Pod 11

EDCI 335

Interactive Learning resource -

Artificial Intelligence (AI)

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Class size:

15 - 20 people

Student group:

Middle School Students

Two types of students who need extra support:

- English language learner (ELL)
- A person who does not have access to a computer at home, but has a mobile phone with a data plan

One / A combination of technology mentioned in this course:

Computer, smartphone, Wi-Fi, internet, electronic projectors, presentational software, blog software, quiz software, translation software, AI Apps, etc.

Overview of the Learning Resource

Our interactive learning resource project is designed to give a group of 15 to 20 middle school students a better understanding of Artificial Intelligence (AI). Two of the students in our learning group have unique needs, one of the students is an English Language Learner (ELL), and the other learner lacks access to a personal computer. However, the learner who lacks access to a personal computer does have access to a mobile device with a data plan. Educators will provide technology support like recommending translating apps and adjusting materials to fit a mobile screen.

The learning outcomes for this project are helping students to understand the concept of AI, know why AI was developed, how AI works in real life and to come up with their own opinions about AI. For our learning design, we used a combination of inquiry, direct instruction and cooperative learning, which is based on 3 learning theories - behaviorism, cognitivism and constructivism.

For the technology part, educators will post recommended AI Apps (Siri, Socratic, etc.). Learners can download them on computers, tablets or smartphones and explore AI apps to gain a better understanding of AI concepts and how AI works in real life. During the learning process, educators will conduct various learning activities, such as facilitating exploration of AI apps, holding group discussions and debates. Therefore, we will be able to meet all of the learners' needs. We will also use diverse learning resources,

such as YouTube videos, movies, academic articles, blog posts, etc., to help students find the appropriate learning materials which fit their learning habits and interests.

As for the assessing process, students can show their understanding in different modalities, such as handing in self-reflection posts, actively participating in group work, quizzes, and contributing to the in-class debates.

This project will always be open to comments and feedback from both instructors and learners. This allows the project to be adjusted based on the feedback received from both the learners and instructors improving the course to meet the needs of both groups.

Description and Rationale for Learning Theories

In our learning resource project, we will use behaviorism, cognitivism and constructivism theories (Ertmer & Newby, 2013) to guide our education practices.

Behaviorism theory focuses on adjusting the stimulus, creating a learning environment, reinforcing expected behaviors and habits, and achieving good learning outcomes. This theory usually does well in teaching learners' basic concepts and only requires a lower level of mental processing (Ertmer & Newby, 2013). Before starting the class, educators will tell the students there will be a five-minute quiz after they have listened to the 15-minute

PowerPoint presentation (PPT). The testing materials will be based on the basic AI concepts that will be mentioned in the following presentations. They will work as groups and have friendly competition with other groups in the class. The winning group will get chocolates as a prize. This helps students pay attention to the following presentation and behave well in the quiz. Our PPT presentation will include both visual texts and YouTube videos, which can stimulate students' different senses, help maintain their interests and help them to understand AI concepts.

Cognitive theory is aimed at motivating learners to engage in an active learning process and to help them with mental processing. This theory works well in helping learners to know how things happened and requires students to achieve an increased extent of processing (Ertmer & Newby, 2013). In this project, educators will present an outline of all the things students are expected to learn in this course, and how those things relate to each other. Beyond each topic, there will be subtopics and relevant activities. Further, students can have a complete understanding about what they are going to learn, and this will help them to memorize the course content and the logic behind those different topics. In the discussion portion, students will be required to do presentations about their preview experience which will help them make connections between new learning materials and past learning experiences. Students will process current topics and concepts more deeply by recalling their past experiences.

Constructivism theory emphasizes that students need to interpret events in their own ways and understand that there is no absolute meaning and practice in the context. This theory requires that students have a higher degree of mental processing, to view events in different perspectives and try to create new thoughts and innovations (Ertmer & Newby, 2013). In our project, we will have the learning groups use AI apps, which allows students to view themselves not only as AI learners, but also as AI app users. This activity helps students experience different contexts and view things differently. During our lecture sessions, educators will conduct group discussions and group presentations, which introduces different points of view in the classroom. In addition, we will have an in-class debate session once students have understood the basic concepts and reached a higher level of processing. This debate will encourage learners to think critically, arrange their opinions and come up with some new thoughts about AI.

Description and rationale for the learning design

In our interactive learning resource, we use a combination of inquiry, direct instruction and cooperative learning design.

Inquiry design is a student-centered learning design, which motivates students to actively create their own questions and find solutions. Educators who work with this type of design are facilitating rather than teaching, which helps students adapt problem-solving skills and do real practice (“Inquiry-based

learning", 2020). In the preview session, students will explore some AI apps, and they will be encouraged to come up with some questions which fits their interests. Then they will need to find the answers by using AI apps or gathering information online. At the end of the preview session, they are required to hand in a reflection post based on their questions and the answer they came up with. Later in the lecture session, they will join separate groups and have group presentations to show their explorations.

Direct instruction (DI) is a teacher-centered learning design and it is often presented in the form of a lecture. At the beginning, teachers usually inform students of their expected performance and test them in later sessions. This type of design typically works well on bringing in new concepts and clarifying the course requirements for learners. However, students may lose interest when lectures take too long (Direct Instruction vs. Indirect Instruction, 2017, November 15). In our first lecture, we use direct instruction to introduce our concept - AI. At the beginning, we tell the students our expected learning outcomes and inform them that there will be a quiz later, which helps the students know what the educators' expectations are and will help the learners to work on it. Quizzes also help the educators know how well students have learned the concepts, which helps the instructors adjust the following learning activities to help students gain a better understanding. This presentation is designed so it does not take too much time, which helps maximize the benefits and minimize the cost to the students.

Cooperative learning design is aimed at students to make contributions in group settings and to learn from each other's perspectives. Usually, it is not for starting a class, since this approach needs a higher level of understanding with learning materials (Zook, 2018). In our learning resource project, educators will start dividing students into groups after they have learned the concepts well, so students can listen to different opinions and views from others. In our debate session, students will learn not only the positive and negative sides of AI applications, but also the rationalization and evidence coming from other perspectives. These cooperative activities help the students understand this topic more broadly, making them more well-rounded learners.

Learning Context

For our project, there will be approximately 15 to 20 students in our class. According to Lowry and his colleagues' study (2006), groups that contain 3 people have better communication than groups that contain 6 people, this is because, students in smaller group sizes have higher "appropriateness, openness, richness, and accuracy" (Lowry et al, 2006) levels. For our group activities, the educator will divide the learners into small groups which will contain 3 or 4 group members.

Our targeted student groups are in middle school, so we design the interactive learning resource based on the characteristics of that age group. According to piaget's stages of cognitive development theory (Inhelder & Piaget, 1958),

students at about age 12 or above, which is about the same age as our targeted students, will enter the formal operational stage. Students in this age group usually are able to understand abstract concepts and think critically (Inhelder & Piaget, 1958). In our project, educators will introduce the concept of AI and provide different views about AI, which fits the learning ability of the targeted students and will help them think critically. In addition, “brain development reinforces [three] typical adolescent behaviors” (Lorain, n.d.): having strong and intense interests but short lived; preferring communications among peers; preferring active learning. In this learning resource, we will use diverse methods to conduct learning activities (PowerPoint presentations, YouTube videos, debate, etc.) to maintain students’ interest; we will encourage group discussions and peer comments to increase interactions among peers and educators; we will let students come up with their own questions and find their own answers to promote active learning.

Our learning environment will be cooperative, supportive and inclusive, so our students can feel comfortable to ask questions and share their own opinions without judgment. We will have a question session after class and a support team composed of AI professionals and technology staffs in our community, which allows students to search for information and agencies when they need the help. These designs not only benefit students who need extra support, but also helps the rest of the class.

Learning Outcomes

Outcome 1: Students will be able to understand what AI is, know the definition of AI, give some examples of AI.

Outcome 2: Students will know the importance of AI in our life, economy and culture.

Outcome 3: Students will know how AI functions in our life, economy and culture.

Outcome 4: Students will inform themselves about different views on AI, form a dialectic view of AI, and form their own opinions on the development of AI.

Lecture Schedule

Preview session

This session consists of 3 parts

✧ Part 1: Self-research

There will be a self-study activity before students learn AI officially. Students will experience the AI products and feel their fascination.

- **Content**

  Exploring AI apps
  Choose 1 or 2 AI app(s) that interest them, download it, use it, come up with some questions and do some research:
  Example questions

1. How do they feel about using AI apps?
2. When comparing them with other apps which have similar functions, what are the differences they experienced?
3. Which parts of these apps do you think needs improvement?

- **Learning outcomes/topics**

  Outcome 3:

Students will experience the AI products directly. At this time, they may have no knowledge of AI. They will concentrate their feelings during the process. They will have an intuitive feeling of the effect of AI products in their lives.

- **Activity**
  Interaction with learning resources (Bates, 2019) — self-reflection Posts:
  This is an activity session before the lecture time. We will mention to students that we will have AI classes in the future. Teachers will provide lists about some current AI apps. Students will choose one app and do simple research. It has no learning time limit, but they need to hand in the self-reflection posts on their own website by using WordPress software before the deadline. Students will then receive a grade. The post should indicate use of critical thinking and mastery of the subject. It has no word limit but should be at least 300 words with references. The post should focus on one's reflection of these apps but not others' feedback on these apps. In the future lecture time, they also need to do a short presentation about it.

- **Assessment**
  It is a **graded** activity. The grade will be determined by the content. The content should be clear and precise. The post should focus on students' feelings but not others' feedback on the products.

- **Resource**

1. 10 Best AI Apps Of 2020. (n.d.) Retrieved from https://www.devteam.space/blog/10-best-ai-apps/#
2. edureka!. (2020, January, 6). Top 10 Application of Artificial Intelligence in 2020 / Artificial Intelligence / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=K_Mh21P9OwA

✧ Part 2: Learning core vocabulary

- **Content**
  We can use google docs to create a file and pick a variety of moderately difficult words from articles and videos. We will share the document file to allow students to preview those new words in advance.

- **Learning outcomes/objectives**
  The vocabulary exercise will help students understand formal lectures quickly. After they remember all of the new vocabulary, they will understand this class's content more easily.

- **Assessment:**
  Vocabulary quiz: (not graded)
  Vocabulary quiz will let both students and educators know how well students know the material. we will put the a link at the bottom of the vocabulary list. After students generally understand the words, they can click the link. The link is a quiz that we make by using a quiz maker application. We will give an

explanation of those words and give four choices, then have students choose the one they think is correct.
Full marks will be set at 20 points. Students will get marks for each question, and the average will be taken for a final grade, that does not count towards the course grade. If students pass 15 points, they can go to the next step. If students fail the quiz, then the application will show them the right definition and usage in the context of AI for words they did not identify correctly. After, students may retake the quiz.

- **Resource**

1. edureka!. (2019, May, 27). Top 10 benefits of Artificial Intelligence / Artificial Intelligence (AI) advantages / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=masnR4-vt3M
2. edureka!. (2019, July, 14). Types of Artificial Intelligence / Artificial Intelligence Explained / What is AI? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=y5swZ2Q_lBw
3. edureka!. (2020, January, 9). The future of AI / How Will Artificial Intelligence Change the World in 2020? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=XCI5j_oEWmQ
4. Simplilearn. (2019, April 30). What is Artificial Intelligence in 5 minutes?/What Is Artificial Intelligence/ AI Explained/ Simplilearn. [Video file]. Retrieved from https://www.youtube.com/watch?v=ad79nYk2keg
5. 10 Best AI Apps Of 2020. (n.d.) Retrieved from https://www.devteam.space/blog/10-best-ai-apps/#
6. edureka!. (2020, January, 6). Top 10 Application of Artificial Intelligence in 2020 / Artificial Intelligence / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=K_Mh21P9OwA
7. Huang, M.-H., Rust, R., & Maksimovic, V. (2019). The Feeling Economy: Managing in the Next Generation of Artificial Intelligence (AI). California Management Review, 61(4), 43–65. https://doi-org.ezproxy.library.uvic.ca/10.1177/0008125619863436
8. Gaon, A., & Stedman, I. (2019). A Call to Action: Moving Forward with the Governance of Artificial
9. Ted. (2018, August 27). *How AI can save our humanity / Kai-Fu Lee.* [Video file]. Retrieved from https://youtu.be/ajGgd9Ld-Wc
10. Ted. (2017, April), *How AI can enhance our memory, work and social lives/Tom Gruber*.[Video File]. Retrieved from: https://www.ted.com/talks/tom_gruber_how_ai_can_enhance_our_memory_work_and_social_lives

✧ Part 3: (optional) Movie Recommendation

- **Content**

  See how people view the concept of AI differently and enjoy learning.

- **Learning outcomes/objectives:**

If students are interested in Artificial Intelligence, they could watch relevant movies and expand their imagination about the future life with AI.

- **Assessment**
  N/A

- **Resources**

1. The Matrix (USA)
2. Ghost in the Shell (Japan)
3. Wall-E (USA)

Lecture Session 1

This session consists of 2 parts

✧ Part 1: PowerPoint Presentation - Definition of AI

- **Content**
  This part is the basic information about the definition of AI and gives examples of AI. It also has some history of AI, such as the first AI products.

- **Learning outcomes/objectives**
  Outcome 1:
  Students will have a foundation for Artificial Intelligence. They will know what AI is and why AI matters.

- **Activity**
  Interaction between students and teachers (Bates, 2019) — participation:
  1. During the lecture time, students can raise their hand and ask questions at an opportune time. Teachers should encourage them to ask questions and give them some awards for participation, like chocolates.
  2. After classes, students can use online discussion forums to ask questions when they do assessments. Students who have no computers could make a phone call or take questions to the classes. It will help to achieve the outcomes 1 and 2 quickly and efficiently.
  3. During the session, students need to listen in classes and look at a PowerPoint presentation. Teachers will repeat and explain the content on the PowerPoint. If students have questions, they can raise their hand and ask immediately. Teachers should record the class (if all students in the class consent). If some students are not able to attend the class, they can listen to the recording and send messages to teachers via an online platform.

- **Assessment**

5 minutes multiple-choice quiz:
During the classes, students will take turns to answer questions in a group of 3 or 4 people. There will be 10 questions in total, 30 seconds per question. The team with the most correct answers will receive a prize of chocolates.

- **Resource**

    1. edureka!. (2019, May, 27). Top 10 benefits of Artificial Intelligence / Artificial Intelligence (AI) advantages / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=masnR4-vt3M
    2. edureka!. (2019, July, 14). Types of Artificial Intelligence / Artificial Intelligence Explained / What is AI? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=y5swZ2Q_lBw
    3. edureka!. (2020, January, 9). The future of AI / How Will Artificial Intelligence Change the World in 2020? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=XCI5j_oEWmQ
    4. Simplilearn. (2019, April 30). What is Artificial Intelligence in 5 minutes?/What Is Artificial Intelligence/ AI Explained/ Simplilearn. [Video file]. Retrieved from https://www.youtube.com/watch?v=ad79nYk2keg

✧ Part 2: PowerPoint Presentation - Why we use AI & How AI works

- **Content**
This part is why we want to develop AI. We will talk about the positive effect of AI in different regions. In addition, we will also discuss how AI promotes the technology development process

- **Learning outcomes/objectives**
Outcome 2:
Students will know why AI was developed. For further learning, they will also know the effect of the development of AI. This portion will focus on the positive effect.

- **Activity**
Student-student interaction — Discussion:
Divide students into groups of 3 or 4 and discuss questions such as the following:
    1. What is your opinion about real-life AI applications?
    2. Do you think AI has a generally positive impact? Why or why not?

- **Assessment**
Discussion forum:
The instructor will share some prompt questions for the students to start the

conversation. Then, the students who reply will raise a question to the other students in the group to continue the discussion. The post should be around 300 words in length. To assess the students' understanding of the material, the instructors will look for use of vocabulary and concepts taught in the class material. If students show a clear understanding of the material and thoughtfully answer the question, they will receive full marks. This response will be worth 15 points.

- **Resource**

1. Huang, M.-H., Rust, R., & Maksimovic, V. (2019). The Feeling Economy: Managing in the Next Generation of Artificial Intelligence (AI). California Management Review, 61(4), 43–65. https://doi-org.ezproxy.library.uvic.ca/10.1177/0008125619863436
2. Gaon, A., & Stedman, I. (2019). A Call to Action: Moving Forward with the Governance of Artificial

Assign homework & Questions session

Students will be asked to gather information after class and prepare for the debate. Educators will stay in the classroom for about 10 minutes in which the students may ask questions they have. If the students have no further questions, they may leave.

Lecture session 2

This session consists of 2 parts

✧ Part 1: Students Presentation

Presentation of the individual's research. Students could do it independently or in groups. Each presentation will be 5 minutes at most.

- **Content**

  Students will show the basic characteristic of the chosen apps. The main content will focus on their reflection on using these apps.

- **Learning outcomes/objectives**

  Outcome 3:

  There will be feedback on students' learning results. After they learned information about AI, they will use more professional words to express their views toward AI products. The presentation can also help them to improve their communication skills and information processing capability. This could help ELL students improve their English quickly.

- **Activity**

Interaction among learners (Bates, 2019) — presentation

1. Students will do a presentation about current AI products in groups. The content is AI apps that they researched in the preview session. They need to summarize and explain the characteristics of these products. They also need to introduce the product's contribution to society. They can do it individually or in groups, if they work with other students who have researched the same topics. The presentation content should be improved after they learn about AI.
2. The presentation should include the content that they learn in classes. Before the presentation, they need to hand in a summary of the presentation content. The format can be Microsoft Word, PowerPoint or simply writing on a paper. During others' presentation time, they need to listen carefully and give feedback on their presentations. After everyone's presentation has finished, their feedback paper should be handed in and will be calculated in final presentation grades. The paper should have at least 3 groups. The length of comments are not important, but it must show your opinion and that you have listened to the groups.

- ## Assessment

Presentation Performance and Students' comments

The teacher will **grade** their presentation performance and give feedback. Students should also give feedback to other groups' presentations. Finally, they need to hand in the feedback paper. It will be graded, and the result will depend on the quality but not the feedback length.

- ## Resource

1. edureka!. (2019, May, 27). Top 10 benefits of Artificial Intelligence / Artificial Intelligence (AI) advantages / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=masnR4-vt3M
2. edureka!. (2019, July, 14). Types of Artificial Intelligence / Artificial Intelligence Explained / What is AI? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=y5swZ2Q_lBw
3. edureka!. (2020, January, 9). The future of AI / How Will Artificial Intelligence Change the World in 2020? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=XCI5j_oEWmQ
4. Simplilearn. (2019, April 30). What is Artificial Intelligence in 5 minutes?/What Is Artificial Intelligence/ AI Explained/ Simplilearn. [Video file]. Retrieved from https://www.youtube.com/watch?v=ad79nYk2keg
5. 10 Best AI Apps Of 2020. (n.d.) Retrieved from https://www.devteam.space/blog/10-best-ai-apps/#
6. edureka!. (2020, January, 6). Top 10 Application of Artificial Intelligence in 2020 / Artificial Intelligence / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=K_Mh21P9OwA

✧ Part 2: Debate

- ## Content

  Before the debate competition, teachers will show some positive and negative opinions about the development of AI. Teachers will play some relevant videos or TED speeches. After they watch the video, students will be divided into 4 groups. Two groups will be supporters of the development of AI and the other groups are non-supporters. There are 2 competitions and each one has 2 rounds. The first is one-by-one and the other is free debating.

- ## Learning outcomes/objectives

  Outcome 4:

  Everything has two sides. We must learn how to view things dialectically. The development of AI is a hot topic in the world. There are many views about it. Teachers should lead students to treat something in different views. It will help students divergent thinking.

- ## Activity

  Interaction among students (Bates, 2019) — debate:
  Supporters VS Non-supporters:

  1. Students need to search for information and find enough views to support their teams. They can decide the order of speaking. Teachers will help students to find data when some students have difficulties using technology.
  2. Supporters will find enough views about supporting the development of AI. Non-supporters need to find views to refute the opposite opinions. Students will inquire about AI information and data by themselves, in order to support their position. Teachers will help them to research, especially students who have no ability to search for information.

- ## Assessment

  Debate Performance

  Teachers will give feedback to everyone. It will depend on the students' performance. Their speech should be clear and easy to understand. They should remember their views as much as possible. Their view should be objective and strong. Teachers will NOT give grades depending on the results of competitions BUT on the efforts put on this debate session.
  For ELL students, they could choose not to debate but write the draft. However, their grades will be deducted 10% at first. Therefore, we will encourage them to join it and we will give them support.

  (Optional for ELL students) Critical Article about the debate session

  English language learners and other students who may have anxiety with public speaking have an option to choose an assignment if they feel uncomfortable to speak in front of the class. They will have five days to write this critical piece, and grammar will not be a part of grading criteria.

End course - Take home short quiz assignment

This open-book quiz will have 20 questions. 15 questions are multiple-choice about the principles of the topic. Then the last 5 questions will be short answer questions. Students will answer them online. The content will include all lecture contents but not the debate part. The multiple-choice questions will test the students' understanding of definitions and concepts, and the short answer will test their critical thinking skills. An example of an short essay question: Do you think AI will have a greater impact on daily life or industry in the future? Why? The quiz will be graded out of 30 points, 1 point for each multiple-choice question and 3 points for each essay question. The whole process has no time limit but has a date limit. Students will have 3 attempts.

- **Resource**

1. edureka!. (2019, May, 27). Top 10 benefits of Artificial Intelligence / Artificial Intelligence (AI) advantages / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=masnR4-vt3M
2. edureka!. (2019, July, 14). Types of Artificial Intelligence / Artificial Intelligence Explained / What is AI? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=y5swZ2Q_lBw
3. edureka!. (2020, January, 9). The future of AI / How Will Artificial Intelligence Change the World in 2020? / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=XCI5j_oEWmQ
4. Simplilearn. (2019, April 30). What is Artificial Intelligence in 5 minutes?/What Is Artificial Intelligence/ AI Explained/ Simplilearn. [Video file]. Retrieved from https://www.youtube.com/watch?v=ad79nYk2keg
5. 10 Best AI Apps Of 2020. (n.d.) Retrieved from https://www.devteam.space/blog/10-best-ai-apps/#
6. edureka!. (2020, January, 6). Top 10 Application of Artificial Intelligence in 2020 / Artificial Intelligence / Edureka. [Video file]. Retrieved from https://www.youtube.com/watch?v=K_Mh21P9OwA
7. Huang, M.-H., Rust, R., & Maksimovic, V. (2019). The Feeling Economy: Managing in the Next Generation of Artificial Intelligence (AI). California Management Review, 61(4), 43–65. https://doi-org.ezproxy.library.uvic.ca/10.1177/0008125619863436
8. Gaon, A., & Stedman, I. (2019). A Call to Action: Moving Forward with the Governance of Artificial
9. Ted. (2018, August 27). *How AI can save our humanity / Kai-Fu Lee.* [Video file]. Retrieved from https://youtu.be/ajGgd9Ld-Wc
10. Ted. (2017, April), *How AI can enhance our memory, work and social lives/Tom Gruber*.[Video File]. Retrieved from: https://www.ted.com/talks/tom_gruber_how_ai_can_enhance_our_memory_work_and_social_lives

Inclusion of Diverse Learners

With respect to the inclusion of diverse learners, we have chosen English language learners (ELL) learners and individuals who do not have access to a personal computer. As non-native speakers of English, we understand especially well the needs of ELL students. Therefore, we have developed special activities to support the needs of ELL individuals. For the ELL, they can choose an AI app in their first language. For example, users can choose languages when using Siri.

To acknowledge our plan for addressing not only the needs of English language learners but all students who may have a challenge with AI language or words, we will use Google Documents to create a file and pick a variety of moderately difficult words from articles and videos. We will share the document file to allow all students to preview those new words in preview session.

For those learners who have a phone but no computer, they also likely do not have access to home internet. Therefore, the instructor will make every effort to utilize in-class time so, that the student can download and prepare all apps during class-time. The student will also be given extra time at the beginning and the end of class to ensure that the learner does not need to use much of their valuable data plan to complete this course. So, we will ask them to download Google Documents, Google Mail, and YouTube video applications.

Through these applications, students can receive all the tasks that we send on Gmail. They also can work as a group to share their opinions with group members in order to finish the tasks which we will give. We will create a private account on YouTube only for students who are in the course. The teaching team will invite some university students who have taken the AI course and received a good grade or possibly some computer science professors who have taught AI courses before, and we will ask them to record a video explaining the basic concepts of AI and some applications. They also can watch some videos that are simple to understand, and there are lots of AI application demonstration videos that could be shared with the students. For the assignment on the first lecture, we want students to search information about AI, which can be difficult for the student who lacks access to a personal computer. We can inform the learner about different options available to them, for example signing out a school computer or allowing the student extra time at the end of lecture to use a class-room computer. If the student would prefer, they will also be informed about publicly available computers.

English language learner and students who face anxiety with public speaking in the Debate session

Debate can be a challenge for ELL students. It could be hard for them to understand the arguments from other students because they are not very familiar with english. Before the lecture session 2, ELL students will be given time to prepare both presentations and debate. In addition, they could download relevant translation apps. During the debate, they are allowed to

take notes, which helps them organize their speech. They can also use google voice to text applications and translate the text in the language they speak, which can help ELL learners get the instant translation when they feel hard to follow another student's speech. In addition, educators will give live dictation of every student's statement on a computer that will be presented on a screen facing all the students. ELL students can always ask their group members for further explanation or clarification. If some ELL students or other students feel uncomfortable to speak in front of the class, they can choose to complete a critical piece related to the debate session towards AI, this peace will focus on an argument either in favor or against AI. We will record the debate session if we have all the students' consent, and this recording will then be shared in the class chat group or on course website. So all of the students can review the debate session after class if they need. We will give the students five days to write this critical piece, and their grammar will not be judged in this assignment.

Rationale for Your Technology Choices

Technology choices are crucial for learning processes, because they are considered "as things or tools used to support teaching and learning" (Bates, 2019). In our project, we use diverse technology (computers, smartphones, Wi-Fi, internet, electronic projector, presentational software, blog software, quiz software, translation software, AI apps, etc.) to present concepts, conduct activitys, do assessments and assist students' self-learning.

Technology use in the preview session

In the preview session, our students will use technology (computers and smartphones as hardware and Wi-Fi, data service and internet as networks) to collect information, read assigned articles, watch recommended videos and movies, and explore some AI apps.

Students will use blog software - WordPress to create their personal reflection post, and the instructor will provide feedback through WordPress as well. WordPress is a free blog and website builder, which is available on smartphones, tablets and computers. It allows students to post their ideas and receive comments ("Meet WordPress", n.d.).

Educators can use quiz software - Survey Monkey to make a vocabulary quiz for students to learn core concepts and assess themselves. Survey monkey supports 58 languages (Winstead, n.d.) which can help the ELL learners. This software gives instant scores and will email the results to the students. However, its free plan only allows teachers to post 10 questions per quiz. If our educational institution has a tight budget, educators can use VocabTest instead. VocabTest is free software, it is designed for vocabulary tests, which focuses on the definitions of words and allows the instructor to add hints and personal scenarios (Winstead, n.d.). Both Survey monkey and VocabTest fits our design well.

Using AI apps technology can help students understand concepts better, learn

how AI works and have real life experience. There are a few recommended apps for students to use in the table below. Students can choose the one which fits their interests (“10 Best AI”, n.d.).

We will provide two examples of AI apps - Siri and Socratic. Siri is one of the most successful modern applications of AI. Considering the iPhone is among the most popular cell phones currently, a majority of students may have one Apple product that utilizes the Siri application. Even if some students or their family members do not own an Apple product, students can share their group member’s iPhone, MacBook, or watch a video that demonstrates Siri so that they can know the function of AI. For those students who have an Apple product, they can follow the Siri guide step by step to know how functional Siri is. It will give students a good example of what AI is.

Since Siri is not accessible to every student, a good app student can download is called Socratic, which is available on iOS and Android operating systems. Socratic uses AI to help students learn a concept they are struggling with. The student may take a picture of some concept with their phone and then the application generates images that will help the student learn that concept. Students can use photos in many different subjects to see how the application generates responses. In this activity, students can understand how AI functions.

App name	Function	Available on Android	Available on iOS	Available on Windows	Available on MacOS
Siri	Virtual assistant	No	Yes	No	Yes
Cortana	Virtual assistant	Yes	Yes	Yes	No
Alexa	Virtual assistant	Yes	Yes	Yes	Yes
Hound	Voice assistant	Yes	Yes	Yes	Yes
ELSA Speak	English learning	Yes	Yes	No	No
Socratic	Homework study	Yes	Yes	Yes	Yes
Youper	Emotional health assistant	Yes	Yes	Yes	Yes

("10 Best AI", n.d.)

Technology use in the lecture sessions

In the lecture sessions, educators and students will use computers, electronic projector, presentation software (for example Microsoft PowerPoint), and loudspeakers to do presentations, which will most likely need access to internet and Wi-Fi. In the debate session, teachers will need audio recorders to record the session and will use computers, electronic projector and Microsoft Word or other similar software to provide live dictation. In addition, ELL students will use translation software and Google voice to text software, to help them understand another students' statement when they are debating.

For the take home short quiz, teachers will use quiz software (Survey monkey, VocabTest, etc.) to create one quiz including both the multiple choice and short answer questions.

Links to Each Peer Review of Your Resource

Seul:

https://omote1112.opened.ca/peer-review-pod-11/

Victor Li:

https://victorsblog.opened.ca/peer-review-of-pod-11s-interactive-learning-resource-artificial-intelligence-ai/

Denny Chen:

https://dannyblog.opened.ca/pod-11-artificial-intelligence-peer-review/

Connor Bollen:

https://connoredci335ramblings.opened.ca/peer-learning-resource-review-pod-11/

Peers Recommendations into Final Resource

We have summarized all of the recommendations below. All recommendations come from peer review. The links are written in the part: Links to each peer review of the resource. After the summary, we will show the recommendations we incorporate and the reason.

Victor Li's recommendations:

1. Include a preface of why the resource is needed.
2. Adapt the open pedagogy design approach, which is the co-creation of knowledge where students are invited to be a part of the teaching process through activities such as creating resources/teaching materials for use by future classes.
3. Provide tablets to all students.
4. Outcome 4 is a little confused.
5. Outcome 2 and 3 are similar.
6. Provide a list of AI apps for students to choose
7. Insert the discussion into the middle of the lecture instead of having it online
8. Insert the quiz into the lecture.
9. Use more professional quotations.

Danny's recommendations:

1. Add an in-text citation to where this information is from when explaining three learning theories.
2. Provide a list of AI apps for students to choose. (Same with the sixth recommendation of Victor)

Connor Bollen's recommendations:

1. Do not stretch the text out so much.
2. Use heading and indentation to make the article easier to be read.
3. Some activities are not suitable for two special students.
4. Use similar structure for different activities.

Seul's recommendations:

1. Explain the quiz content.
2. Use list, bold, and italicizing.
3. Explain how to do debate during COVID-19.

We have accepted Victor's first recommendation. We explain the purpose of the Interactive learning resource in the first sentence of the Overview. We also rewrote the fourth outcome to make it more understandable. We will have discussions before the class and during the class time. In class, students can interact with the professors, which can make the discussion more professional and exercise students' ability to react on the spot. We also upgrade our resource structure to make the article more logical and readable. We follow the outcome, activity, interactive, assessment in the logical order of time. Put the assessment into each part about the lecture. For two types of special students, we also provide more humane service. For the students who do not have a computer or smartphone, we can provide a paper quiz. We almost accept all the recommendations. For those recommendations that we do not accept, we think that we have done the things in recommendations. For example, we have created a list for AI apps. We provide a website including 10 popular AI apps.

A bibliography or reference list of all resources cited and/or required for your learners.

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