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Master thesis

*Instruction videos: how degree of accentedness
influences their effectiveness*

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Preface

Before you lies my master thesis: 'Instruction videos: how degrees of accentedness influences their effectiveness.' Ever since my third year of my bachelor International Business & Communication I have been intrigued by the effects of accents. Therefore, I decided that I wanted to involve accents in my master thesis. Moreover, as someone who frequently looks up tutorials, the idea of learning more about the effectiveness of instructional videos really caught my attention and it seemed like a great opportunity to involve accents in it.

The writing of this master thesis started in June 2021 and ended in February 2022. The entire process from start to finish was extremely interesting and fun to do, but also quite difficult and exhausting at times. Especially, since I was required to both write my thesis and successfully complete two other courses in order to graduate within a year.

This study deviates from the research proposal. Initially, I wanted to measure actual performance by having participants replicate the building of the LEGO house. However, due to a new surge of COVID cases, I decided against this idea for my own safety and that of others. Luckily, I could change the experiment by asking multiple-choice questions that estimate performance instead, so I could still potentially graduate.

I have been very fortunate to have received the assistance of so many people around me during this period. However, I would like to mention a few people specifically. I would like to thank my amazing supervisor dr. Beryl Hilberink for her support, critical feedback and pleasant supervising. She was always there to give suggestions and quickly replied to my many questions. Another important person that I would like to thank is my awesome friend Pascal Giling for lending me his voice for the three accents in this study. He took time out of his busy schedule to help me with master thesis and for that I am very grateful. I would also like to thank the online community 'De Bokkenrijders', consisting of amazing people who emotionally supported me and helped fill in the questionnaire.

Boo Hon Huynh

Apeldoorn, 7th of February 2022

Abstract

The present study was interested in accents in an instructional video context. Accents are abundant and part of our everyday life due to the ever-increasing globalization and English being a Lingua Franca. Previous research has shown that accents can have negatively influence comprehensibility, as well as various attitudes towards the speaker such as status, likeability and competence. However, no study has yet investigated the influence of accents in an instructional video context. As such, the current study is the first to investigate the effects of various degrees of accent strength on the effectiveness of an instructional video in terms of performance and attitudes towards the speaker. The experiment was carried out online where Dutch native participants watched an accented video instruction (native, slight or moderate) and answered questions pertaining to 1) multiple-choice questions, which tested their estimated performance, 2) comprehensibility of the speaker, 3) attitudes towards the speaker (status, likeability, competence). The present study found evidence that supports the notion that comprehensibility and attitudes towards the speaker are negatively influenced by moderate accents compared to slight and native English accents, except for competence, which was higher for native than both slight and moderate. Performance was not significant among the accent groups, but comprehensibility, competence and status did predict performance. Thus, in an instructional video context, it is important to have a native speaker be the representative of a company, since a native speaker commends higher status, likeability and competence than a moderately accented speaker, which may result in higher performance. However, it must be noted that the current study did not measure actual performance, but instead measured estimated performance due to developments in COVID.

1. Introduction

Instruction videos have become a viable alternative to their paper-printed counterpart in recent years, in part due to the success of YouTube, which has made instruction videos become more accessible than ever. This development has not gone unnoticed by companies, since they too have started utilizing video instructions for their products. Another reason for this increase in instruction videos is that they are more effective than printed instructions for procedural-manipulative tasks. Naturally, instructional videos contain audio and spoken language and the obvious choice for spoken language would be English as it is a global language. Although English is used by many people across the world, it does mean that there are a lot of non-native English speakers who speak with accents. Accents are known to impact comprehensibility and influence various attitudes towards the speaker (McKenzie, 2008; Nejari, Gerritsen, Van der Haagen, Korizilius, 2012; Chan, 2016; Hendriks, van Meurs, Hogervorst, 2016; Hendriks, van Meurs, de Groot, 2017; Dragojevic & Goatley-Soan, 2020). However, accents have not yet been studied in the domain of instruction videos. Would for example, an instruction video spoken in by someone with a very strong non-native accent be as effective compared to that same instruction video spoken by a native English speaker? The purpose of the present study is to gain new insights into the effects of various strengths of accents in the context of instructional videos and their potential impact on performance.

1.1 Instruction manuals

Unlike life, most gadgets, furniture and computers come with instruction manuals. Instruction manuals are user guides that assist their user in assembling, repairing, installing, maintaining, or using their product. Instruction manuals do not explain concepts, like how or why they are doing things a certain way but focus solely on teaching their users how to successfully use the product. Instruction manuals are not limited to print, but also extend to video tutorials or instruction videos. A popular platform for instruction videos is YouTube. YouTube offers various informal learning opportunities for users in the form of tutorials, walkthroughs, guides, lectures and informational videos (Lange, 2019). Informal learning refers to the act of learning outside formal educational channels (i.e. classroom, colleges), moreover, the learner decides when to learn (Drotner, 2008). These instruction videos cover all sorts of topics, such as coding, cooking, software programs and assembly of products. Businesses have also started taking notice of YouTube's potential for instructional videos. Having effective, usable and useful instruction videos means that customers do not have to call a business' help service, which is good for both parties. An example of a company utilizing YouTube for instructional

videos is Philips, a major electronics company based in the Netherlands. In one of their latest videos, they show the viewer how to properly clean a Philips espresso machine. Important to note is that Philips example is an instructional video, which has the same function as a printed instruction manual. Both print and video serve the same purpose, which is to teach their user how to use a certain product. However, they vastly differ in the different contexts in which they are most effective.

1.2 Print vs video

Instruction material have evolved from print to video, however instructional videos are a modern take on printed instruction manuals and not a replacement for printed instructions. In some cases, print and video can complement each other, such as with instruction videos on YouTube, which can be an effective tool to enhance the learning experience of students if the video is relevant to their subject (Moghavvemi, Sulaiman, Jaafar, Kaasem, 2018). According to various studies that compared print and video instructions in an educational context, video instruction is more effective than print if the instruction focuses on computer tasks (Palmiter & Elkerton, 1993; Donkor, 2010; Lloyd & Robertson, 2012, Alexander, 2013; van der Meij & van der Meij, 2014; Castro-Alonso, Ayres, Paas, 2015). This is because dynamic video instruction is more helpful than static images, when learning about procedural-manipulative tasks, as opposed to concepts or theory (Castro-Alonso et al., 2015). While instruction videos are seemingly more effective than printed instructions, this may not always be the case in the long run. Palmiter and Elkerton (1993) found that video instructions were more efficient immediately after training, but after a week the participants, who followed the printed instructions, were outperforming the video group. It turns out that the video group were mimicking the video instructions, which led to superficial learning and low retention rate. It depends on the context and situation of the user as to whether retention is all that important. The present study focused on instructions for single assembly of a product, such as building an IKEA desk. Because, for such instructions, retention is not very important, as it is not necessary to remember how to assemble that same product again next week.

Ultimately, both mediums aim to instruct and teach their user something new. Print and video both have their own unique strengths. On the one hand, print is very cost-effective, easy to use, portable and comfortable. Paper-based instructions provide readers with an overview of how the manual's structure, which allows the reader to quickly skim through the relevant bits of information instead of having to watch the entire video once or twice

(Alexander, 2013). The user can also interactively choose the pace at which learning takes place and can quickly progress through the easy parts and slow down for the more complex material. On the other hand, video is more engaging and provides strong visual cues that are valuable when depicting actions or processes (Alexander, 2013). Moreover, humans process visual and auditory/verbal information separately and simultaneously, via two different channels (Clark & Paivio, 1991). This theory is known as dual-coding theory (Clark & Paivio, 1991). Dual coding combines words and visuals together. By providing two different representations of the information (visual and auditory), the learner has access to two ways of understanding the presented information, which allows for a better learning experience than just one representation of the information. Dual coding of information is arguably the biggest strength of video instructions because videos are a prime example of combining visuals and verbal information together.

Another important difference between video and printed instructions is the added audio, more specifically the ability to utilize spoken language in video instructions. Naturally, spoken language can vary greatly between speakers, such as word choices, pronunciation, fluency, vocabulary, and intonation. These are all factors that influence spoken language and possibly intelligibility and comprehensibility of the instruction. Accents are a prime example of spoken language that differs between speakers of different countries of origin and were the primary focus of the present study.

1.3 Accents

An accent is a distinctive way of pronouncing a language, often associated with a particular country, area or social class (@Cambridge University Press, 2021). Due to increasing globalization, English is often spoken by speakers of different first languages as their main language of choice for communication with other communities, also known as English as a Lingua Franca (ELF). As a result, many people all over the world understand and can speak English, but they tend to speak with distinguishable accents. For example, the Dutch language does not have the soft -th (θ) sound, as a result, Dutch people speaking English replace -th with a harder -t or -d. Instead of ‘thought - $\theta\text{ɔ:t}$ ’, a Dutch person might pronounce the word as ‘taught - $t\text{ɔ:t}$ ’. Depending on context, this can cause confusion.

It is vital that instructional videos are comprehensible because the users will be performing the instructed steps in order to learn how to use their product, however, accents can negatively affect comprehensibility (Munro & Derwing, 1995; Nejari et al., 2012, Hendriks et al., 2016). Comprehensibility in the current study refers to the matter to which

listeners can understand the message communicated by the speaker. Nejjari et al. (2012) for example, evaluated how native British English participants reacted to Dutch English speakers in the context of a telephone sales talk, where participants held conversation (in English) with either a native British or accented Dutch speaker. Dutch English accents were found to be less comprehensible than the British English control group. Similar findings were found in an educational context where moderately accented speakers were less comprehensible than speakers without accents or slight accents (Hendriks et al., 2016). As mentioned earlier, video instructions have the weakness of needing to be watched fully, sometimes multiple times. A difficult comprehensible speaker can result in the listener needing more time to process the utterances during the instruction (Munro & Derwing, 1995), which in turn could lead to the viewer needing to watch the video several times over to fully comprehend the instruction.

Apart from comprehensibility, accents can also influence how listeners perceive the speaker based on attitudinal evaluations, such as status, likeability and competence. Nejjari et al. (2012) found that the British native speakers were attributed with more status than non-native Dutch English speakers, but speakers with a slight accent or no accent commanded more likeability than moderately accented speakers. As for competency, Hendriks et al. (2016) and Hendriks et al. (2017) found that moderately accented speakers were perceived as less competent than slightly accented and non-accented speakers. However, slightly accented speakers were actually found to be more likable than native English speakers (Hendriks et al. 2016). A similar effect was found in McKenzie (2008), where Japanese listeners rated likeability higher for other Japanese accented English speakers than for native British or American English. Another research by Chan (2016) had opposing findings. Namely, Hong Kong students rated status and likeability lower for their local Hong Kong English accent compared to other non-native English accents (Philippines, Mandarin, Indonesia) and native English speakers (US, UK). An explanation for these findings is that attributed status and likeability may depend on the origin of the speakers. The study by Dragojevic and Goatley-Soan (2020), found that Americans attributed higher status and likeability towards UK and US native accents than other accents (Arabic, Vietnamese, Farsi, French, and German).

Accents can influence comprehensibility and how listeners perceive the speaker based on attitudes. If the speaker has a noticeable accent, the speaker may be perceived as someone with low status, competence and be less liked. Perception of a person can have major implications for behavior and results (Roessel, Schoel, Zimmermann & Stahlberg, 2017). Roessel et al. (2017) found that speakers with a strong accent were evaluated more negatively than speakers with a native-like pronunciation and as a result of the perceived negative

attributes of the strong accented speaker, they rated his hirability much lower than the native-like speaker. This example also introduces another factor that is important for research into accents, which is the strength of one's accent. Not everyone speaks with the same degree of accentedness. A strong accent may induce negative effects, whereas a slight accent would not. Thus, it is important to take accent strength into account when looking at the potential detrimental effects of accents.

1.4 Accent strength

Accent strength can vary greatly between people. Previous research often makes the distinction between three degrees of accentedness: native (no accent), slight and moderate/strong (McKenzie, 2008; Nejari et al. 2012; Hendriks et al. 2016; Hendriks et al. 2017). Note that moderate and strong are used interchangeably by previous researchers. The present study assumes that most Dutch people have a slight or moderate accent, rather than a strong accent, because of the Netherlands being ranked #1 on the English Proficiency Index score by EPI (EF Education First 2020, 2020). Hence, this study will use 'moderate' as the strongest accent strength and not 'strong'.

As previously stated, accents affect comprehensibility and various attitudes towards the speaker, but more specifically, only moderate accents tend to influence comprehensibility and other attitudes towards the speaker such as likeability, status and competence (McKenzie, 2008; Hendriks et al., 2016, Hendriks et al., 2017). Slightly accented speakers may be considered near-native enough for the listeners to not have as many or any negative evaluations. However, there are some studies that argue both slight and moderate accents affect comprehensibility (Munro & Derwing, 1995; Nejari et al. 2012). An explanation for these different findings could lie in the fact that the listeners in both Munro and Derwing (1995) and Nejari et al. (2012), were native English speakers themselves, while the listeners in Hendriks et al. (2016) shared the same mother tongue as the accented speaker. The sharing of mother tongues is an interesting research angle, which the present study investigated with Dutch natives evaluating Dutch-English accented speech.

1.5 Research question and hypothesis

Instructional videos are being employed by more and more companies across the globe, but currently, no research has investigated the influence of accentedness in instructional videos. In educational contexts, various studies have reported several potential detrimental effects of

accents and accent strength on comprehension and attitudinal evaluations. These reported effects may also apply to an instructional video context since instructions and education are closely related. As such, the purpose of this study is to investigate the effects of various degrees of Dutch-English accented speech on how Dutch participants evaluate the instructor's comprehensibility, status, competence and likeability and whether these variables influence the listeners' performance in a series multiple-choice questions pertaining the viewed procedural-manipulation task in the instruction video. The results of this study will be highly relevant to companies who seek to employ instructional videos for their products and add to the research on the effects of different degrees of accents. Based on the research gap in accents in instructional videos and the theory, the present study will seek to answer the following research question:

RQ: *To what extent does accent (no, slight, moderate) influence the effectiveness of procedural tasks in an instructional video?*

The effectiveness of the instructional video was assessed by a series of multiple-choice questions, which estimated performance of participants and a set of questions about their attitude towards the video. In addition, perceived comprehensibility, status, likeability and competency of the speaker are variables that were also taken into account in this study because of their aforementioned possible influence on performance.

In line with prior research on accentedness, it is expected that comprehensibility will be negatively affected by moderate accents (McKenzie, 2008; Nejari et al. 2012; Hendriks et al. 2016; Hendriks et al. 2017). Experiencing difficulty with comprehending the speaker in the instruction video is expected to be detrimental to the performance in multiple-choice questions, which leads to the first hypothesis:

H1: *Moderate accents lead to worse comprehensibility, which will negatively impact the performance in the multiple-choice questions.*

For speaker attitudes, such as: status, likeability and competence, it is expected that status and competence will be negatively affected by moderate accents, compared to slight and no accents (Nejjari et al. 2012; Chan, 2016; Hendriks et al. 2016; Hendriks et al. 2017).

However, whether lower status and competence would also influence performance is not yet known. One could speculate that participants could pay less attention to a speaker if that speaker is regarded as not so competent or low in status, which may impact overall performance. This leads to the second hypothesis:

***H2:** Moderate accents lead to worse evaluations based on status and competence of the speaker, which in turn negatively impacts the performance in the multiple-choice questions.*

Based on previous research, which suggests that likeability is higher for accented speech if the listener shares the same mother tongue as the speaker (Hendriks et al. 2016; Dragojevic & Goatley-Soan, 2020), it is expected that likeability will be higher for moderately and slightly accented speech than non-accented native speech. Leading to the third hypothesis:

***H3:** Moderate and slight accents lead to higher likeability of the speaker than the native accent.*

Lastly, the present study expects slight accents to not differ from native speech and therefore show no negative effects in line with prior research (McKenzie, 2008; Hendriks et al. 2016; Hendriks et al. 2017). The final hypothesis:

***H4:** Slightly accented speech does not differ from native speech with regards to comprehensibility, status or competence, as such the performance in the multiple-choice questions is expected to not differ either.*

2. Method

2.1 Material

The present study conducted an online experiment, where participants viewed an online English instructional video. The instructor in the instructional video showed the participants step-by-step how they can build a house made of LEGO bricks. The instructional video depicted a procedural task and was manipulated with different accents (no, slight, moderate), all performed by the same Dutch native speaker. Participants were shown the exact same video and instructional content. The only difference was the accent used by the instructor. Because the speaker performed all three accents, participants were asked to verify the accent strength of the speaker in the experiment. The ‘no accent’ condition simulated a British English accent, while slight and moderate accents simulated Dutch-accented English. Other than the accent, the content of the recorded speech was the exact same in all three accent conditions. The video length had a total length of four minutes and 22 seconds.

The LEGO house itself had ten layers, consisting of blue, red-, green-, white- and yellow-coloured bricks, totalling 48 pieces of LEGO. The LEGO bricks came in two sizes 2x2 and 4x2. An image of the finished build can be found in Figure 1. This experiment is the same as performed by (Bergmans, 2019; Derks, 2019; Weiss, 2019).

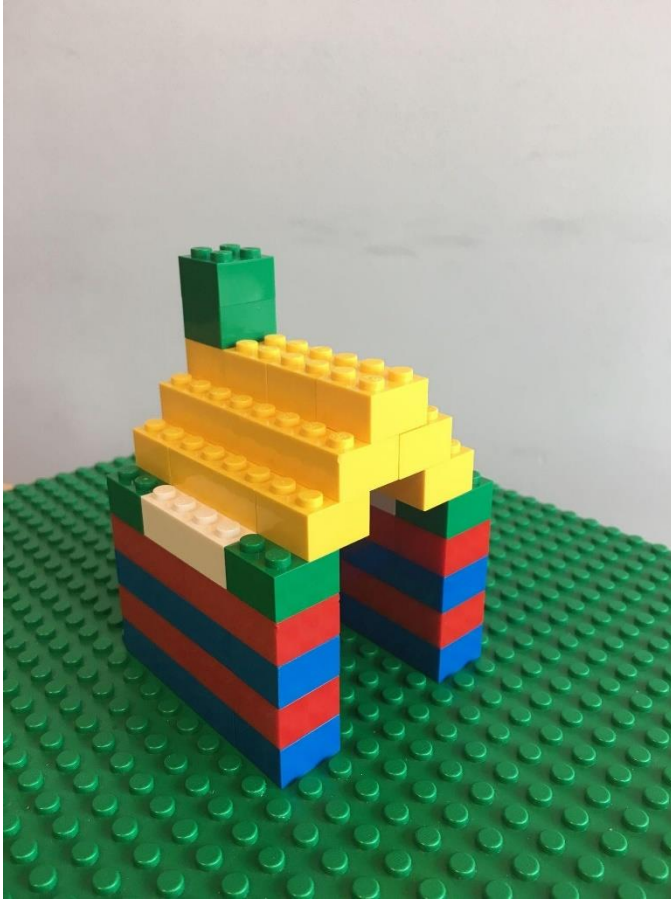


Figure 1. Finished LEGO house build.

Participants were instructed to watch the instruction video only once and were not allowed to pause, fast forward or backtrack in order to keep the manipulation the same at all levels.

Afterward, participants were asked to fill in a questionnaire pertaining to questions about their thoughts and evaluations about the speaker, as well as a series of multiple-choice questions to test how well they comprehended the instruction video, which tested the estimated performance of the participants.

2.2 Participants

The present study focused on Dutch native speakers and were recruited via the personal circle of the researcher who conducts the study, as well as via social media posts on Facebook and survey swapping platforms such as SurveySwap and SurveyCircle. Participants had to be 16+ because of the convenience of being able to give consent.

In total there were 162 participants, from which there were 112 who had successfully finished the questionnaire. Of these 112 participants, five were removed because they were not native Dutch speakers. Of the 107 remaining participants, thirteen more were removed

due to either not having finished the questionnaire on the same day or spent too much time on the page of the video or the overall questionnaire (longer than 20 minutes). The total number of legible participants in this study thus came down to 94 participants. From the 94 participants, 31 were exposed to the native accented video, 30 to the slightly accented video and the remaining 33 to the moderately accented video.

The average age of all participants ($M = 25.01$, $SD = 5.52$, range = 17 – 49). Native accent group ($M = 25.68$, $SD = 6.59$, range = 17 – 49), slight accent group ($M = 24.93$, $SD = 5.30$, range = 17 – 36), moderate accent group ($M = 24.45$, $SD = 4.64$, range = 17 – 40). A one-way ANOVA has shown that there were no significant differences among the accented groups regarding age ($F(2, 91) < 1$).

Of the 94 participants, 56.4% was male and 43.6% female. Native group (51.6% male, 48.4% female), slight group (73.3% male, 26.7% female), moderate group (45.5% male, 54.5% female). A Chi-square test has shown that gender distribution was equal across the three accented conditions ($\chi^2(2) = 5.39$, $p = .067$).

The participants' education level ranged from secondary education (5.3%), MBO (12.8%), HBO (28.7%), Bachelor's degree (22.3%), Master's degree (28.7%) to PhD (2%). For native accent (secondary education (3.2%), MBO (9.7%), HBO (22.6%), Bachelor's degree (32.3%), Master's degree (32.3%)), slight accent (secondary education (6.7%), MBO (16.7%), HBO (33.3%), Bachelor's degree (20%), Master's degree (20%), PhD (3.3%)), moderate accent (secondary education (6.1%), MBO (12.1%), HBO (30.3%), Bachelor's degree (15.2%), Master's degree (33.3%), PhD (3%)). A Chi-square test has shown that the education level distribution was equal across the three accented conditions ($\chi^2(10) = 6.02$, $p = .814$).

Participants were also asked to self-assess their proficiency in English on writing, speaking, reading and speaking levels. Native accented group ($M = 5.92$, $SD = 0.54$), slightly accented group ($M = 5.88$, $SD = 0.67$), moderately accented group ($M = 5.77$, $SD = 0.78$). A one-way ANOVA has shown that there were no significant differences among the accented groups with regards to self-assessed English proficiency ($F(2, 91) < 1$).

2.3 Design

The study had a single-factor between-subjects design with three levels of accentedness (native, slight, moderate).

2.4 Instruments

Performance was measured based on a set of ten multiple choice questions that focused on the structure, colour and overall build of the LEGO house. See Figure 2 for the correct build per layer. As mentioned above, the house consisted of 48 LEGO bricks, comprised of five colours (red, green, blue, white and yellow) and had two different shapes (4x2 and 2x2). The first three multiple choice questions were: 1) Which colour was the second layer of the LEGO house? 2) How many layers does the LEGO house consist of, excluding the roof and chimney? 3) Which colour was the chimney supposed to have? The other seven multiple-choice questions had participants choose the correct follow-up step after they were shown a picture of an initial starting situation of a certain step (based on Mollov, 2020). See Figure 3 for an example of such question. The full questionnaire can be found in Appendix 1.

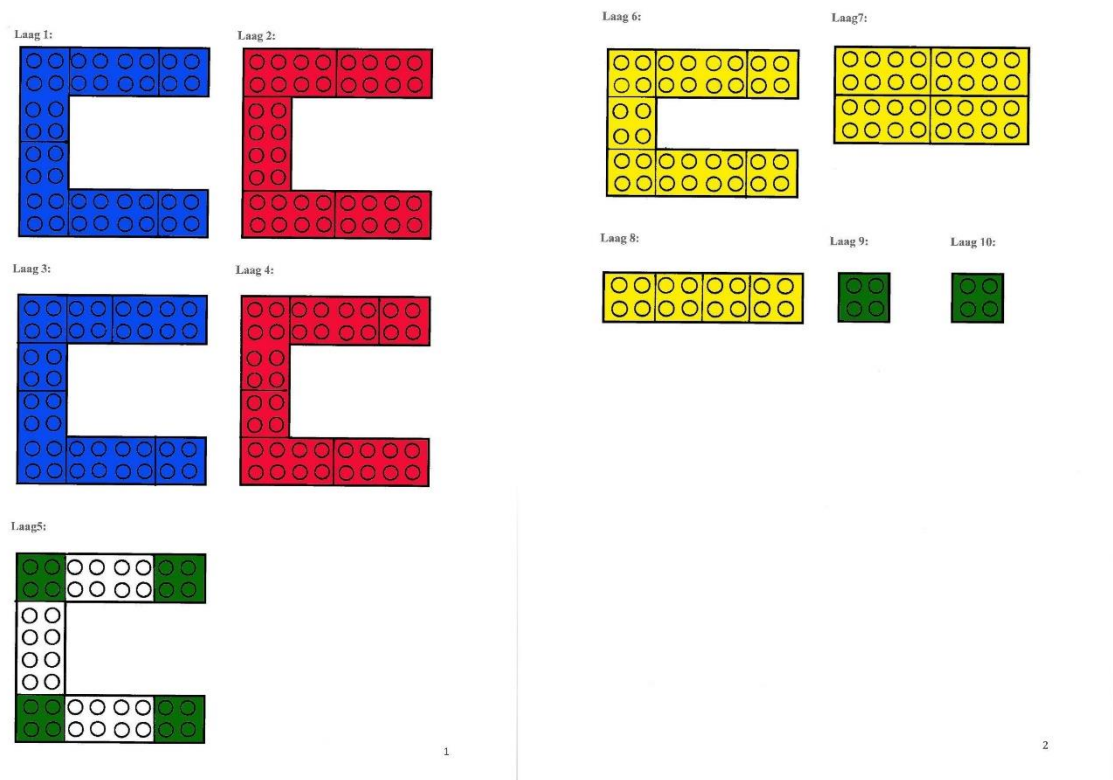
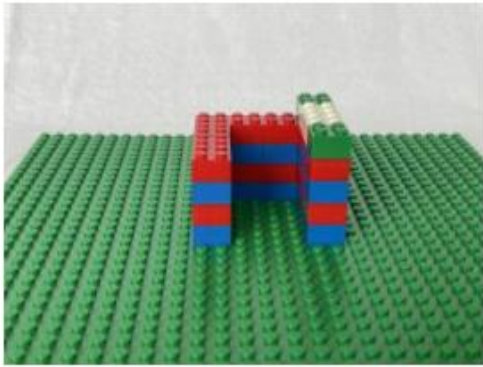


Figure 2. Correct color, placement and size per layer.

Q10



Wat is de vervolgstap?

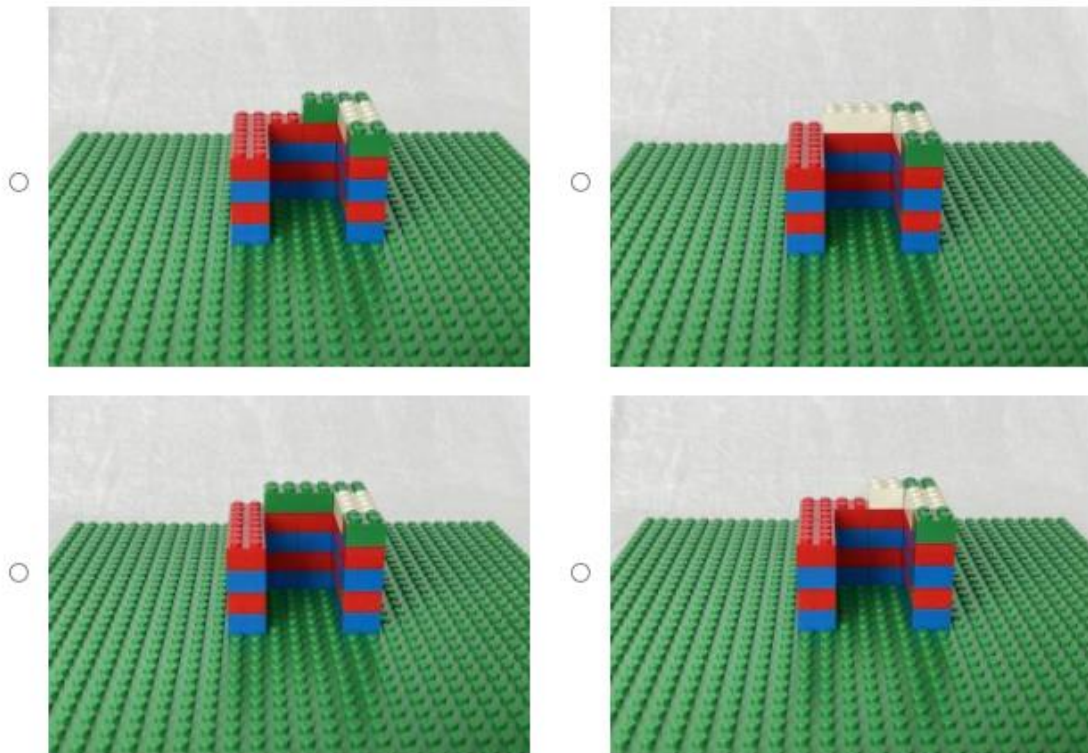


Figure 3. One of the seven similar multiple-choice questions (based on Mollov, 2020).

Comprehensibility of the speaker was measured with seven 7-point Likert scales: 1. I have to listen very carefully to be able to understand the speaker, 2. The speaker speaks clearly, 3. The speaker is barely intelligible, 4. The speaker is difficult to comprehend, 5. I have problems understanding what the speaker is talking about and 6. I do not understand what the speaker is saying, anchored by (completely disagree – completely agree) (based on Hendriks et al. 2017). The reliability of the scale for comprehensibility, consisting of six items was great $\alpha = .89$. The average of the six items was used in the statistical analyses described in this study.

Attitudes toward the speaker was subdivided into status, likeability and competence, which were measured with 7-point Likert scales, anchored by (completely disagree – completely agree) (based on Nejari et al. 2012; Hendriks et al. 2016; Hendriks et al. 2017). Status was introduced with the statement: ‘In my opinion, the speaker speaks with ...’. While likeability and competence were introduced with the statement: ‘In my opinion, the speaker sounds ...’. Status of the speaker was measured with five 7-point Likert scales: 1. Authoritative, 2. Strong voice, 3. Self-confident, 4. Trustworthy, 5. Influential. The reliability of the scale for status, consisting of five items was good $\alpha = .80$. The average of the five items was used in the statistical analyses described in this study. Likeability of the speaker was measured with five 7-point Likert scales: 1. Friendly, 2. Kind, 3. Warm, 4. Pleasant, 5. Considerate. The reliability of the scale for likeability, consisting of five items was great $\alpha = .91$. The average of the five items was used in the statistical analyses described in this study. Competence was measured with five 7-point Likert scales: 1. Competent, 2. Educated, 3. Intelligent, 4. Professional, 5. Convincing. The reliability of the scale for competence, consisting of five items was great $\alpha = .91$. The average of the five items was used in the statistical analyses described in this study.

Accent strength was measured with two questions. Question one used a 7-point Likert scale: ‘The speaker sounds like a native speaker of English’ anchored by (completely disagree – completely agree) (based on Jesney, 2004). Question two used a 9-point Likert scale: ‘The speaker has a strong foreign accent in his English’ anchored by (No foreign accent – Strong foreign accent) (based on Jesney, 2004). These items were not combined into one scale, since they were too different from each other in terms of Likert scale.

2.5 Procedure

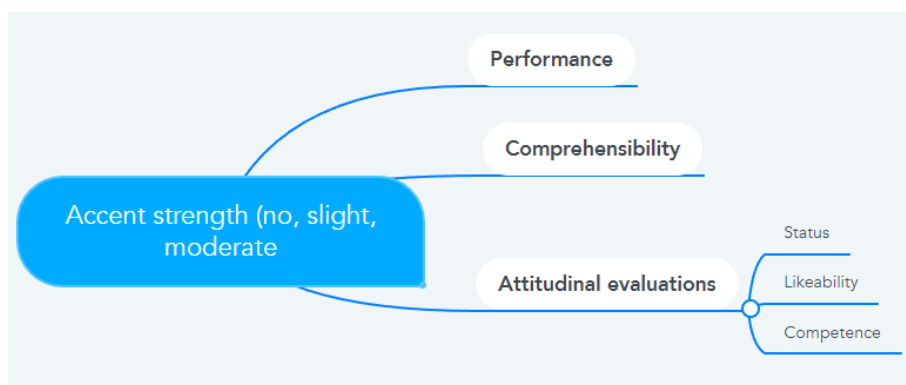
The questionnaire of the experiment was distributed online. Participants were introduced to the experiment on the first page of the questionnaire. They were told what the idea was of the study and that the experiment would take approximately 10 minutes. After participants had read the instructions and information, on that same first page, they were asked for their consent. Moreover, participants agreed that they participated voluntarily and could withdraw at any moment. They also agreed that they were at least 16 years of age and that their answers would be processed anonymously and would only be used for the present study. Participants were recruited via the personal social circles of the student who conducted the study and via Survey swapping platforms SurveySwap and SurveyCircle. No rewards were given for participation, except for participants who came in via SurveySwap and SurveyCircle. Their

reward for filling out the questionnaire was that they would gain points, which would allow for other users to fill out their own surveys. At the end of the questionnaire, all participants were thanked for participating. The average time to complete questionnaire was close to the estimated value with average being 590.36 seconds with a standard deviation of 140.85 seconds.

2.6 Statistical analyses

The current study conducted one-way ANOVAs with accent strength as independent variable and performance, comprehensibility, status, likeability and competence as dependent variables. A multiple regression analysis was conducted to investigate whether accent strength, comprehensibility, status, likeability and competence predicted performance.

Analysis model



Independent variable

Dependent variables

3. Results

The present study investigated to what extent accent influenced Dutch consumers' comprehensibility and attitudes towards the speaker in terms of status, likeability and competence and how these may factor into influencing performance itself.

3.1 Manipulation check of perceived accent strength

Accent strength manipulation check was performed with two questions as stated above. A one-way ANOVA revealed that accent strength has a significant main effect on statement 1: 'The speaker sounds like a native speaker of English' ($F(2, 91) = 41.44, p < .001$). However, homogeneity of variance was violated according to Levene's. Henceforth, an additional Welch ANOVA was conducted ($F(2, 47.82) = 46.09, p < .001$). People who were subjected

to the native accent group ($M = 4.71$, $SD = 1.90$) agreed more that the speaker sounded like a native speaker of English than the slight ($p < .001$, Games-Howell-correction; $M = 2.40$, $SD = 1.73$) and moderate groups ($p < .001$, Games-Howell-correction; $M = 1.30$, $SD = 0.68$). The slight and moderate accented groups also differed from each other ($p = .007$, Games-Howell-correction). See Table 1.

Another one-way ANOVA revealed that accent strength has a significant main effect on statement 2: ‘The speaker has a strong foreign accent in his English’ ($F(2, 91) = 30.92$, $p < .001$). Again, Levene’s test showed that homogeneity of variance was violated. An additional Welch ANOVA was conducted ($F(2, 59.15) = 31.02$, $p < .001$). People who were subjected to the native accent group ($M = 3.74$, $SD = 2.27$) agreed more that the speaker did not have a foreign accent in his English than the slight ($p < .001$, Games-Howell-correction; $M = 6.30$, $SD = 2.18$) and moderate groups ($p < .001$, Games-Howell-correction; $M = 7.82$, $SD = 1.81$). The slight and moderate accented groups also differed from each other ($p = .011$, Games-Howell-correction). See Table 1.

Table 1. Means, standard deviations and n for perceived accent strength statement 1 in function of accent strength (1 = completely disagree, 7 = completely agree) and perceived accent strength statement 2 (1 = no strong foreign accent, 9 = strong foreign accent).

Accent strength	Native $n = 31$ M SD	Slight $n = 30$ M SD	Moderate $n = 33$ M SD	Total $n = 94$ M SD
1. The speaker sounds like a native speaker of English	4.71 1.90	2.40 1.73	1.30 0.68	2.78 2.08
2. The speaker has a strong foreign accent in his English	3.74 2.27	6.30 2.18	7.82 1.81	5.99 2.67

3.2 Multiple-choice questions performance

A one-way ANOVA of accent strength on performance revealed no significant main effect of accent strength ($F(2, 91) < 1$). Native ($M = 78.06$, $SD = 20.57$), slight ($M = 81.33$, $SD = 19.07$) and moderate ($M = 82.42$, $SD = 16.21$) all scored similarly on performance. See Table 2.

3.3 Comprehensibility

A one-way ANOVA of accent strength on comprehensibility revealed a significant main effect of accent strength ($F(2, 91) = 8.67$, $p < .001$). Participants who watched the native accented speaker rated his comprehensibility significantly higher ($M = 6.24$, $SD = 0.90$) than people who watched the slight ($p = .042$, Bonferroni-correction; $M = 5.54$, $SD = 1.17$) and moderate speakers ($p < .001$, Bonferroni-correction; $M = 5.12$, $SD = 1.14$). People who watched the moderate and slight speakers did not differ from each other in terms of comprehensibility ($p = .369$, Bonferroni-correction). See Table 2.

3.4 Status

A one-way ANOVA of accent strength on status revealed a significant main effect of accent strength ($F(2, 91) = 9.94$, $p < .001$). Participants who watched the moderately accented speaker rated his status significantly lower ($M = 4.20$, $SD = 1.15$) than people who watched the native ($p < .001$, Bonferroni-correction; $M = 5.27$, $SD = 0.75$) and slightly accented speaker ($p = .046$, Bonferroni-correction; $M = 4.80$, $SD = 0.94$). Native and slight did not differ from each other ($p = .179$, Bonferroni-correction). See Table 2.

3.5 Likeability

A one-way ANOVA of accent strength on likeability revealed a significant main effect of accent strength ($F(2, 91) = 17.19$, $p < .001$). Participants who watched the moderately accented speaker rated his likeability significantly lower ($M = 4.13$, $SD = 1.28$) than people who watched the native ($p < .001$, Bonferroni-correction; $M = 5.68$, $SD = 0.83$) and slightly accented speaker ($p = .003$, Bonferroni-correction; $M = 5.05$, $SD = 1.00$). Native and slight did not differ from each other ($p = .072$, Bonferroni-correction). See Table 2.

3.6 Competence

A one-way ANOVA of accent strength on competence revealed a significant main effect of accent strength on likeability ($F(2, 91) = 12.42, p < .001$). Levene's test of homogeneity revealed that the data is not equally distributed. Therefore, an additional Welch ANOVA was performed ($F(2, 58.27) = 13.05, p < .001$) with Games-Howell post-hoc test. Participants who watched the native accented speaker rated his competence significantly higher ($M = 5.28, SD = 0.87$) than people who watched the slight ($p = .038$, Games-Howell-correction; $M = 4.60, SD = 1.21$) and moderate accented speaker ($p < .001$, Games-Howell-correction; $M = 3.76, SD = 1.48$). Moderate and slight accent groups differed from each other too ($p = .045$, Games-Howell-correction). See Table 2.

Table 2. Means, standard deviations and n for performance, comprehensibility, status, likeability and competence in function of accent strength (1 = completely disagree, 7 = completely agree).

Accent strength	Native $n = 31$ M SD	Slight $n = 30$ M SD	Moderate $n = 33$ M SD	Total $n = 94$ M SD
Performance	78.06 20.56	81.33 19.07	82.42 16.21	80.64 18.54
Comprehensibility	6.24 0.90	5.54 1.17	5.12 1.14	5.62 1.16
Status	5.27 0.75	4.80 0.94	4.20 1.15	4.74 1.05
Likeability	5.68 0.83	5.05 1.00	4.13 1.28	4.94 1.23
Competence	5.28 0.87	4.59 1.21	3.76 1.48	4.53 1.36

3.7 Predicting performance

In a multiple regression analysis comprehensibility, status, likeability, competence and accent strength were used to see whether they can predict performance. Dummy variables were made for accent strength as a predictor, because it consists of three levels. The regression analysis showed that the five variables entered, comprehensibility, status, likeability, competence and accent strength, explained 18.2% of the variance in performance ($F(6, 87) = 4.46, p = .001$).

Comprehensibility was shown to be a significant predictor of performance ($\beta = .35, p = .001$). Performance increases with .35 *SD* for each increase of 1 *SD* of comprehensibility, given that all other variables are kept constant. Status was also shown to be a significant predictor of performance ($\beta = .39, p = .004$). Performance increases with .39 *SD* for each increase of 1 *SD* of status, given that all other variables are kept constant. Lastly, competence was shown to be a significant predictor of performance ($\beta = -.61, p < .001$). Performance decreases with .61 *SD* for each increase of 1 *SD* of competence, given that all other variables are kept constant.

However, likeability was not a significant predictor ($\beta = .18, p = .182$). Nor was accent strength a significant predictor: slight accent ($\beta = .16, p = .164$) and moderate accent ($\beta = .25, p = .069$). See Table 3.

Table 3. Regression analysis for comprehensibility, status, likeability, competence and accent strength as predictors of performance ($N = 94$)

Variable	B	SE B	β
Intercept	35.32	14.65	
Comprehensibility	5.55	1.66	.35**
Status	6.89	2.36	.39**
Likeability	2.76	2.05	.18
Competence	-8.31	2.10	-.61***
Slight accent	6.39	4.55	.16
Moderate accent	9.61	5.23	.25
R^2	.18		
F	4.46**		

** $p < .010$, *** $p < .001$

4. Conclusion

The present study sought to answer the question as to what extent different types of accents influences the effectiveness of procedural tasks in an instructional video. On its own, looking only at performance, no significant differences were found in terms of performances on the multiple-choice questions across the native, slight and moderate accent groups. In other words, instructional videos in different varying degrees of accentedness did not lead to improved or worse performance. However, perceived comprehensibility, status and likeability did differ among the various accent groups. All three variables were rated much higher for both the native and slight accented group than the moderate accented group. In addition, for the variable perceived competence, the native group viewed the speaker as more competent than the speakers in *both* the slight and moderate group. Furthermore, the slight group's speaker was perceived as more competent than the moderate group's speaker.

As for predicting performance, only comprehensibility, status and competence were significant predictors of performance. Higher comprehensibility and status predicted higher

performance, while higher competence predicted lower performance. Accent strength and likeability were not significant predictors.

***H1:** Moderate accents lead to worse comprehensibility, which will negatively impact the performance in the multiple-choice questions.*

As such, with regards to H1, moderate accents were indeed comprehended worse, but did not lead to lower overall performance. However higher comprehensibility does in fact predict higher performance. Therefore, H1 is partially accepted

***H2:** Moderate accents lead to worse evaluations based on status and competence of the speaker, which in turn negatively impacts the performance in the multiple-choice questions.*

Moderate accents led to worse evaluations based on status and competence of the speaker compared to the native and slight accented speaker, but as stated earlier, overall performance was equal among the three accented conditions. As for predictions, lower status predicted lower overall performance, while lower competence predicted higher performance. Therefore, H2 is partially accepted.

***H3:** Moderate and slight accents lead to higher likeability of the speaker than the native accent.*

Moderate and slight accents did not lead to higher likeability of the speaker compared to the native accent. Instead, likeability followed the same pattern as comprehensibility, status and competence. Both the native and slight accented speaker were perceived as more likeable than the moderate accented speaker. H3 is therefore rejected.

***H4:** Slightly accented speech does not differ from native speech with regards to comprehensibility, status or competence, as such the performance in the multiple-choice questions is expected to not differ either.*

Slightly accented speech was equal to native accented speech with regards to comprehensibility, status and likeability, but not for competence. However, performance was not different between the native, slight and moderate groups. H4 is therefore partially accepted.

5. Discussion

Moderate accents lead to worse comprehension of the video instruction material. It seems that accent strength has a direct effect on comprehensibility, but only if the accent is of moderate level, as the slight and native accent groups did not differ in comprehension. This finding is in line with previous research (Hendriks et al. 2016; Hendriks et al. 2017). In both their studies they found that only moderate accents negatively influence perceived comprehensibility, while slight accents did not have this detrimental effect. Unique to this study was the inclusion of performance. Although, there were no differences among the accent groups in terms of overall estimated performance, increased comprehensibility did predict higher performance. Meaning that, while there is no direct effect of accent strength on performance, comprehensibility does have a mediating effect on performance. It makes sense that having a greater understanding and comprehension of the to-be-replicated steps would result in higher performance. It must be noted though that the current study measured estimated performance and not actual performance due to developments with COVID. The original experiment was changed from measuring actual performance to a series of multiple-choice questions that were used as a measure to estimate performance. Being able to remember the different steps versus actually performing them, while simultaneously listening and watching an instructional video is very different from one another. As such, future research should aim to measure actual performance by having participants replicate the LEGO building steps from the instructional video for a more accurate assessment as to whether comprehensibility, status, likeability and competence truly do have an influence on performance. Testing actual performance in a controlled setting also has the added benefit of more consistent and reliable data, since participants will not be able to sneakily ignore instructions of the experiment such as pausing and rewinding the video.

As for the speaker attitudes status and competence, findings of the present study suggest that moderate accents lead to a worse rating for status and competence of the speaker compared to slight and native accents. These findings are in line with prior research (Nejjari et al. 2012; Chan, 2016; Hendriks et al. 2016; Hendriks et al. 2017). The findings of Nejjari et al. (2012) and Chan (2016) suggest that regardless of accent strength, a native English accent commends higher status than a non-native accent, while Hendriks et al. (2016) and Hendriks et al. (2017) found that moderately accented speakers were perceived as having lower competency than slight and native accented speakers. As for predictions it was found that higher status predicted increased performance, but oddly enough, the opposite effect was

found for competence. Lower perceived competence of a speaker predicted increased performance. One would assume that the more competent the speaker is found to be, the higher they would score on performance, or at worst competence would have no influence on performance. Nonetheless, competence seems to negatively predict performance. The present study cannot offer a plausible explanation for this highly unusual outcome. It might be interesting for future studies to look further into the inner workings of competence and see if the findings of the present study with regards to competence can be replicated.

Likeability of the speaker was found to be lower for the moderately accented condition than the slight and native conditions. These findings are in contrast with prior research (Chan, 2015; Hendriks et al. 2016; Dragojevic & Goatley-Soan, 2020) since their studies found that likeability of the speaker was higher for the moderate and slight accented speakers than the native accented speaker. However, this study's findings are in line with those of Nejari et al. (2012) and McKenzie (2008). Their findings also suggest that likeability is higher for the native accented speaker than the non-native accented speaker, regardless of accent strength. It was hypothesized that perhaps the sharing of the same mother tongue between the speaker and listener would result in higher likeability due to familiarity, which is not the case. A possible different explanation is that participants of the study had high overall English proficiency, which may have resulted in the moderate accent being perceived as too strong an accent, while the native accent was rated more favourably because of its nativeness in terms of likeability. In other words, being highly proficient in English could have led to the native accent being more appreciated than the moderate accent and the slight accent shared more similarities with the native accent, thus it was not rated as harshly, despite both moderate and slight being Dutch accented. For future research it could be interesting to add a dimension of English proficiency to investigate a potential interaction between English proficiency and accent strength. Another, and more likely explanation is that the 'moderate' accent may actually have been a strong Dutch accent. The reason for this is that the native accented speaker was not perceived as fully native according to the perceived accent strength manipulation questions. It remains the question then how native the speaker really sounded in comparison to the slight and moderate conditions. Especially moderate scored very low, which might mean that it was indeed a strong accent instead of a moderate accent. For future research it might be wise to pre-test the accented conditions to ensure that the proposed accents would actually be perceived as native, slight or moderate. If pre-testing is not an option, one could perhaps have language experts judge the level of accentedness. As for predictability, although, likeability did differ between accentedness conditions, it was not a

significant predictor of performance. Meaning that no mediating effect of likeability on estimated performance was found in this study. This might suggest that likeability is not that important when it comes to instructional videos. However, as stated earlier, the present research used multiple-choice questions to measure estimated performance and not actual performance. Future research is needed to better establish whether likeability truly has no mediating effect on performance.

Lastly, the present study's findings suggest that native and slight accented speakers do not differ in terms of comprehensibility, status and likeability, which is similar to previous studies (McKenzie, 2008; Hendriks et al. 2016; Hendriks et al. 2017). The studies by McKenzie (2008), Hendriks et al. (2016) and Hendriks et al. (2017) suggest that slight accented speech is not subjective to the negative effects of moderate accentedness because it is similarly evaluated as the native accented speech. However, this was not the case for competence in the current study. Namely, competence was rated higher for the native speaker than the slight speaker. A possible explanation for this difference is that the participants were harsher on rating competence than the other dimensions, perhaps because they had to learn from the instructional video. A speaker who instructs can be unlikeable, but that might not matter as much to a consumer looking to follow their step-by-step instruction. On the contrary, competence is arguably a more important metric, because after all, it is assumed consumers would like to be taught by someone who is perceived as competent enough to do the teaching. Moreover, companies view instructional videos as marketing tools. Having a competent and respectable spokesperson for their instructional video can play an important role in marketing. For future research, it might be interesting to investigate if competence stands out from other attitudinal evaluating dimensions and perhaps why that is. Would consumers find competence more important than status for example.

The present study contributes to the existing literature by showcasing how accents can negatively influence a consumer's comprehensibility and perceptions of the speaker (status, likeability and competence) in an instructional video context. Although, no differences were found in performance between the accented groups, performance may still be indirectly affected via comprehensibility, status and competence. Companies who seek to employ instructional videos for the Dutch audience would be wise to hire native English speakers for their narration, or at the very least a speaker with a slight Dutch accent. Having the right person as representative and speaker for the company is quite important after all.

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7. Appendix

Appendix 1: Qualtrics questionnaire of the present study.

Q1

Best deelnemer

Ik nodig u uit om deel te nemen aan mijn masterscriptie onderzoek. Lees de volgende informatie voorzichtig en aandachtig door. Mocht iets niet helder of duidelijk zijn, of wilt u meer informatie, dan kunt u contact opnemen met de onderzoeker van deze studie.

In dit onderzoek gaat u een Engelstalige instructievideo over het bouwen van een huisje met LEGO bekijken, waarover na afloop een aantal vragen over worden gesteld.

De vragenlijst zal ongeveer 10 minuten in beslag nemen. Uw deelname is anoniem en de resultaten zullen uitsluitend gebruikt worden voor deze studie bij het Departement van Communicatie- en Informatiewetenschappen aan de Radboud Universiteit Nijmegen. De verzamelde data wordt door de onderzoeker gebruikt als onderdeel van datasets, artikelen en presentaties. Alle gegevens worden geanonimiseerd verzameld. Hierdoor zijn de gegevens niet naar u te herleiden.

In de vragenlijst wordt u gevraagd over wat u van de instructievideo vond, dit gaat om uw eigen mening, dus uw antwoord kan nooit fout zijn. U wordt aangeraden om de vragenlijst op de laptop of computer te doen.

Door te klikken op de 'Ik geef toestemming' knop, geeft u aan dat u:

- De informatie hierboven genoemd heeft gelezen en begrepen
- U vrijwillig meedoet aan dit experiment
- U 16 jaar of ouder bent

Nogmaals bedankt voor uw hulp! Mocht u nog vragen hebben over de studie, dan kunt u dit e-mailadres contacteren b.huynh@student.ru.nl

Q3

U krijgt nu de instructievideo te zien waarin een huis wordt gebouwd met Lego blokjes. De video is in het Engels. Bekijk de video **aandachtig** door, want er worden vragen erover gesteld.

Belangrijk is dat u de video slechts **één keer bekijkt**. Het is **niet** de bedoeling dat u de video opnieuw bekijkt.

Dit betekent ook dat u de video **niet mag pauzeren, terugspoelen of vooruit spoelen**.

Na 4 minuten verschijnt er een knop om verder te gaan. Als de knop niet verschijnt, dan wordt u automatisch na 4,5 minuut naar de volgende pagina gebracht.

Q5

Er volgen nu een aantal vragen over hoe goed u de video begrepen heeft.

Q6

Welke kleur was de tweede laag van het Legohuisje?

-Blauw

-Rood

-Groen

-Wit

Q7

Uit hoeveel lagen bestond het Legohuisje exclusief het dak en de schoorsteen?

-5

-7

-4

-6

Q6

Welke kleur moest de schoorsteen hebben?

-Rood

-Blauw

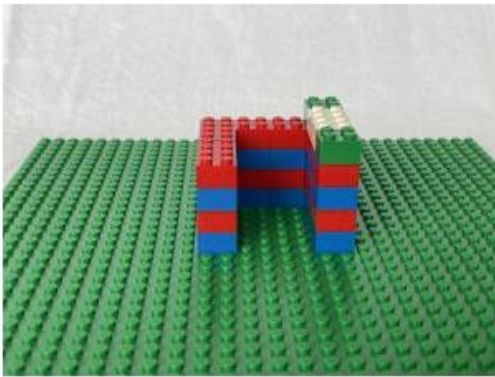
-Wit

-Groen

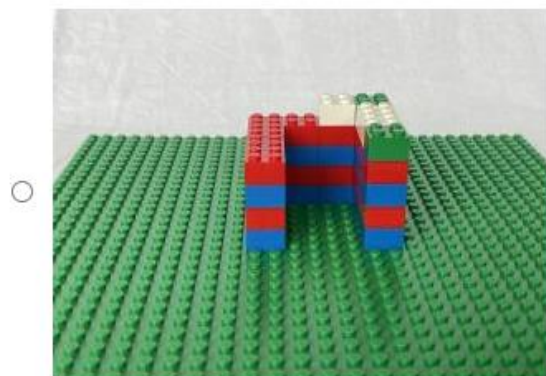
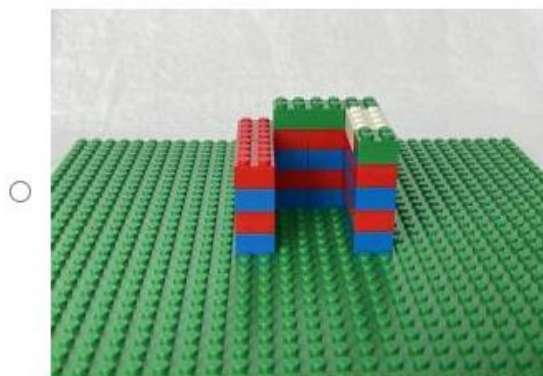
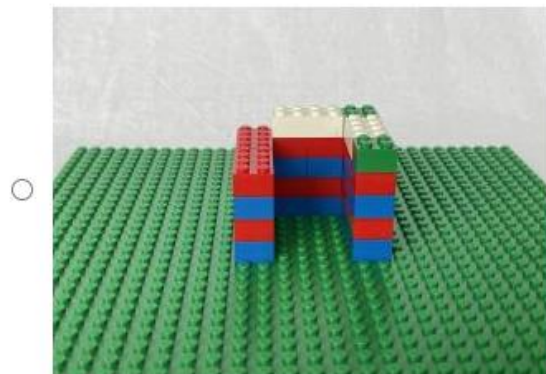
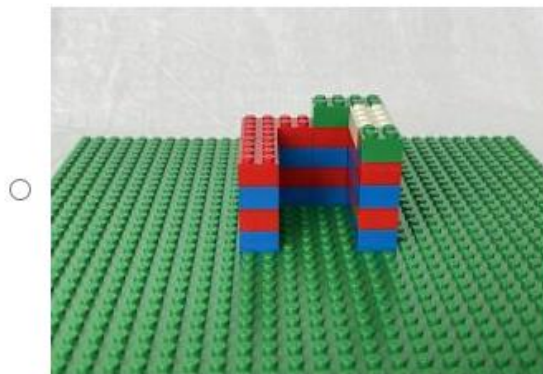
Q9

Hieronder krijgt u een paar stilstaande beelden te zien van de video met het Legohuisje die u zojuist heeft bekeken. Elke foto toont een aanzicht van de constructie van het Legohuisje. Daarna volgen er vier meerkeuzeopties met mogelijkheden van de vervolgstap in het bouwproces. Het is aan u om de correcte vervolgstap te kiezen.

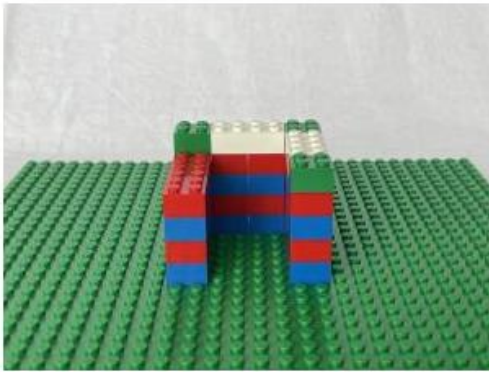
Q10



Wat is de vervolgstap?

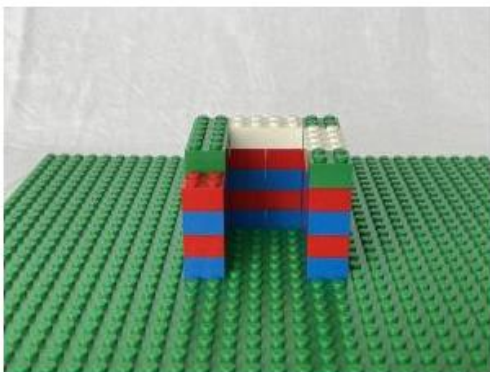


Q11

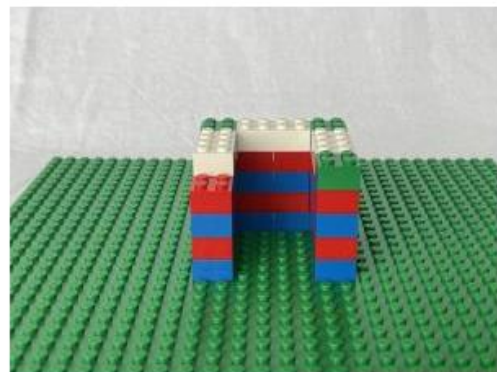


Wat is de vervolgstap?

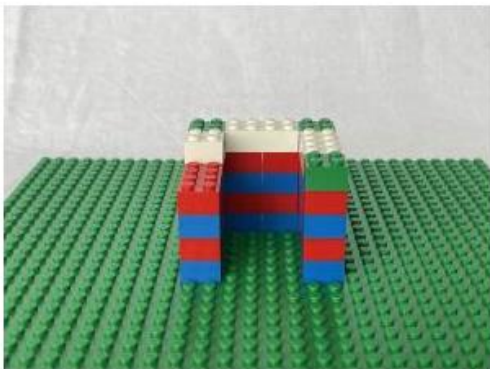
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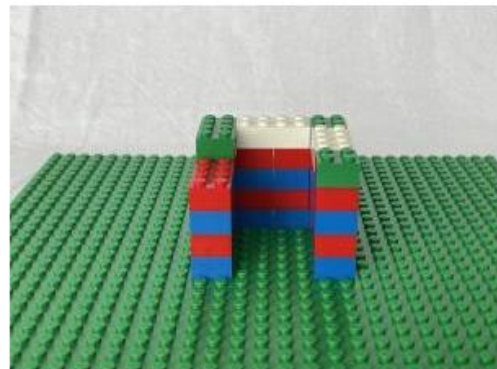
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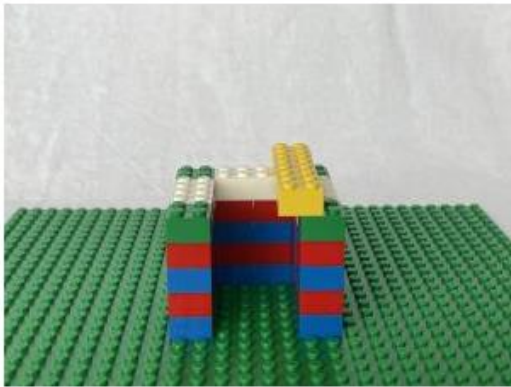
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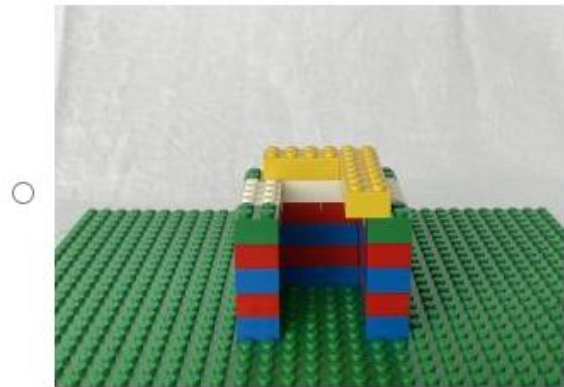
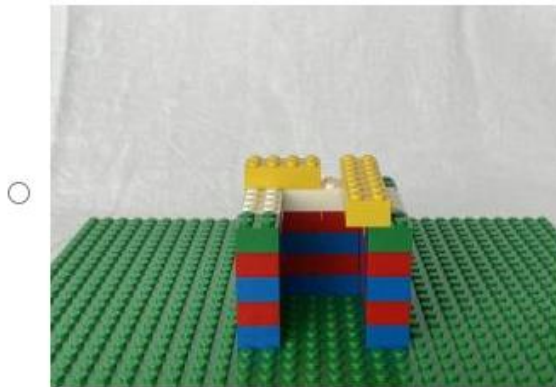
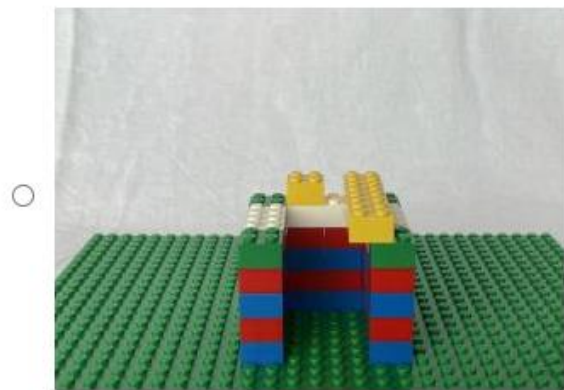
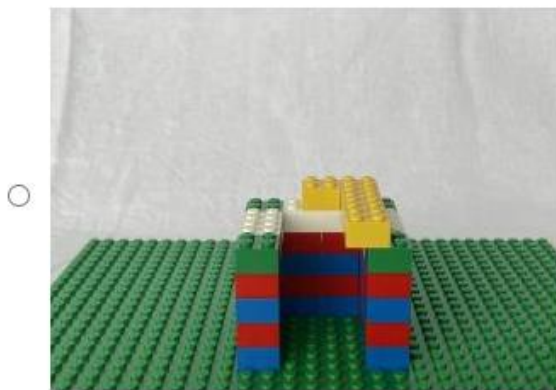
☐



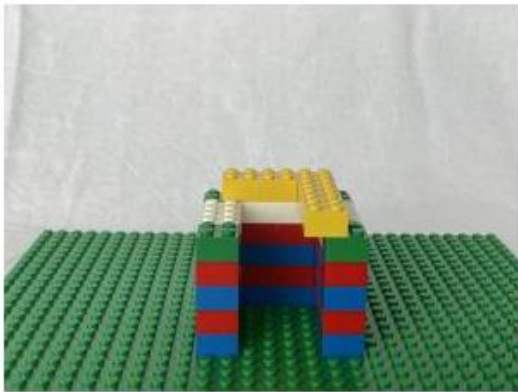
Q12



Wat is de vervolgstap?

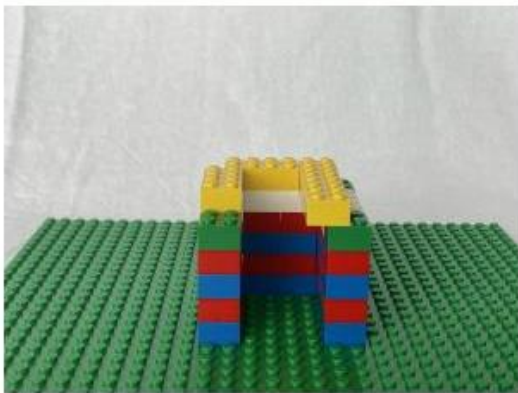


Q13

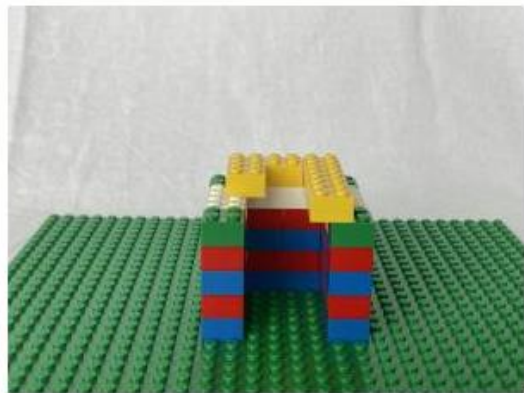


Wat is de vervolgstap?

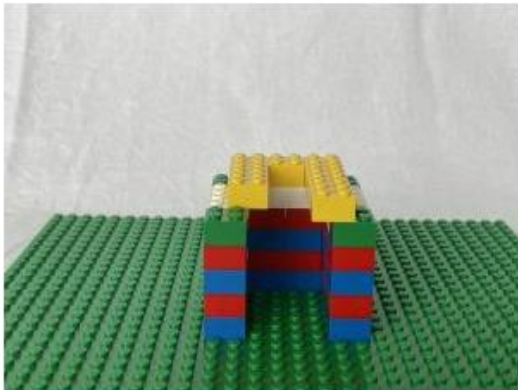
☐



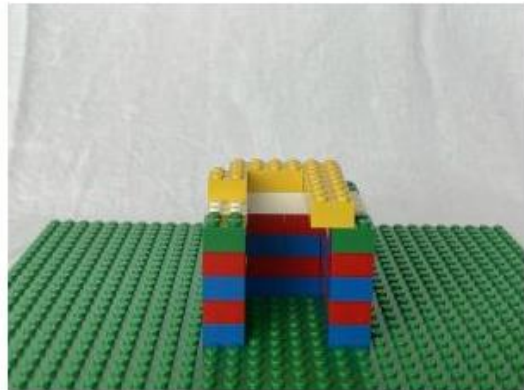
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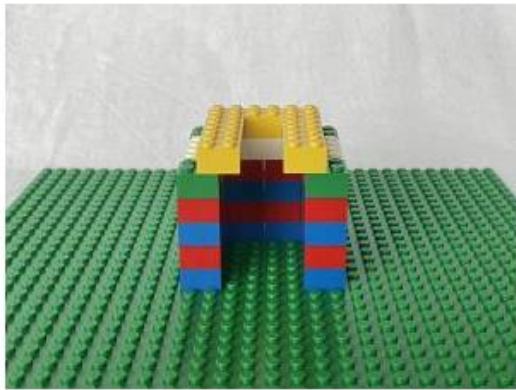
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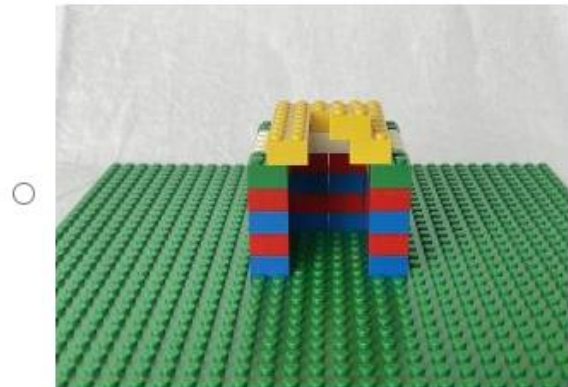
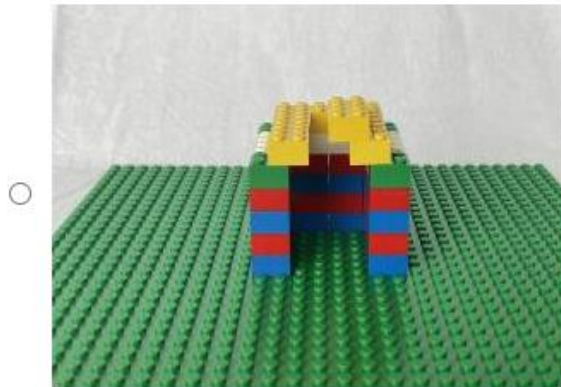
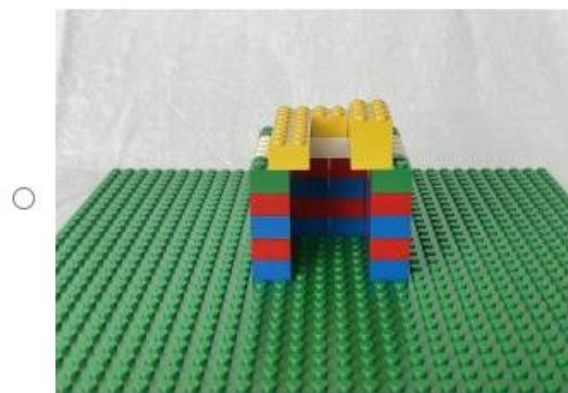
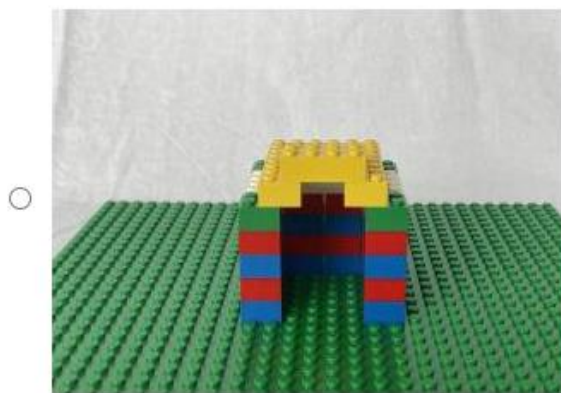
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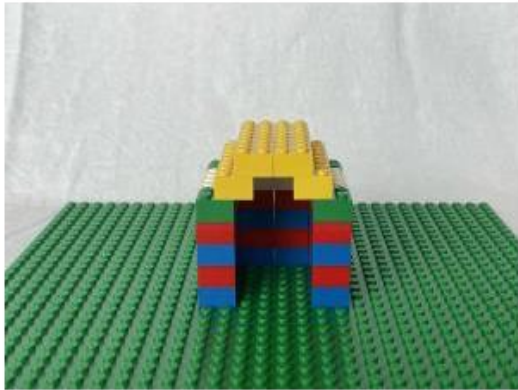
Q14



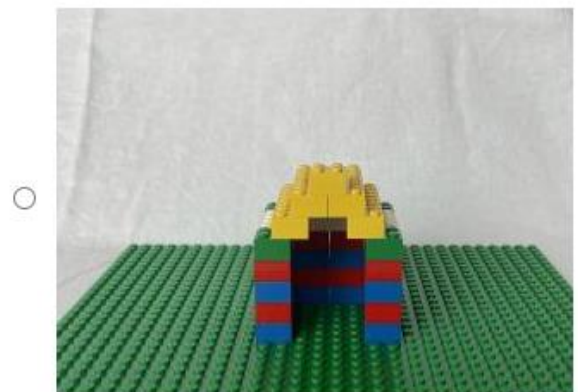
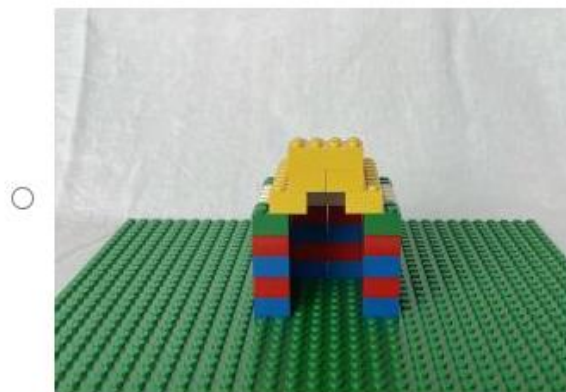
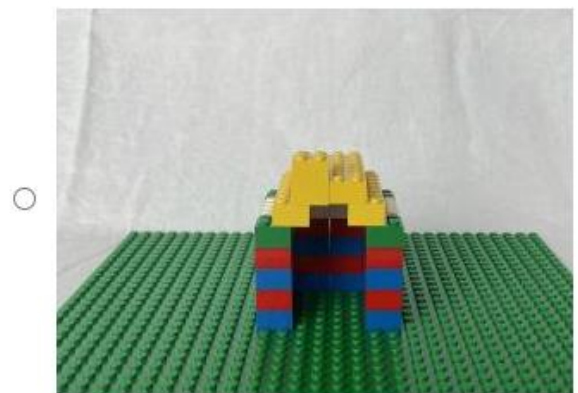
Wat is de vervolgstap?



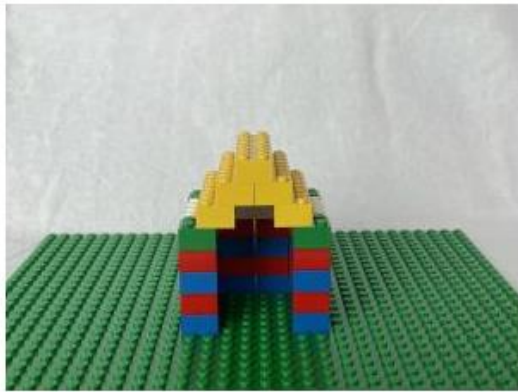
Q15



Wat is de vervolgstap?

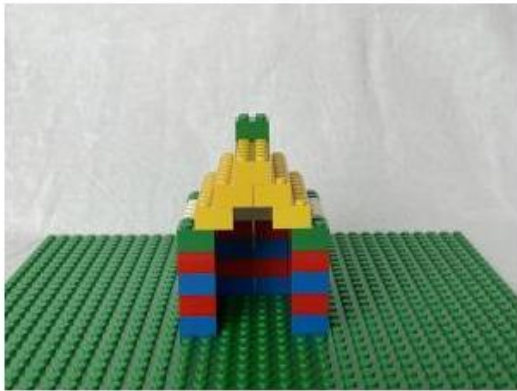


Q16

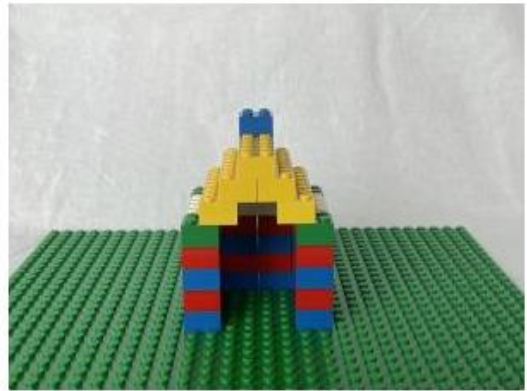


Wat is de vervolgstap?

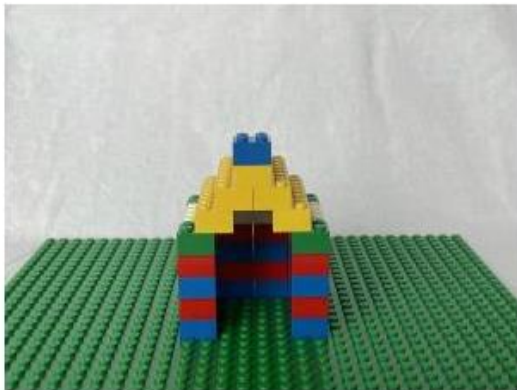
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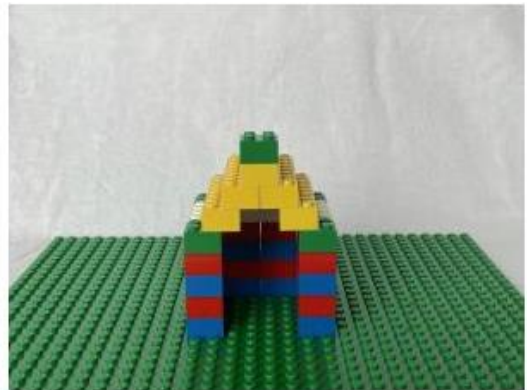
☐



☐



☐



Q17

Geef aan in hoeverre u het eens bent met de volgende stellingen:

	Helemaal mee oneens	Mee oneens	Beetje oneens	Noch oneens, noch eens	Beetje eens	Mee eens	Helemaal mee eens
Ik moet heel goed luisteren om de spreker te kunnen begrijpen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De spreker spreekt helder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De spreker is nauwelijks verstaanbaar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De spreker is moeilijk te begrijpen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind het lastig om te begrijpen wat de spreker aan het zeggen is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik begrijp niet wat de spreker aan het zeggen is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q18

Naar mijn mening, spreekt de instructeur met ...

	Helemaal mee oneens	Oneens	Beetje oneens	Noch oneens, noch eens	Beetje eens	Eens	Helemaal mee eens
Autoriteit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Een sterke stem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zelfvertrouwen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19

Naar mijn mening, klinkt de instructeur ...

	Helemaal mee oneens	Oneens	Beetje oneens	Noch oneens, noch eens	Beetje eens	Eens	Helemaal mee eens
Betrouwbaar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invloedrijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vriendelijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aardig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prettig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geleerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intelligent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professioneel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overtuigend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20

Geef aan hoe in hoeverre u het eens bent met de volgende stellingen:

	Helemaal mee oneens	Oneens	Beetje oneens	Noch oneens, noch eens	Beetje eens	Mee eens	Helemaal mee eens
De spreker klinkt als een moedertaalspreker van het Engels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21

Geef aan in hoeverre de spreker met een buitenlands accent sprak.

Geen buitenlands accent | ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ | Sterk buitenlands accent

Q22

Geef aan hoe taalvaardig u uzelf vindt in het Engels:

	Beroerd	Slecht	Ondergemiddeld	Gemiddeld	Prima	Goed	Perfect
Spreken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schrijven	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lezen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Luisteren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23

Wat is uw leeftijd?

Q24

Met welk geslacht identificeert u zich?

-Man

-Vrouw

-Anders

-Wil ik liever niet zeggen

Q25

Wat is uw moedertaal?

-Nederlands

-Engels

-Duits

-Anders

Q26

Wat is uw hoogst genoten of huidige opleiding?

-Basis onderwijs (basisschool)

-Voortgezet onderwijs (Middelbare)

-MBO

-HBO

-WO Bachelor

-WO Master

-PhD

-Geen opleiding

Dit is het einde van de vragenlijst. Ik wil u nogmaals hartelijk bedanken voor het meedoen.

Mocht u nog vragen hebben na het invullen van deze vragenlijst dan kan u mij bereiken via

b.huynh@student.ru.nl

Appendix 2: accented instructional video material

Native: <https://www.youtube.com/watch?v=pwoVs4sxIcg>

Slight: <https://www.youtube.com/watch?v=7ZuLqCK-9xE>

Moderate: <https://www.youtube.com/watch?v=G-Qjimw8LQY>