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Research Article

Ex Machina: Assessing the Value of SLA Avatar Chatbots

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Abstract

The present study reports on the final stage of a collaborative project at the University of Tennessee (USA) dedicated to assessing the efficacy of an avatar chatbot, called Slabot, in eliciting Spanish responses by students in an online asynchronous upper-level university course in Hispanic culture (Spanish 331) during the spring of 2026. In addition to providing students with opportunities to practice their oral skills, responses that reached an appropriate length were evaluated and rated according to the American Council on the Teaching of Foreign Languages (ACTFL) criteria. 47 students responded to seven questions asked by Slabot, and four students received ACTFL ratings. The results of interactions between Slabot and students indicate that their motivation to respond was influenced by a feature of Slabot not found in generic avatar chatbots, namely, the use of the instructor's voice to elicit student responses.

Introduction

In his groundbreaking study, "Computing Machinery and Intelligence," A.M. Turing (1950) [1] defines the parameters for determining whether computers possess the capacity for human-like thought. According to Turing, it is possible to arrive at such a determination through a test, known as the "imitation game" or the "Turing test," which involves two humans and a computer. During the test, one human (the interrogator) asks questions that the other human participant and the computer answer. The objective of the test is to determine whether the computer can convince the interrogator that it is human. A version of the Turing test occurs in Alex Garland's feature-length film *Ex Machina* (2014) [2]. The plot of *Ex Machina* centers on the ability of the humanoid robot Ava, who functions as the computer during the test, to convince the human interrogator, a computer programmer named Caleb Smith, to fall in love with an entity that he knows is artificial. Caleb's expression of authentic emotions can be compared to interactions between language learners and avatar chatbots. In both cases, success is measured in the context of a human loss of their inhibitions.

Whereas in *Ex Machina,* Caleb falls in love with Ava as a demonstration of this loss, evidence of similar success is revealed in the latest stage of an experiment at the University of Tennessee to test the ability of an avatar chatbot (Slabot) to assist students in developing L2 skills. The interaction between Slabot and advanced-level university students underscores the importance of design in achieving optimal results. Like the physical appearance of Ava in *Ex Machina*, which its creator (in the film, Nathan) specifically intended to motivate Caleb to fall in love and help the robot escape, Slabot's incarnation of the instructor demonstrated that this component of its design was a significant factor in eliciting responses from students in Spanish that were appropriate for evaluation according to the American Council on the Teaching of Foreign Languages (ACTFL) criteria. These responses were delivered during the spring of 2026 by students enrolled in an online asynchronous upper-level university course in Spanish culture, asynchronous Spanish 331 (Introduction to Hispanic Culture).

Materials and methods

This study reports on the final stage of a collaborative project that began in the spring of 2025 at the University of Tennessee (Knoxville, TN, USA). The collaborative team included Dr. Gregory B. Kaplan as faculty leader, and a technical production team headed by Dr. Jason Johnston (Executive Director of Online Learning), and which consisted of Naomi Breeden (Executive Director of Solutions), Michael Eilers (Graphic Designer), Chris Emberton (Assistant Director of Interactive Learning Technologies), Jonathan Fuqua (Web Application Developer), and Dani Powers (Graphic Designer).

The collaborative team created an avatar chatbot, called

Second Language Acquisition bot (Slabot), as documented in a previous study [3]. Slabot's physical appearance, as seen in Figure 1, is a combination of human and animal features, which was designed to recall "fauno" (one of the principal characters in Figure 2) in Guillermo del Toro's feature-length movie *El lab rinto del fauno* [4].

The reason for Slabot's design is grounded in research that underscores the pedagogical effectiveness of modeling an avatar chatbot on a figure with which students are familiar. Before interacting with Slabot, students in Spanish 331 had viewed *El laberinto del fauno*, and were thus familiar with fauno. Slabot's physical appearance is less menacing than that of fauno, which is a component of its design intended to promote interaction with students. Moreover, as will be explained below, Slabot was endowed with an additional feature to distinguish it from commercial avatar chatbots. It is through this distinguishing feature, as will be argued, that the successful implementation of Slabot was achieved.

Review of related literature

In two previous studies [5], attention was paid to the importance of Slabot's physical appearance in contributing to student responses. The present study focuses on another feature of Slabot's design that played a similar role, namely, the incorporation of the instructor's voice. Research [6-8] has demonstrated that students are more likely to interact with an avatar chatbot that incarnates features of the course instructor. In particular, Kühne, et al. [6] have documented "a strong preference for the human voice and human speaker," and Leong, et al. [7] have shown that students prefer "more human-like voice-overs" rather than "AI-generated voices."

The use of the instructor's voice is a feature of Slabot that distinguishes it from avatar chatbots with synthetic voices, such as Ava, the avatar chatbot employed by ACTFL, examples of which are seen in Figure 3.



Figure 1: Slabot



Figure 2: The character "fauno" from the film *El laberinto del fauno*.



Figure 3: Sample images of Ava, the ACTFL OPIC avatar chatbot (ACTFL Oral Proficiency Interview-Computer 2024, p. 5).

ACTFL uses Ava to conduct the Oral Proficiency Interview-Computer (OPIc) test, which can be completed online or by telephone. The OPIc, like the traditional ACTFL in-person interview, culminates in the awarding of an ACTFL rating, which ranges from Novice Low to Superior (Novice Low, Novice Mid, Novice High; Intermediate Low, Intermediate Mid, Intermediate High; Advanced Low, Advanced Mid, Advanced High; Superior). Two previous studies [5] have illustrated the capacity of the physical appearance of Slabot to elicit responses suitable for evaluation according to ACTFL criteria, and the present study will assert that Slabot's voice, which is the human voice of the instructor rather than a synthetic voice, was equally important in producing ACTFL ratable samples. It should be noted that students in Spanish 331 were very familiar with the instructor's voice in spite of the asynchronous design of the course. Students gained this familiarity by watching some thirty videos that included the instructor throughout the semester, which testifies to the importance of the "presence" of the instructor in an asynchronous course. In other words, in spite of the fact that students in Spanish 331 never met the instructor in person, a familiarity with the instructor's voice, as clearly revealed by student comments referenced below, played a significant role in encouraging student responses.

Results

During the spring of 2026, there were 47 students enrolled in asynchronous Spanish 331, the largest enrollment since the course began operating in 2020. The students received the following instructions to complete the Slabot assignment:

El experimento (la tarea) consiste en responder a siete preguntas de un avatar chatbot llamado Slabot. Cinco preguntas tratarán de la película *El Laberinto del Fauno* y dos preguntas tratarán de la época en la que vivió un hombre, Miguel Muñoz, que aún no has visto pero que verás entrevistado en la próxima tarea. Tu interacción con el avatar y tus respuestas serán grabadas, y tú y el profesor tendrán acceso a esta grabación. Mientras estés grabando tus respuestas, no se te permitirá utilizar AI, notas escritas ni leer ningún texto.

Instrucciones para responder a las siete preguntas:

1. Presiona "Reproducir."
2. Escucha la pregunta.
3. Elige "Insertar."
4. Selecciona "Multimedia."
5. Selecciona "Cargar/grabar contenido multimedia."
6. Presiona "Record" y graba una respuesta en español con todos los detalles que puedas recordar. (Es posible que aparezca una ventana emergente [pop-up] y debas permitir el acceso al micrófono y la cámara).
7. Cuando termines tu respuesta, presiona "Finished."
8. Presiona "Save media." Solo tendrás un intento.

The experiment (the assignment) consists of answering seven questions from a chatbot avatar named Slabot. Five questions will focus on the film *Pan's Labyrinth*, and two will cover the era in which a man named Miguel Muñoz lived—a man you have not yet seen but whom you will see being interviewed in the next task. Your interaction with the avatar and your responses will be recorded, and both you and the professor will have access to the recording. While recording your answers, you are not permitted to use AI, consult written notes, or read from any text.

Instructions for answering the seven questions:

1. Press "Play."
2. Listen to the question.
3. Choose "Insert."
4. Select "Media."
5. Select "Upload/Record Media."
6. Press "Record" and record a response in Spanish with as many details as you can remember. (A pop-up window may appear, and you may need to allow access to your microphone and camera.)
7. When you have finished your response, press "Finished."
8. Press "Save Media." You will only have one attempt.

Students were required to respond to seven questions asked by Slabot, which were prerecorded by the instructor. The first five questions endeavored "to inspire students to progress through levels of profundity in their responses, from repetitive details to speculative discourse" [3]. Moreover, the questions were devised while taking into account the ACTFL guidelines for assigning a rating, which is determined by an "individual's ability to use the language in all types of situations, concerning topics that may or may not be familiar and in contexts that may or may not have been encountered previously" [9]. Therefore, the first five questions required students to provide information on the film they had recently watched:

Primera pregunta: En la película, el papel del fauno es guiar a Ofelia en sus tres tareas. Cuáles son esas tareas?

First question: In the movie, Pan's role is to guide Ofelia in her three tasks. What are those three tasks?"

Segunda pregunta: El director de la película, Guillermo del Toro, mezcla un mundo real con otro imaginario, qué tienen en común ambos mundos?

Second question: The director of the film, Guillermo del Toro, mixes a real world with an imaginary one: what do the two worlds have in common?

Tercera pregunta: Cuáles son algunas características del capitán Vidal?

Third question: What are some of the characteristics of Captain Vidal?

Cuarta pregunta: Cómo trata el capitán Vidal a Ofelia?

Fourth question: How does Captain Vidal treat Ofelia?

Quinta pregunta: En tu opinión, cuál es la moraleja de la película?

Fifth question: In your opinion, what is the moral of the film?

The last two questions situated students within a context that they had not "encountered previously" by asking them to speculate about a video (https://www.youtube.com/watch?v=T-j-G2GiE6I [accessed on 25 June 2026]) in which an individual who lived through the Spanish Civil War and Franco's dictatorship, Miguel Muñoz (b. 1925–d. 2022), is asked to explain some of the hardships that he experienced:

Sexta pregunta: "*El laberinto del fauno* tiene lugar en 1944. En unos días verás un vídeo sobre Miguel Muñoz, un hombre que vivió en España durante los años 40. Qué crees que Miguel dirá sobre cómo era su vida entonces?"

Sixth question: "*El laberinto del fauno* takes place in 1944. In a few days, you'll see a video about Miguel Muñoz, a man who lived in Spain during the 1940s. What do you think Miguel will say about what his life was like back then?"

Séptima pregunta: "Miguel Muñoz nació en 1925. Qué le dirías a Miguel sobre cómo su vida podría verse afectada por los acontecimientos mundiales—políticos, sociales, económicos o militares—entre 1925 y 1945?"

Seventh question: "Miguel Muñoz was born in 1925. What

would you tell Miguel about how his life might be affected by world events—political, social, economic, or military—between 1925 and 1945?"

The results of the Slabot assignment in the spring of 2026 are revealed in Table 1 below. Two students failed to submit the assignment (numbers 6 and 23), as indicated in Table 1 by "N/A." In addition, several students (numbers 28, 30, 35, 43, and 47), indicated by "X," experienced technical difficulties while uploading their responses. The technical difficulties occurred because these students used browsers not supported by Canvas, the course shell used to house courses at the University of Tennessee:

Table 1: Student response times to Slabot in the spring of 2026.

Student number	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Total time
1	29	19	27	18	30	29	22	2:54
2	12	14	22	24	30	35	38	2:55
3	32	27	27	22	32	19	20	2:59
4	26	9	16	13	23	11	X	1:38
5	1:12	1:26	56	57	52	52	1:23	7:38
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	1:16	1:11	1:04	1:20	1:50	1:52	2:39	11:12
8	16	43	33	44	30	40	40	4:06
9	19	25	12	11	11	16	12	1:46
10	1:17	42	33	32	43	33	50	5:10
11	53	48	50	44	59	1:00	1:20	6:34
12	1:03	43	29	37	47	X	53	4:32
13	12	14	8	7	10	13	23	1:27
14	38	18	37	38	25	35	51	4:02
15	23	39	20	15	34	22	37	3:10
16	52	35	31	26	23	30	33	3:50
17	49	34	16	19	23	21	29	3:11
18	26	15	33	22	27	22	21	2:46
19	18	35	32	17	28	21	1:00	3:31
20	47	38	32	28	28	38	48	4:19
21	11	11	10	13	11	13	15	1:24
22	29	6	10	28	44	24	39	3:00
23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24	12	36	15	17	21	19	33	2:33
25	38	10	5	6	8	9	10	1:26
26	1:01	9	11	15	27	11	40	2:54
27	31	24	40	31	46	30	32	3:54
28	X	X	X	X	X	X	X	X
29	1:08	29	37	43	47	39	1:00	5:23
30	X	X	X	X	X	X	X	X
31	44	59	47	17	59	40	54	5:20
32	31	45	24	10	16	21	40	3:07
33	1:32	1:59	1:20	1:10	1:31	58	1:08	9:38
34	48	31	22	15	21	22	45	3:24
35	1:12	52	X	X	40	28	28	3:40
36	13	25	18	12	38	1:04	1:18	4:08
37	19	17	16	14	19	28	26	2:19
38	16	22	13	15	11	11	20	1:48
39	41	37	36	38	42	43	47	4:44
40	17	18	23	13	17	21	20	2:09
41	28	16	9	13	12	9	17	1:44
42	8	7	8	8	8	14	16	1:09
43	X	X	X	X	X	X	X	X
44	16	16	13	9	10	10	15	1:29
45	31	38	30	38	1:03	28	X	3:48
46	17	27	10	9	15	18	27	2:03
47	2:09	X	52	1:09	1:14	56	1:52	8:12

One factor that merits consideration is the amount of time that interviewees actually speak during an OPIc. Whereas the OPIc guidelines estimate that the process lasts 20 to 40 minutes (*ACTFL Oral Proficiency Interview-Computer*, 2024, p. 3), research involving documented interviews (Surface et al, 2008, p. 16) suggests that interviewees typically spend around ten to thirty minutes taking the OPIc, which includes the time the interviewee speaks and the time necessary for the avatar chatbot to ask the questions. In the case of interaction with Slabot, the seven questions asked occupied 1min 40s of the interview (Q1, 14s; Q2, 15s; Q3, 8s; Q4, 7s; Q5, 7s; Q6 23s; Q7 26s). When this time is added to the total times listed in the Chart above, three students in addition to number 7, numbers 5, 33, and 47, also reached an appropriate threshold for evaluation according to ACTFL criteria:

Student 5, 7:38+1:40=9:18

Student 7, 11:12+1:40=12:52

Student 33, 9:38+1:40=11:18

Student 47, 8:12+1:40=9:52

The results by student 7, whose responses were the longest in duration, are revealed below:

Q1 [1:16]

Ofilia necesita, uh, descubrir, un, uh, rana en un arbol y necesita, um, uh, descub, descubrir un, uh, llave en, um, en, en la, en la rana cuando, um, la, uh, rana, um, come, uh, cosas y porque Ofilia necesita, uh, salvar, uh, el arbol. Um, también, Ofilia necesita, um, usa la, usar la llave para, um, descubrir un, um, cuchilo en, uh, cerca de [1:00] un monstruo. Y fanalmente, Ofilia necesita, uh, tomar, uh, le sangre de su hermano.

Ofelia needs to, uh, discover a, uh, frog in a tree, and she needs to, um, uh, find a, uh, key inside the frog when, um, the, uh, frog, um, eats, uh, things, because Ofelia needs to, uh, save, uh, the tree. Um, also, Ofelia needs to, um, use the key to, um, discover a, um, knife, uh, near [1:00] a monster. And finally, Ofelia needs to, uh, take, uh, her brother's blood.

Q2 [1:11]

Uh, ambos mundos, um, tienen, munstruos, pero los munstruos de la, uh, del, del mundo real son más horribles, uh, que las munstruos de, uh, el, el mun, del mundo, um, mágico. Entonces, es diferente que, uh, las personas que, um, uh, viven, uh, or, uh, vían la película porque, usamente, los munstruos, uh, mágicos son más malas que los munstruos de, uh, le, uh, del mundo real. Pero, en la película, los munstruos y los lideres, uh, del mundo real son más horribles. [1:00] Entonces, Ofilia necesita ir al, uh, mundo mágico.

Uh, both worlds, um, have monsters, but the monsters of the—uh, of the real world—are more horrible, uh, than the monsters of the—uh, the magical world. So, it's different for people who—um—are watching the film, because usually, magical monsters are meaner than the monsters of the real world. But in this movie, the monsters and the leaders of the real world are more horrible. [1:00] So, Ofelia needs to go to the magical world.

Q3 [1:04]

El capitán es horrible. Uh, no tiene cuidado, uh, por tu, um, esposa o, um, o tus, uh, personas de, uh, su erea, área en, uh, España. Um, porque el cap, el capitán solo, um, piensa sobre su legacía y su poder. Entonces, el capitán, uh, solo quiere un, uh, un, uh, hijo que puede contunuar, um, su legacía. Entonces, el capitán es una persona muy mala y una persona que [1:00] no es un líder bueno.

The Captain is horrible. He has no regard for your wife or for the people from your region in Spain. This is because the Captain thinks only of his own legacy and power. Consequently, he simply wants a son who can carry on that legacy. Thus, the Captain is a very bad person—and someone who [1:00] is not a good leader.

Q4 [1:20]

Al capitán no le gusta Ofilia porque, um, Ofilia representa imaginación y, um, uh, el, la feliz de, uh, las personas, um, de las hijos, y, uh, de los niños. Entonces, el capitán es un hambre mal porque, uh, prefira las cosas como poder y gwerra porque en las ojos de, um, del capitán, las cosas de legacía y poder son más importantes. Entonces, el capitán, um, es horrible a, um, trata. El capitán trata Ofilia [1:00] a Ofilia horrible. Entonces, las personas, um, de la gente, uh, son más importante, y las, uh, munstruos mágicos son más importante para proteger, um, Ofilia.

The Captain dislikes Ofelia because—um—Ofelia represents imagination and—um, uh—the happiness of people—um—specifically of children. Consequently, the Captain is an evil man because—uh—he prioritizes things like power and war; in the Captain's eyes, matters of legacy and power are of greater importance. As a result, the Captain—um—is horrible, um, treats. The Captain treats Ofelia, [1:00] Ofelia horribly. Thus, the people—um—the common folk—uh—are more important, and the—uh—magical monsters are more important for protecting Ofelia.

Q5 [1:50]

El mensaje, uh, de la película es que, um, la esperanza y la imaginación son más poderosos que, uh, son más poderosas que, um, los pod, poder, uh, los cosas malas como gwerras y, uh, y ejercit, ejercícitos malos. Uh, porque en la película las personas que tiene imaginación como Ofilia son más poderoso, uh, cuando, um, la película termina. Uh, y también, um, Mercedis y, um, los, uh, uh, las personas, uh, que, rebayan, uh, contra, [1:00] um, uh, los, um, or, los republicanas y maquis son, uh, más poderosos, uh, com, que, um, los lideres fascistas como, um, el capitán. Y es importante que las personas, um, creen en, uh, una, en un mundo que es, uh, mejor. Entonces, es un película sobre munstruos pero es un, una película, uh, de esperanza.

The message, uh, of the film is that, um, hope and imagination are more powerful than, uh, than, um, the forces of power, uh, and evil things like wars and, uh, and evil armies. Uh, because in the film, the people who possess imagination, like Ofelia, are more powerful, uh, by the time, um, the movie ends. Uh, and also, um, Mercedes and, um, the, uh, uh, people, uh, who rebel, uh, against, [1:00] um, uh, the, um, or, the Republicans and the Maquis, are, uh, more powerful, uh, than, um, the fascist leaders, such as, um, the Captain. And it is important that people, um, believe in, uh, a, in a world that is, uh, better. So, it is a film about monsters, but it is a, a film, uh, of hope.

Q6 [1:52]

Probablemente, um, Miguel tenía miedo de, del gobierno de España en esta época porque, um, como en la película, um, el gobierno fue horrible. Fue fascista y no protegían las, um, uh, los derechos de la gente. Y, entonces, uh, la, uh, Segunda Gwerra Mundial fue durante, um, esta periódico. Entonces, um, fue un, uh, tiempo de muchas cosas malas. También, um, [1:00] la, el mundo fue, um, cambiado, uh, por, por los carros y radio y, uh, otras cosas de tecnología. Entonces, uh, le, y, um, el mundo fue muy diferente. También, um, uh, probablemente, uh, Miguel no tenía mucha, uh, comida durante, or, no, uh, no tuve mucha, uh, comida durante esta, uh, esta periódico, uh, como en la película porque, uh, hubo raciones.

Miguel was probably afraid of the Spanish government at that time because—much like in the movie—the government was terrible. It was fascist and did not protect people's rights. Furthermore, the Second World War took place during this period. Consequently, it was a time marked by many hardships. Also, [1:00] the world was being transformed by automobiles, radio, and other technological advancements; thus, the world was a very different place. Additionally—and again, much like in the movie—Miguel likely did not have much, uh, food during this period, as rationing was in effect.

Q7 [2:39]

Durante esta época, um, muchas cosas, um, cambiaron en España y en el mundo, uh, porque la tecnología cambian mucho, uh, probablemente porque, um, las cosas como eléctricos y, um, uh, carros, uh, cambiaron, um, los sistemas de la vida, uh, urbana especialmente. Um, pero, también, um, los cosas económicas, uh, se hicieron, um, más conectada con, uh, el mundo porque, um, la tecnología [1:00] cambian, um, uh, los mercados también. Um, probablemente, um, uh, uh, la gwerra,

la guerra en, um, la guerra en, uh, España, uh, fue horrible para, um, su vida. Um, los fascistas, uh, ganaron la gwer, la guerra y, um, roban las, los derechos de las personas en España. También, um, en la, la gwer, uh, uh, la Segunda Gwer, Guerra Mundial, uh, fue en, um, mil [2:00] novecientos, uh, trayenta, trayenta y nueve, uh, uh, hasta, um, no sé, no, noventa, uh, sí, mil novecientos cuarenta y cinco. Entonces, um, uh, los, uh, países poderosos cambian en esta periódico también como, um, uh, uh, Rusia y Los Estados Unidio, Los Estados Unidos.

During this era, um, many things, um, changed in Spain and in the world, uh, because technology changed significantly—uh, probably because, um, things like electricity and, um, uh, cars, uh, transformed, um, the systems of life—uh, urban life, especially. Um, but also, um, economic matters, uh, became, um, more interconnected with, uh, the rest of the world because, um, technology [1:00] transformed, um, uh, markets as well. Um, probably, um, uh, uh, the war—the war in, um, the war in, uh, Spain—uh, was horrible for, um, people's lives there. Um, the fascists, uh, won the war and, um, stripped away the rights of the people in Spain. Also, um, the war—uh, uh, the Second World War—uh, took place from, um, nineteen [2:00] thirty—thirty-nine—uh, uh, until, um, I don't know... yes, nineteen forty-five. Consequently, um, uh, powerful countries also underwent changes during this period—such as, um, uh, uh, Russia and the United States.

In addition to an ACTFL rating, student 7 (like all students) received the following corrections from the instructor:

Q1: repeated vocalic confusion e/i ("Ofilia" instead of "Ofelia");

Q1: incorrect use of the masculine indefinite article "un" rather than the feminine form "una" ("un, uh, rana" [a frog], "un, uh, llave" [a tree]);

Q1: repeated mispronunciation of the noun "arbol" rather than the accentuation "árbol" (tree);

Q1: incorrect pronunciation of "cuchilo" rather than "cuchillo" (knife);

Q1: incorrect pronunciation of "fanalmente" rather than "finalmente" (finally);

Q2: repeated vocalic confusion between u/o ("munstruos" rather than the form "monstruos" [monsters]);

Q2: mispronunciation of the noun "lideres" rather than the form with an accent on the first syllable "líderes" (leaders);

Q3: incorrect use of the second person singular possessive adjective "tu" (your) rather than the third person singular form "su" (his);

Q3: incorrect pronunciation of "erea" rather than "área" (area);

Q3: incorrect use of the noun "legacía" rather than "legado" (legacy);

Q3: mispronunciation of "contunuar" rather than the correct form "continuar" (to continue);

Q4: repeated vocalic confusion e/i ("Ofilia" instead of "Ofelia");

Q4: incorrect use of the feminine definite article "las" rather than the masculine form "los" ("los hijos" [the children], "los ojos" [the eyes]);

Q4: incorrect use of "feliz" rather than "felicidad" (happiness);

Q4: incorrect form of the verb "prefira" rather than "prefiere" (prefers);

Q4: incorrect pronunciation of the noun "gwerra" rather than "guerra" (war);

Q5: incorrect use of the masculine definite article "los" rather than the feminine form "las" ("las cosas" [the things]);

Q5: incorrect pronunciation of the noun "gwerras" rather than "guerras" (wars);

Q5: incorrect pronunciation of the noun "ejercícitos" rather than "ejércitos" (armies);

Q5: incorrect use of the third person singular verb "tiene" rather than the third person plural form "tienen" ("las personas que tienen imaginación" [the people who possess imagination]);

Q5: incorrect use of the masculine singular adjective "poderoso" rather than the feminine plural form "poderosas" ("las personas que tiene imaginación como Ofilia son más poderosas" [the people who possess imagination, like Ofelia, are more powerful]);

Q5: incorrect pronunciation of the verb "rebayan" rather than "rebelan" ("las personas, uh, que, rebayan" [the people, uh, who rebel]);

Q5: use of the English conjunction "or" rather than the Spanish form "o" ["o, las republicanas"];

Q5: incorrect use of the feminine noun "republicanas" rather than the masculine form "republicanos" ("los republicanos" [the republicans]);

Q5: incorrect pronunciation of the noun "lideres" rather than "líderes" (leaders);

Q5: incorrect use of the third person plural indicative verb form "creen" rather than the subjunctive form "crean" ("Y es importance que…crean" [And it is important that…they believe]);

Q5: incorrect use of the masculine singular indefinite article "un" rather than the feminine form "una" ("una película" [a film]);

Q5: vocalic confusion between u/o ("munstruos" rather than the form "monstruos" [monsters]);

Q6: incorrect use of the third person plural indicative verb "protegían" rather than the third person singular form "protegía" ("Fue fascista y no protegía" [It was fascist and did not protect]);

Q6: incorrect pronunciation of the noun "gwerra" rather than "guerra" ("Segunda Gwerra Mundial" [Second World War]);

Q6: incorrect use of the first person preterite indicative verb form "tuve" rather than the third person singular form "tuvo" (no tuvo mucha, uh, comida [he didn't have much, uh, food])

Q6: incorrect phrase "esta periódico" rather than "este período" (this period);

Q6: missing feminine singular definite article "la" before "radio" ("la radio" [the radio]);

Q6: incorrect use of the noun "raciones" rather than "racionamiento" (rationing);

Q7: incorrect noun "eléctricos" rather than "la electricidad" (electricity);

Q7: incorrect use of the masculine definite article "los" rather than the feminine form "las" ("las cosas económicas" [economic matters]);

Q7: incorrect use of the third person indicative plural present tense verb "cambian" rather than the third person singular preterite tense form "cambió" ("porque la tecnología cambió" [because technology changed]);

Q7: incorrect use of the singular feminine adjective "conectada" rather than the plural form "conectadas" ("se hicieron, um, más conectadas" [became, um, more interconnected]);

Q7: incorrect use of the third person indicative plural present tense verb "roban" rather than the third person plural preterite tense form "robaron";

Q7: incorrect pronunciation of "trayenta" rather than "treinta" (thirty);

Q7: incorrect phrase "esta periódico" rather than "este período" (this period).

Concerning the ACTFL rating, an evaluation of the response by student 7 was initially made by the instructor of Spanish 331 (Gregory Kaplan) and then confirmed by another colleague at the University of Tennessee, who also had ACTFL training. This evaluation revealed that student 7 was at the ACTFL intermediate level in Spanish. As such, student 7 demonstrated comprehension and oral skills that corresponded to the following profile:

Speakers at the intermediate level can discuss familiar topics directly related to their daily lives. At intermediate, speakers can recombine what they have learned to express ideas and ask simple questions to succeed in survival situations.

At the Intermediate level, listeners can understand simple sentence-length speech on daily topics. Generally, listeners at the Intermediate level can comprehend one utterance at a time while engaging in conversation or listening tasks like receiving directions. (*Language Testing International*, 2026)

The responses given by student 7 manifested these skills. The student was able to "discuss familiar topics directly related to their daily" life, namely, their prior knowledge of *El laberinto del fauno*. In addition, student 7 was capable of "comprehend[ing] one utterance at a time" by Slabot and of responding to the "tasks," that is, answering Slabot's questions.

Within the different rating levels (Advanced, Intermediate, Novice), the ACTFL guidelines establish subcategories (High, Mid, Low), which can be determined by closer inspection of the types of errors committed. This type of analysis is only possible if the interviewee provides a substantive sample, which points toward the value of Slabot as a tool for eliciting discourse that might not otherwise occur in a course with a large enrollment.

In the case of student 7, several factors revealed a rating of Intermediate Mid, which is characterized in the following terms:

This is a level where individuals can handle basic communicative tasks in straightforward social situations. They can ask and answer questions with some detail about themselves and their immediate environment (travel, lodging, food, shopping). Their language is characterized by strings of sentences that use high-frequency and simpler grammatical structures. (*ACTFL-Scale Levels of Language Proficiency*, 2023)

The ability of student 7 to comprehend and respond to Slabot's questions reveals that the student "can handle basic communicative tasks." The use of "simpler grammatical structures" is evident on many occasions, such as "Entonces, el capitán es una persona muy mala y una persona que [1:00] no es un líder bueno" (Thus, the Captain is a very bad person—and someone who [1:00] is not a good leader) in the response to Question 3.

At the same time, student 7 fails to meet the standard of an Intermediate High speaker because the discourse takes the form of sentences rather than paragraphs, which are required for this rating:

Individuals at this level can … be understood by native speakers despite errors and interference from their native language. They can provide paragraph-length narratives in past, present, and future but with inconsistency. (*ACTFL-Scale Levels of Language Proficiency*, 2023)

The transcription of the responses by student 7 to Slabot was crucial in determining an Intermediate Mid rating. Details concerning the ratings for the other three students who qualified (students 5, 33 and 47) can be obtained by contacting the author of the present study. The frequent interruptions of the discourse by "uh" or "um" indicate sentences rather than paragraphs. It may be argued that such an accurate determination of a rating would not have been possible after an in-person, non-recorded interview. Indeed, therein lies perhaps the most valuable aspect of an avatar chatbot, namely, that its use allows an appropriate distance for an instructor to fully evaluate an interview.

Discussion

Comments by students in course evaluations from the spring of 2026 offering of asynchronous Spanish 331, which are housed at https://planning.utk.edu/index.cfm/page/AefisDashboard.home, suggest that incorporating the instructor's voice into the design of Slabot played an important role in motivating students to interact. Examples of these comments include:

Great videos and effort to make the content exciting!;

I enjoyed how he featured himself in videos. He made them fun to watch!;

The videos you made were always awesome and super informative!;

I like … the customized videos you make!

Although the comments do not specifically mention Slabot, they indicate that the instructor's presence throughout the asynchronous Spanish 331, whether visually or in voice-overs, created an environment in which students felt comfortable interacting with an avatar chatbot. This theory is supported by research studies involving the OPIc, such as Cox, et al (2016, p. 90), who observe that "some students found that talking to a computer was completely unnatural." It may be speculated that students who interacted with Slabot found this avatar chatbot to be less "unnatural" than a generic avatar chatbot because of Slabot's link to an instructor with whom they were already familiar in a virtual sense.

Conclusion

It is instructive to return to the analogy between the film *Ex Machina* and the Slabot experiment that culminated in the present study. In the film, although Caleb is aware that he is a participant in a Turing test, he is unaware that Nathan actually selected him for the test because of his emotional profile, which Nathan accurately judges. As Nathan foresees, Caleb's affection for Ava leads him to help her escape, with Ava's potential ability to do this constituting the true test being performed. Similarly, students in asynchronous Spanish 331 during the spring of 2026 were only aware that interaction with Slabot was intended to provide them with more opportunities to speak Spanish, which reflected the fact that students in previous iterations of the course had expressed the need for such opportunities in their course evaluations. This objective was explained to them before interacting with Slabot:

Las investigaciones sobre estudiantes universitarios en clases de lenguas extranjeras, así como las evaluaciones estudiantiles, revelan que les gustaría tener más oportunidades para practicar oralmente el idioma que están aprendiendo. Con este propósito, y en relación con un proyecto de investigación que se lleva a cabo actualmente en la Universidad de Tennessee, se está llevando a cabo un experimento que implica la interacción con un avatar.

Research on university students in foreign language classes, as well as student evaluations, reveals that they would like more opportunities to practice speaking the language they are learning. To this end—and in connection with a research project currently underway at the University of Tennessee—an experiment involving interaction with an avatar is being conducted.

At the same time, similar to the plot of *Ex Machina*, students were unaware of the additional objective that their responses were also being measured with respect to their potential for evaluation according to ACTFL criteria. It is interesting to speculate that more students might have produced ACTFL ratable samples if they had been aware of that objective, just like an individual who performs the OPIc with the expectation that they will be assigned an ACTFL rating. This is, perhaps, the greatest attribute of Slabot, or any avatar chatbot that is modeled on a specific course content, namely, that interaction with Slabot is capable of producing an ACTFL ratable sample because of the way its voice recalls the instructor.

One feature of the Slabot interview that could be improved in the future is the transcription of the responses, which should be automated rather than performed by the instructor. This would speed the process of assigning ACTFL ratings and allow the instructor more time to provide students with more in-depth explanations of grammatical errors. Notwithstanding this limitation, this final report on the Slabot experiment continues to suggest what has been revealed in two previous studies (Kaplan, 2026, "Redefining the Role of Avatar Chatbots"; Kaplan, 2026, "The 'Princess Leia' Effect"). Rather than a generic avatar chatbot, one that is instilled with features that link it to specific course content, such as the instructor's voice, has the potential for forging an entirely new path toward evaluating oral skills in a course taught in any language.

Abbreviations: b: born; d: died; min: minutes; s: seconds;

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