

Reaching Potential: Listening and Speaking Level IV



Technology Transcripts

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THE UNIVERSITY OF BRITISH COLUMBIA

English as an Additional Language Programs

Okanagan School of Education

Reaching Potential: Listening and Speaking Level IV

Post Secondary Education Skills: Upper Intermediate English

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Track 1 Identify Key Points

1.

3D printers have been used to print affordable houses. It is a really exciting development and could help thousands or millions of people worldwide. First, you lay the foundations of a house, with cement or concrete. Following that, you wait for it to set. When it has set and is stable, you mount the 3D printer onto the foundations, and it starts to print the walls. You can actually build walls to a house in under 24 hours.

2.

So there are lots of ways we can use a 3D printer commercially. For example, some companies have used a 3D printer to build shoes. Another company has used the 3D printer to produce board games. I think there is a company in Germany that has been developing household utensils, for instance, last week they managed to produce over 100 knives and forks in less than three hours. Overall, 3D printers can be used to make commercial items such as household utensils or even clothing.

3.

Now I understand that you may be thinking 3D printers take too long to print valuable or durable items. However, as Dr. Smith from Pacific Interior University says, in five years 3D printers will be a normal item in most peoples houses.



Track 2 Listen for the Answers

- A. I think one can find the plans for a 3D object online. I know there are some websites that people download them from. However, if you are good at using computers you can design your own objects, too. (2)
- B. Oh man, what is the limit of your imagination? There is a company where 3D printers are used to make phone stands, but we are talking about thousands of phone stands. Another company develops hinges for doors. It sounds small, but these companies are making thousands of hinges everyday and making money hand over fist. (5)
- C. It's not that difficult actually, first you insert a plastic cartridge. It is then heated up by the 3D printer and sent through a nozzle onto a plate. When that layer of plastic dries, another layer is placed on top of that. That continues again and again until the object is printed. (1)
- D. Yes and no. I think we could make household items cheaper, like cutlery or even office utensils. However, how 3D printers can be used for other household items, I'm not certain, yet. I need to do some research. (6)
- E. I honestly think that they can. There are so many endless possibilities with it. For example, you could build a filtration system or even low-cost essential household equipment. Imagine you were able to print tools to help dig a well. (4)
- F. Oh, that's a good one, I think I heard of people printing houses or large pieces of equipment for houses, like kitchen tables or bed frames. I know one company mass produces walls that are shipped all over the world. It's amazing really. I can't wait until they print a car! It could even be used for, it could also be used for humanitarian purposes. ... (3)



Welcome to today's lecture on 3D printing. Today we are going to examine how a 3D printer works and what it can be used for in commercial, humanitarian, or even domestic situations.

First, let's take a look at the history of the 3D printer.

The idea of a 3D printer first came to thought as far back as 1892 when people started thinking about the idea of having maps created with layers to show the geographical terrain of an area.

Fast forward to 1992 when the world's first machine that put layers of plastic on top of other layers of plastic to create an object was created.

In 2002 a huge jump was recorded when scientists engineered a functional kidney. The aim was to print organs and tissues using 3D printing technology. Remarkable really.

But it was in 2008 that a major breakthrough in 3D printing was achieved when the first 3D prosthetic leg was produced. The first person in recorded history walked on a leg that was printed. This really showed us the ability of the 3D printer and 3D printing technology.

In 2009 3D printers became more affordable as a company, Maker Bot Industries, started selling DIY kits that allowed buyers to make their own products. This made 3D printers more affordable.

Between 2009 and today we have printed bikinis, robotic aircrafts, cars, jewellery, and even prosthetic jaws!

So moving on from the history of the 3D printer to HOW a 3D printer works..

First, you need a blueprint. A blueprint of a design that you want. This is done on the computer. Although you can also download the blueprints for something if someone else has uploaded them online.

Next, you upload the design to your 3D printer and it starts to put tiny layers of plastic onto a plate or board. The 3D printer puts more and more layers of plastic on top of each to make a shape or form. This continues for a long time until the process is completed. So, you can imagine that the bigger the 3D printer, the bigger the object you can make is.

Now that we have looked at the history and how a 3D printer works, let's examine three different purposes of the 3D printer, commercial, domestic, and my personal favorite humanitarian.

So, in terms of commercial purposes the 3D printer can be used for so many different applications. For example, a company in Germany have been using 3D printers to create chess pieces. I believe the time it takes to create an entire chess set including board could take anywhere from 12 to 24 hours or so, but that will get lower in the future I imagine. We have

other companies that print shoes or jewellery, but for me, the real benefits of 3d printers are either in domestic situations or humanitarian situations.

Let's talk a little bit about domestic applications of the 3d printer.

Now, can anyone think of the benefits of having a 3D printer in your home? One great use is cable management, you know all the cables you have around your house? Maybe you have a laptop connected to speakers, a monitor, a mouse or keyboard attached to that. Many people have been using 3D printers to create 3D printer cable holders. It's something simple and small, but extremely useful.

Think about your kitchen, if you can think of an item in your kitchen, you can print it. Of course we can easily print kitchen utensils which are affordable and durable, but also other items like bottle openers or chip bag clips to keep your chips fresh.

Don't want to buy a planter in the spring? If you have a printer you can print one. Basically, there are very few limits of what a 3D printer can do in your home. I would like for you to research 3D printers and find out what they could be used for in your own lives. I think you'll find it's rather exciting.

However, as I said earlier it is the humanitarian uses that really caught my attention. Some companies have been using industrial sized 3d printers to create shoes or if you want to think bigger, houses. Yes, you heard me, houses. There was a company in Kelowna, BC, that donated \$10,000 to a charity that builds houses in Mexico using this technology. Would you believe they are now able to print the walls of a house in in only 24 hours? First, you pour the foundations of the house and let it set, then the 3d printer is set up over the foundation and gets to work. This charity has made it possible for people who used to live in makeshift, unsafe shelters, earning a monthly income of only \$80. For me, I think this is one of the best ways to use a 3D printer.

You must remember that this is only the start, I believe that in a few years we will have 3D printers everywhere, in peoples homes, libraries, schools, and universities. Okay, so now for your next task...

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Track 4 Identifying noun clauses

1. Businesses are keen to find out how 3D printers print houses.
2. Whether 3D printers are a viable option for producing medical supplies is becoming a frequently asked question in the medical field.
3. The magazine showed which household items were possible to print in only 6 hours.
4. I agree that an industrial-sized 3D printer has many benefits, including the ability to print houses.
5. Most people agree that 3D printers should not be used for producing weapons.
6. There is a lot of debate about which 3D printers are the most efficient

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Track 5 Structure of noun clauses

A.

1. The speaker describes how plastic is layered on other layers of plastic to shape a form.
2. The speaker describes how is plastic layered on other layers of plastic to shape a form.

B.

1. The speaker explains why 3D printers are used to build to build houses-they are affordable.
2. The speaker explains why are 3D printers used to build houses-they are affordable.

C.

1. The speaker explained where did 3D printers come from.
2. The speaker explained where 3D printers came from.

1. That article in National Geographic explained how 3D printers develop houses and even household supplies. They are now being researched to see if the buildings they create are adequate for a Canadian winter.
2. Then the guy tried to argue that 3D printers should be illegal.
3. Markus mentioned where 3D printers are developed. I think he said there was a factory in California.
4. A 2020 peer-reviewed article claimed 3D printers and their processing speed will just get faster and faster in the next decade.
5. The salesperson demonstrated whether the 3D printed kitchen utensil was as durable as a steel utensil-it was.

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Track 7 Syllable Stress I

1. I don't want to present at the conference, I am so nervous, got any tips dealing with nerves?
2. Your brother's birthday is coming up, did you get him a present?
3. There are four major contrasts I'd like to highlight.
4. What's interesting is when we compare and contrast the different 3D printers, they are virtually identical.
5. Have you ever heard of vertical farming? It's a fantastic way to increase your produce in your own home without taking up too much space.
6. How long did it take to produce the prototype?
7. This invention is brilliant, when the garbage is full of refuse it sends you a text message reminder to take it out.
8. They wanted to invest in our company but we refused, we don't want to merge or sell just yet.

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Track 8 Syllable Stress II

1. What advice do you have for someone who is going to present at a conference?
2. What is the worst present you have ever received?
3. I like these colors, there is a lot of contrast and it looks nice.
4. There is such a contrast between these two companies, I don't know which to invest in.
5. I got a 3D printer and started to produce medical supplies; I was able to donate parts to my local hospital.
6. I live in a small town where you can get your produce from the local farm, it's also all organic.
7. Have you ever refused a job promotion? Why?
8. It's generally the governments job to collect refuse in the street.

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Track 9 Which is which?

1. That is a good idea, I hadn't thought about that, thanks.
2. Furthermore, according to Smith if we continue to...
3. I'm not sure if I fully agree,
4. In a 2018 article, Smith claimed that...
5. Maybe, but don't you think that...
6. In this article they explain...
7. It has been proven that...
8. If you look at the Kelowna library website, you can see that...

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Track 10 Identify the key phrases

Carl: Hey Amber, do you know what a 3D printer is?

Amber: I've only heard a little about them, but lots of people are talking about them lately. Why?

Carl: Well schools have been keen to find out how they can use 3D printers because they are getting cheaper and cheaper. They are super cool and useful, and are going to be more popular in the future.

Amber: Oh, I wasn't aware of that. How do they work?

Carl: First, you need to download a blueprint from the internet, or you can design your own. Then, you upload the design to the 3D printer. Following that, You make sure there is enough plastic in the 3D printer. When you are ready, you hit 'print' and the 3D printer starts working. There is a tiny nozzle in the 3D printer that prints a layer of plastic on a board. When it dries, another layer is put on top of it, and it goes on like that for a while. It takes a bit of time, but by the end you can print anything you can design. It's really neat.

Amber: Oh wow, that's really interesting. I heard our local library wants to have a 3D printer, but I'm not sure if that's a good idea. They are super expensive.

Carl: I think it's a great idea! we could print school supplies or even some local medical supplies.

Amber: That's a good point, I hadn't thought about that; however, you said it takes a really long time to print and design items. Isn't it easier to just buy them

Carl: Well according to a new documentary on 3D printing I watched on YouTube, this technology will get faster in a few years. I think it's really good for children to learn this technology now because in the future, they will be in every house and university in the country.

Amber: Really?

Carl: Yeah, and in another National Geographic article they said that 3D printers are going to be cheap to make and even cheaper to use. They believe that they will be used for making all kinds of stuff, including screws and even cutlery in kitchens! The article also argued whether 3D printers should be used for surgical supplies.

Amber: Maybe, but don't you think that 3D printers use a lot of plastic?

Carl: Well you have a point there, but did you know you can actually use recycled plastic? you just have to order it online. They are getting greener as the technology develops.

Amber: Are there any dangers to 3D printers?

Carl: Well yes, one problem is that people have developed blueprints for weapons, but they are now regulated. Overall, there are some minor dangers.

Amber: Well if we can prevent that from happening, I think 3D printers are a great idea!

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Track 11 Useful Collocations

1. 3D printing is not your most **conventional** method of construction; however, it certainly is more affordable.
2. An **industrial**-sized 3D printer could help in the building of **adequate** and safe homes.
3. In places where there is not **affordable** housing available, a 3D printer could help solve homelessness.
4. There are many **commercial** benefits to 3D printing, too. For example, it is possible to print clothing and household utensils.
5. Dr. Smith **acknowledges** that there might be some downsides to 3D printing, like the development of weapons and the time it takes to print larger items.
6. For many, the concept of **three-dimensional** objects being printed is new.

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Track 12 Active or Passive?

1. First, you place the coffee in the coffee maker.
2. When water is added to the coffee maker, the process begins.
3. The water is then heated.
4. Next, the water passes through the coffee into the pot.
5. Finally, you pour the coffee into a cup and enjoy.