Lesson Plan 1

Teacher Candidate: **Kamila Bekshentayeva**
Lesson Title: Innovation
Grade Level and Course: 11 (IB DP SL)
Time Segment of Lesson: 55 minutes

Standard(s) Addressed in Lesson: **InTASC Standard 1: Learner Development**

Overarching Unit Goal(s): become knowledgeable of one of the InTASC Standards, record a teaching practice as a means of examining and reflecting upon my practice, understand how students grow and develop across the cognitive, linguistic, social, emotional, and physical areas, design and implement developmentally appropriate and challenging learning experiences in their classroom, assess their skills for designing and implementing developmentally appropriate and challenging learning experiences in their classroom

Objective(s) of the Lesson: Students will be able to differentiate invention and innovation, and think about various examples of innovations in our lives. They will learn about 3 categories of innovations: sustaining, disruptive, process innovation. They will understand the difference between architectural and modular innovations, and brainstorm in groups about a possible innovation by looking at the case study of IKEA Tripp Trapp Chair. They will identify if the proposed innovation is modular or architectural. Furthermore, students will get familiar with market strategies (diffusion, suppression), and lastly dive into challenges that prevent inventions from becoming innovations (by exploring the case study of a Google Glass).

Student Diversity and Differentiation of Instruction

Identify students who will need differentiated instruction for this lesson.

All students are on the same level. No need for special instruction. International school with the only instruction language: English

Student Diversity	Differentiation of Instruction

Formative and Summative Assessments- include open ended questions that will lead students to think deeply about the content and will also build on prior knowledge.

Formative Assessment	Summative Assessment
Asking questions.	*Graded study guides on Moodle*

Group brainstorming.	
Individual research.	

● If there is no summative assessment in this lesson, what/when will the summative assessment be/take place

Questions for formative assessment during and/or after the lesson

1. Please remind us: what is an invention?
2. What are the examples of innovation? Is a smartphone an innovation?
3. What are the challenges to innovations to inventions becoming innovations?

Big Ideas to be Addressed in the Lesson:

Designers will be successful in the marketplace when they solve long-standing problems, improve on existing solutions or find a “product gap”. The constant evaluation and redevelopment of products is key, with unbiased analysis of consumers and commercial opportunities.

There are many different types of innovations.

In order for an invention to become an innovation, the idea of the product needs to be effectively communicated.

Discussion Questions

Write out questions that you would like students to discuss in class, before class or after class because they are interesting, support higher order thinking, and make for a lively and engaging discussion. If discussions must happen outside class, what tool will you use to facilitate the discussion (e.g. Twitter)?

1. The advantages and disadvantages of being a lone inventor/working with a large team (after class)

2. Google glass: What were the challenges that prevented this invention from becoming an innovation? (in-class)
3. IKEA Tripp Trapp Chair: Innovated example of a chair. What else can be innovated in a similar fashion? What products that we constantly replace throught our lives can be kept? Would that be an architectural or modular innovation in your case? (in-class)
4. Watching videos after class

21st Century Knowledge and Skills

21st Century Knowledge and Skills	Teaching Strategies
Collaboration	group brainstorming, presenting
Research	individual research, using credible resources
Design Thinking	analysing against various criteria, with the user-centred design in mind, thinking outside the box

Literacy Skills

Describe the literacy skills (if any) covered in this lesson and how it will help improve the students' reading skills such as comprehension, oral language, phonetic or phonological awareness, fluency and vocabulary as applicable.

Technology vocabulary, technical writing, research and proper citation styling, reading various design related articles, watching videos on inventions/innovations offered on IB platforms

Teaching Strategies and Related Student Activities (Include Web 2.0 activities and innovative strategies,as appropriate):

Teaching Strategies and Activities: What are the teaching strategies and activities that you plan to use to help students meet the lesson's objectives? What are the steps that you will take to deliver this lesson (e.g., introduce the author, read the poem, ask students to…)? Make this section as detailed as possible. It should allow you to hand it off to a substitute teacher.

Grab attention in the beginning by asking a question.
After or before each section, ask questions.
Allow collaboration, discussion.

Allow using laptops for individual research portions.

Teacher/Student Input: Write a note on what you expect the teacher and students to do as a part of this activity. Include a note on whether this is an “I do it”, “We do it” or “You do it” type of activity.

I do: introduce new information, provide examples, help
You do: provide examples, brainstorm with a partner/group, research
We do: ask and answer questions, help each other

Review: Write down ideas on how you will review the topic, including notes on types of formative assessments that you will use during the lesson.

Materials and Resources for Lesson

Materials, Technology, and Websites	Required Preparation
IB Design and Inquiry website	read, watch videos, filter out based on time allowance, students understanding
Diploma Design Technology website	read, watch videos, filter out based on time allowance, students understanding
External examples	search for ideas, samples outside of regular IB curriculum open source resources

References

IB approved resources:

Where did you get ideas and resources for this lesson plan?
IB Design and Inquiry website
https://sites.google.com/view/designandinquiry/dp-sl-design/topic-5-innovation-and-design/5-3-strategies-for-innovation?authuser=0

Diploma Design Technology website
https://docs.google.com/presentation/d/17qjF2DAe20TogHc0Mp_r73unATq57e-CO1-IqFsxrDM/pub?start=false&loop=false&delayms=3000&slide=id.p37

External resources:

https://www.pingdom.com/blog/amazing-facts-and-figures-about-the-evolution-of-hard-disk-drives/

https://mitidinnovation.com/recreation/what-is-the-difference-between-innovation-and-invention/