knowledge will be necessary during designing scenarios for urban futures in the following lesson (and their evaluation in the subsequent lesson). Phase 3: Main task (20-25’)\*Groups of four students study a set of resources and fill out a working sheet about one specific trend (key features; its recent past, its occurrence in current and future cities; its occurrence or its absence in other places (zoom out). Each working sheet about one trend has a specific color;\*Groups are shuffled, in order to have all four trends represented in each group. The colors assist this reshuffle. Students present (as ‘expert’) ‘their’ trend. Listeners fill out their (three) working sheets still empty, in order to get the information of all four trends. \*Groups discuss three questions: 1)How does food supply/consumption in the current city differ from about 50 years ago? 2) What do trends have to with this?; 3) What statement or question about food in the current city do you (as a group) find important? The results are written on a (provided) A3 worksheet, one per group. The teacher reminds students about their homework in which they spoke with elderly about food in recent past times. This information can be applicable in the task. Phase 4: Debriefing (10’)A number of statements or questions is presented and discussed. The teacher steers the conversation in such a way that different times and themes (past times-current times, trends, the city) are addressed. Students hand in the work sheets. Phase 5: Closure (5’)The teacher summarizes how today’s focus was on the study of four trends. The teacher ensures a procedural closure (shares compliments, informs after/list remaining questions, etc.).Homework assignments: study the four trends and read reading text 3.1, about trends and scenarios. |

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| Lesson 3: Design of scenarios − final intervention |
| Objectives. Students can: * Develop a scenario for urban futures in a sketch that includes (knowledge and imagination about) artefacts, actors and activities as well as trends and connections to other spatial scales;
* Explain the elements and their relations in the scenario.
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| Phase 1: Introduction (5’)The teacher informs after remaining questions (about the trends and/or the reading text). The transition from thinking about trends to thinking about scenarios is repeated and emphasized. The teacher has formed (complementary/constructive) couples: students draw with a peer to stimulate communication and explication of (also implicitly) present knowledge and imagination. Phase 2: Main task (40’)Students: * choose a combination of two trends out of twelve combinations for scenario design of urban futures (that have been selected as a constructive base for design);
* select four elements of the future urban landscape to begin with, in order to have the beginning made. In a conversation, they question each other about the choice of the elements to underpin and possibly improve their choice. Also, new elements are added;
* question each other about truly sketching futures and not the present;
* draw artifacts, actors and activities, or outlines and symbols of these. Small Texts can be added;
* think of a representative tittle for their scenario’s;
* check the scenario: minimally two trends visible?; Other spatial scales visible?; What about food in your urban future?

The teacher:* monitors that futures arise verbally and, after a while, also on paper, as a sketch. Some students start drawing immediately, others find it difficult to begin (miss a ‘solid ground’ of facts) and need a stimulus after a while;
* emphasizes that the task is not about drawing talent, but about geographical thinking about urban futures.;
* gives feedback and models relational thinking when needed;
* questions students of sketches that develop insufficiently about the role of ‘food in their urban futures’. The subtheme ‘food in urban futures’ is an instrument for differentiation. It can stimulate students’ relational thinking about urban futures, in the cases this is not taken up. It can also stimulate students that do think relationally, to take a step extra. The teacher can also decide to allow students to leave ‘food’ as a subtheme out of the sketch, if students develop their scenario well enough already.

Phase 3: Closure (5’): The teacher summarizes how today’s focus was designing scenarios with knowledge and imagination. The teacher ensures a procedural closure (shares compliments, informs after/list remaining questions, etc.).No homework.  |

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| Lesson 4: Critical scenario evaluation (with peers) – final intervention |
| Objectives. Students can: * Analyze and evaluate scenarios for urban futures:
* Write an explanatory text to underpin an urban futures scenario;
* Name examples of values on which futures scenarios are based.
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| Phase 1: Introduction (10’): The teacher activates memories from the previous lesson with two questions: A) What examples of artifacts, actors and activities in urban futures can you name?; B) What do the examples mentioned in A have to do with the trends technology development, sustainability, individualization, deregulation?;First, the teacher lets the students talk about the questions for five minutes. Then, the teacher asks two students to explain some high quality examples of scenario elements that are related to trends. The teacher can select these examples in advance, on the basis of the sketches that were handed in.  Phase 2: Instruction (5’) Groups of four are formed, in which students analyze sketches, by answering six questions:1. How is this future different from today?;
2. What does this futures scenario tell about technology development, sustainability, individualization, deregulation?
3. How are relations/linkages with other spatial scales visible (region, county, world)?
4. Wat are good and bad sides of this future? For whom?
5. Explain why you would or would not want to live in this future;
6. What values are related to your choice to wanting in this future or not?

The teacher provides an A3 worksheet. When the sketch is put in the middle of the worksheet, the questions surround the sketch clockwise. Each group analyses two sketches. The teacher prepares the grouping: all students evaluate sketches that are new to them. Phase 3: First task (20’)It concerns scenario analysis and evaluation. The groups of students discuss the six questions and write their answers on the worksheet: one round of 10 minutes per sketch. Phase 4: Second task (10’)It concerns processing of peers’ analysis and evaluation, so feedback, by the designers of the scenario. Students read the analysis made by peers of the scenario they sketched. They process the feedback by taking four steps;1. Look at the comments written: how do peers ‘see’ your scenario?;
2. Imagine that this sketched scenario is about to be published in a newspaper or on a website. Write a short, informative explanation that can be published alongside the sketch, in order to improve the interpretation of the scenario;
3. As a closure, write down one statement or one question about urban futures on an A4.
4. Tape the statement or question on the wall.

Phase 5: ClosureThe teacher summarizes how today’s focus was analyzing scenarios about urban futures and evaluating these. Scenarios are interpreted and understood differently by different ‘readers’. Peers and geography knowledge and skills can assist you in thinking, developing and expressing your ideas about urban futures. The teacher ensures a procedural closure (shares compliments, informs after/list remaining questions, etc.).Homework assignment: reading 5.1 about evaluating futures. |

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| Lesson 5: Critical scenario evaluation (with peers and individually) – final intervention |
| Objectives. Students can: * Analyze and evaluate scenarios for urban futures:
* Explain how ideas about futures are related to different contexts (in different times, at different places and of different persons);
* Formulate their own preferred urban future scenario and underpin it with analytical and moral-ethical argumentation;
* Think of an imaginary opponent of their preferred urban future scenario and its counterarguments, to which they formulate a reply, based on prior knowledge and skills, knowledge about trends and imagination and morel-ethical reasoning.
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| Phase 1: Introduction and instruction (5’):The classroom is prepared for a task that focusses on dialogue: Student seats are put in (one or more) circles. The statements and questions about urban futures that were formulated in the previous lesson are on the wall of the classroom. If wanted, the teacher can add statements or questions to the ones formulated by students. Phase 2: First task (10’)Six (volunteering or assigned) students participate in a dialogue * Seven seats make up a circle. Six seats are taken, one is free. The teacher or a student is the chair, managing the dialogue;
1. The chair chooses one statement or question that was put on the wall in the previous lesson and reads it out loud twice;
2. The chair give the word to the first speaker, the dialogue is opened;
3. Per statement or question, 5 minutes are taken;

The audience: 1. can step in by sitting on the free chair. As soon as the free chair is taken, one (voluntary or assigned) participant needs to leave, in order to keep the dialogue open;
2. can reward participants by expressing four appreciations: nice, interesting, challenging, educative. The teacher can choose two procedures for this rewarding of peers: 1) students note at least one remark made in the dialogue and a corresponding appreciation. These are used in the debriefing; 2) students can literally label their peers in the dialogue with stickers on which the appreciation is printed (formats provided). The first can be suitable in a class that needs calm procedures. The second brings more commotion. Aim is to reflect on the culture of immediate appreciations (for example on social media and TV), which is dominated by speed and ‘likes’, which puts autonomous and critical thinking under pressure.

Phase 3: Debriefing first task (5’)The teacher lists a number or reactions. Emphasis is put on both the difficulty and the importance of 1) dialogue and of 2) autonomous thinking. Both require knowledge and practice (in schools) . Phase 4: Information and instruction (10’)An example of a vision on urban futures is shared, by means of a 3-minute video about Masdar City. (<http://tegenlicht.vpro.nl/afleveringen/2011-2012/Smart-City-UnLtd-.html>, 6.50-9.40). The teacher stresses how Masdar is an example and not ‘the urban future’. Masdar City as a project is contested: supported and warned against. The teacher presents a completed framework in which different perspectives on Masdar City are used in a ‘convincing plea’. Phase 5: Second task (10’)Students individually fill out a (provided) worksheet: a framework for a convincing plea about a preferable urban future. Students outline their preferable urban future in key terms, list facts and opinions to underpin it, criticize their own preferable future and respond to fictive criticism. Phase 5: Debriefing second task (5’)The teacher explains how this kind of outlining will also be part of the final assessment. Phase 6: Closure (5’)The teacher ensures a procedural closure (shares compliments, informs after/list remaining questions, etc.). Homework: preparation for the case-study assessment. |