# IMPROVING PUBLIC SPEAKING IN SECONDARY EDUCATION – EXPLORING THE POTENTIAL OF AN IMPROVISATION TRAINING

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Abstract

Public speaking occupies a central position in secondary education, and often teachers introduce improvisation training to improve this competence, but it is yet unclear if this teaching approach has a beneficial impact. In this respect, this paper addresses the following research question: Does an improvisation training that focuses on eye-contact, voice, and body language have an impact on the public speaking competence of students in secondary education? In this study with a quasi-experimental design, we assessed the impact of the intervention with a control group with a pre- and posttest of a speaker's public speaking competence scored via compared judgement of videos of speaking exercises. The intervention had a significant but modest effect, but a number of important caveats need to be formulated. Age of participants, group size, and professionalism of the instructor might all partly determine the effect of such an improvisation training, but these variables were not integrated into the research design of this study.

Keywords: Public speaking, secondary education, drama education, improvisation

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## 1.   INTRODUCTION

Research into improving L1 (first language, mother tongue) public speaking of secondary education students is still an emerging domain. It would seem that when research examines the teaching of public speaking skills, it mostly turns its attention to a second or foreign language context (Nasir & Gilakjani, 2016). When research does concentrate on L1 public speaking, it appears that the focus often lies on the technological side of it. This is not illogical, as public speaking is now often narrowed down to giving a presentation, and today's presentations are seen as "a very complex hybrid form of writing, speaking, visual communication and features of sophisticated software" (Farkas, 2009). In this respect, technology is not only part of the standard set of requirements for a presentation but is increasingly being seen as an important component of it. This often confines the research into L1 public speaking to studying the design of multimedia presentations (Thielsch & Perabo, 2012). Furthermore, when research into L1 public speaking omits the technological features from its scope, it seems that the participants in these studies are more likely to be recruited from higher education, which is probably due to the presence of a communication skills course in many undergraduate programs (Nash, Crimmins, & Oprescu, 2016). To summarize, research seems to neglect L1 public speaking in adolescents, and when it does focus on this age group, it appears to prefer emphasizing inconsistencies within respondents (e.g. cognitive-related language impairments) to examining the specific language components L1 users have in common (Hulstijn, 2015).

Although the research into the training of L1 public speaking skills of secondary education is relatively limited, most educational systems explicitly refer to public speaking as a learning objective for adolescents. For instance, the final attainment targets of secondary education in Flanders (Belgium) state that students should be able to use a wide array of speaking skills, in addition to giving a presentation (Onderwijs Vlaanderen, 2016). However, in their analysis of the L1 research conducted in Flanders and the Netherlands between 1997 and 2007, Bonset and Braaksma (2008) conclude that only three research studies into oral language competences have been conducted, of which one is the development of an assessment instrument, and the other two are descriptive studies of teaching methodological activities. Furthermore, there is currently no evidence-based teaching methodology available to prepare students for L1 public speaking (Wurth, Tigelaar, Hulshof, de Jong, & Admiraal, 2018).

This paper explores the potential that an improvisation training might have for the development of public speaking in secondary education. Teachers often turn to this specific type of drama education to improve the public speaking competence of their secondary education students, but it is thus yet unknown if this has a beneficial impact.

This paper first refers to the complicated topic of assessment of the public speaking competence, because we feel that this may be one of the factors that have been hindering the research into improving public speaking. Secondly, it looks into drama education, of which some researchers claim that it might have a positive impact on

public speaking. Finally, it focuses on one specific example of drama education, viz. improvisation training, and its relationship with public speaking.

## 2. REVIEW OF LITERATURE

### 1.1 Public speaking and assessment

A possible reason why the research into L1 public speaking of secondary education students is lacking could be the problem of validly assessing the competence of public speaking. Researchers have often turned to the use of rubrics (Jonsson & Svingby, 2007) to reliably score public speaking (Schreiber, Paul, & Shibley, 2012). This, however, entails a problem concerning the validity, because the use of rubrics and its distribution of the scoring across several categories ignore the fact that a certain aspect of the performance alone may responsible for clouding the quality of the full performance (Van Gasse et al., 2016). For instance, although the selection of a topic appropriate to the audience and occasion may only be one of the assessment criteria used, a speaker's misinterpretation of this feature could be detrimental to the final quality of public speaking in an authentic context. Rubrics thus artificially subdivide a competence into dimensions, which do not adequately represent the competence, because these dimensions overlap, and the dimensions combined cannot contain the entire competence (Van Gasse et al., 2016).

In other words, language competences such as public speaking are highly complex abilities involving multiple component skills and semantic knowledge (Dickinson, Golinkoff, & Hirsh-Pasek, 2010), which cannot be narrowed down to a limited number of specific categories. Moreover, it is generally accepted that specific language competences, such as reading or writing, have an interdependent relationship with each other, because they draw upon common sources of knowledge and cognitive processes, involve meaning-making, and can be combined to accomplish important learning goals (Graham et al., 2017; Schoonen, 2019). It is yet unclear how public speaking is exactly connected to these other specific language competences or to the general language competence (i.e. the underlying knowledge and cognitive processes of language production), but it is safe to assume that public speaking has a similar status as other specific language competences. Although, in this respect, it poses a challenge for researchers to formulate a definition of the public speaking competence that includes all components of this competence, we would describe it as a communicative language competence that is the sum of knowledge, skills and characteristics that empowers a person to act using specifically linguistic means (Council of Europe, 2001). To successfully deliver a speech for an audience, a speaker for instance needs declarative knowledge of language-specific items such as the typical structure of a speech, but also skills such as being able to speak fluently and coherently. Furthermore, it seems likely that the general language competence (i.e.

the underlying knowledge and cognitive processes of language production) also has an impact on the public speaking competence.

In addition to the validity issue, these researcher-made measures are also associated with much higher effect sizes in educational research than standardized tests (Cheung & Slavin, 2016), which may lead to the results that do not reflect real-life practices. This other methodological issue may also have hampered the research into L1 public speaking of secondary education students.

### 1.2 Public speaking and drama education

Teachers frequently employ drama techniques to foster public speaking, but there is a scarce number of intervention studies that illustrate the tangible benefits of this teaching approach (Mages, 2008). The effect of such arts-based programs is often statistically significant but mostly modest, and the direct impact on specific student outcomes such as public speaking is rarely defined (Ludwig, Boyle, & Lindsay, 2017). Furthermore, secondary education students are usually neglected in this type of research. For instance, on a speaking test, students who took part in a performing arts program did outperform those who did not follow the intervention, but the participants in this study were K2 (Grade 2) students (Greenfader, Brouillette, & Farkas, 2014).

When discussing the potential impact of drama education on public speaking, one actually refers to techniques that are integrated into actor training. One could distinguish between techniques that focus on the creation of new characters for a future play and techniques that aim to improve an actor's performance of in front of an audience, even though in reality these two categories are more likely to form opposite sides of a spectrum (Trenos, 2014). In this paper, it is the latter category that is of interest to us. Due to the ephemeral status of acting, the ongoing discussions between opposing theorists and a number of culture-specific phenomena, it is difficult to formalize actor training into one comprehensive theory. However, in relation to a performance-oriented actor training most Western acting educators could agree on one point, namely the importance of the naturalistic input ("don't act, but be"), which would result in a focus on eye-contact, body language and voice (Trenos, 2014).

In this respect, implementing performance-oriented actor training techniques to improve the public speaking competence seems to be a logical step to take, because these techniques specifically address the delivery of the speech. Furthermore, delivery is commonly accepted as an important part of a speech by research on giving a presentation in higher education (Nash, Crimmins, & Oprescu, 2016). For instance, a widely adopted rubric to assess oral presentations consists of nine evaluation criteria: one criterion on general quality, three content-related criteria (quality of introduction, structure and conclusion), but five about delivery (eye-contact, vocal delivery, enthusiasm, interaction with the audience, and body language) (De Grez, Valcke, & Roozen, 2009).

*1.3 Public speaking and improvisation training*

This paper aims to experimentally investigate the potential of a specific type of drama education on the public speaking competence of secondary education students. It focuses on improvisation training, which is rooted within improvisational theatre, a form of theatre in which all of the dialogue and action is unscripted, and is generated spontaneously as the players interact with each other (Lenters & Smith, 2018). Famously, there are no strict rules within improvisational theatre, but "yes, and" does form a central tenet. Players are encouraged to agree with everything occurring on stage ("yes") and contribute their ideas to it ("yes and") (Robson, Pitt, & Berthon, 2015). Viola Spolin, one of the founding figures of improvisational theatre, even declared that the techniques of the theatre are also the techniques of communicating (Spolin & Sills, 1999). As a result, an improvisation training does not necessarily prepare students to perform on stage, but in our case, instead uses the principles of improvisational theatre to improve the public speaking competence. Students are trained to become better at delivering a speech (for instance, eye-contact, body language and voice), but even more importantly, they learn to create and perform a speech spontaneously or without preparation. They learn how to make decisions and take risks, and acquire techniques that should help them generate ideas and give them the freedom to be able to speak in front of an audience without the net of a fixed script (Bermant, 2013). This should eventually lower the level of anxiety associated with speaking in front of an audience. Furthermore, in contrast with formal actor-training programs, improvisation training is mostly just fun to do, which could change any problematic public speaking cognitions with a more positive perspective.

   Although improvisation training can already be found in companies and business schools (Shaw & Stacey, 2006), the impact on public speaking has not yet been experimentally investigated. In medical education settings, a positive impact on the students' professional communication skills could be discerned (Boesen, Herrier, Apgar, & Jackowski, 2009), but this specific research did not include a control group, nor a focus on the competence of public speaking. Moreover, medical students agreed that studying improvisation training could make them a better doctor (Watson, 2011), and preferred this technique to standard exercises with pre-fixed structures (Hoffman, Utley, & Ciccarone, 2008), but again, no research data on public speaking were made available. Other researchers analyzed reviews on the possible impact of improvisation training on the creativity and enjoyment of teachers and students in educational processes, but could not detect any empirical evidence (Toivanen, Komulainen, & Ruismäki, 2011).

   Furthermore, a previous study could not detect an impact of an improvisation training on the public speaking competence of students in secondary education (Casteleyn, 2018). However, this study did show that the public speaking competence at the pre-test strongly explained the variation in the public speaking competence at the post-test for students in the control condition, whereas this finding

could not be retrieved for the students in the experimental condition. Moreover, an analysis of the comments on the public speaking tasks showed that the comments referring to 'speaker features' (aspects that are typical for the speaker, and can thus be expected to return in another public speaking task) significantly outnumbered the comments referring to 'text features' (aspects that are related to the public speaking task employed by this specific study). An additional analysis of the comments related to 'speaker features' indicated that most comments could be divided into three categories: eye-contact, body language and voice. However, the intervention program analyzed by this specific study was rooted in more general principles of improvisational theatre, such as 'boosting creativity via free associations', 'learning how to take risks', and 'learning to speak with preparation in front of an audience', and thus did not explicitly focus on the aspects of eye-contact, body language and voice. To conclude, one yet has to investigate the potential impact of an improvisation training with an explicit focus on eye-contact, body language, and voice on the public speaking competence of secondary education students.

## 2.    RESEARCH QUESTION

Rooted in the research literature described above, the following research question can be formulated: Does an improvisation training that focuses on eye-contact, body language, and voice have an impact on the public speaking competence of students in secondary education?

## 3.    METHODOLOGY

In this study with a quasi-experimental design, we explored the impact of an improvisation training with a control group with a pre- and post-test of a speaker's public speaking competence scored via compared judgement of videos of speaking exercises.

### 3.1 Participans

The improvisation training was introduced into an L1 classroom in general secondary education in Flanders (Belgium). We recruited an L1 teacher from the personal network of one of the students who collaborated with this project. This student provided this teacher with all necessary information concerning the study but did not participate in the final assessment procedure. Two classes from Grade 10 (average age = 15 years) were recruited. Parents were informed about the study's objectives via passive informed consent, and data were anonymized and only shared with the researchers. One group ($n$ = 9) experienced the intervention of four 50-minute sessions and two additional lessons partly devoted to the testing of the public speaking competence, while the other class group ($n$ = 9) followed a business as usual routine,

i.e. attending six regular L1 lessons, the two test moments of the public speaking competence included. This did not entail lessons that focused on oracy in general or the training of public speaking in specific, but naturally, a limited number of exercises to orally discuss class content were part of the lesson routine. Each class was randomly assigned to a condition. The L1 teacher gave the intervention, was given a script to follow, but received no additional training related to improvisation training, prior to the study. He also taught the six regular L1 classes to the class group in the control condition, because these classes were part of his regular teaching duties. To conclude, this study follows a quasi-experimental design, and the L1 teacher was convinced that no distinctive differences between the two classes would be discerned.

### 3.2 Research procedure and intervention

The intervention consisted of four 50-minute sessions that were given on a weekly basis. Although this number seems to be relatively low, it was this study's explicit objective to create and assess an intervention that could be relatively easily implemented into the crowded timetable of an L1 class. In collaboration with two trainee teachers from University of Antwerp (Belgium), a professional improvisation coach re-designed the intervention used in a previous study (Casteleyn, 2018) to an improvisation training with an extra focus on delivery (eye-contact, body language and voice), because delivery is essential to the success of public speaking. For instance, five out of nine evaluation criteria to assess a presentation in higher education focus on this topic: eye-contact, vocal delivery, enthusiasm, interaction with the audience, and body language (De Grez, Valcke, & Roozen, 2009). Each session consisted of a warm-up section to bring participants into the right mindset to experience improvisation exercises and a section that focused on a specific aspect of public speaking, namely eye-contact, body language, and voice. The warm-up exercises allowed participants to feel comfortable being with each other, and to accept that mistakes are okay. The exercises on eye-contact helped students overcome their fear of looking the audience in the eyes by for instance letting them stare in the eyes of their fellow students. This should boost the students' confidence and allow them to watch the audience more directly, which should increase the quality of their speaking. During the exercises on body language, students mime physically non-existent objects, which should teach them to appreciate their body as a tool to communicate. Finally, the exercises on voice focus on bringing variation in pitch and volume. The final session combined all three aspects into more comprehensive activities. The supplementary material to this paper gives a more elaborate discussion of each session.

### 3.3 Instruments

Before and after the intervention, the participants completed a public speaking task,

which was a 1-minute public speaking exercise. They were randomly given a statement such as "music festivals are too expensive" or "one has to stop eating meat". These 28 statements were co-designed with another L1 teacher in order to be relevant for the students, as such potentially eliminating the impact of students' prior knowledge (Casteleyn, 2018). Previous research could not detect a difference in the quality of the public speaking competence at post-test related to whether the topic of the speaking task was more student-oriented ("smartphones make you asocial") or less ("Belgium should do more for refugees") (Casteleyn, 2018). For this reason, it was decided to not include this variable into this specific study's research design. Participants read out the statement, were given 5 seconds to collect their thoughts, and then had to share their opinion about the statement with the rest of the class group for one minute. No extra assistance was given if participants spoke less than the allotted time. All speaking exercises were videotaped.

### 3.4 Data analysis

If a participant's speaking competence should be assessed, researchers often turn to instruments such as rubrics (De Grez, Valcke, & Roozen, 2009). In this study, however, the public speaking competence of the speakers displayed in the videos was assessed via comparative judgement of the speaking assignment (Lesterhuis, Verhavert, Coertjens, Donche, & De Maeyer, 2017; Van Gasse, et al., 2016). This specific assessment technique entails that two representations of a competence, viz. two videos that represent the public speaking competence, are compared side-by-side to establish a measurement scale. By comparing two performances of a certain competence, the scoring becomes more reliable than if an absolute score is attributed to one performance, for instance when two examiners each individually assess the performance. Moreover, this is a type of holistic assessment, which thus incorporates all aspects of the competence that contribute to the assessment and as a result does not assign a specific weight of the assessment to a specific criterion such as the structure of the speech (Lesterhuis et al., 2017). This could result in a more valid and robust assessment of the public speaking competence than via other analytic assessment tools such as the abovementioned rubrics (Van Gasse et al., 2016). Furthermore, the final rank order of the representations gives an indication of the shared consensus of the assessors (Van Daal, Lesterhuis, Coetjens, Donche, & De Maeyer, 2019). This does not necessarily entail that a low score for the public speaking competence indicates a low-quality public speaking competence or an absolute value because these scores are computed relatively to the other representations. In other words, a representation with a low score may have obtained a higher score if other representations were integrated in the dataset.

This study yielded 33 representations (i.e. 33 videos of the public speaking task), which were uploaded to the Digital Platform for the Assessment of Competences (https://www.d-pac.be/english/). Three trainee teachers from University of Antwerp (Belgium) were invited to score these 33 videos. Previous research demonstrated

that there are no differences in scoring between this type of assessors and well-experienced higher education lecturers if these trainee teachers first have received adequate training concerning public speaking (Casteleyn, 2018). In advance, each assessor received detailed instructions regarding the specific public speaking task and a full description of the public speaking competence that the Flemish government has set as final attainment target for students in secondary education: "a student can express his/her own opinion, can support his/her opinion with arguments, can use a correct register and adapt his/her language accordingly, can use non-verbal communication accordingly, is prepared to speak for a public, and is prepared to use standard language" (Onderwijs Vlaanderen, 2015). In conclusion, the judgement had a more global character than the three focal points of the four sessions, namely eye-contact, body language, and voice.

Generally speaking, each assessor scored 70 comparisons. On average, a video was part of a comparison 13 times. The reliability measure in comparative judgement is called the Scale Separation Reliability, which gives an indication of the inter-rater reliability. The number of comparisons per representation and the number of comparisons per assessor all have an effect on the reliability of the comparative judgement, and as a result, the reliability may differ per analysis (Verhavert, De Maeyer, Donche, & Coertjens, 2018). For this dataset, the analysis of the final ranking yielded a strong reliability (.77). Additional analysis showed that there were no misfitting judges, which means that no assessor scored differently from the rest of the group.

## 4.   RESULTS

### 4.1 Descriptive statistics

Table 1 gives the descriptive results of the research data. Due to illness, some students were unable to complete the public speaking task at test moment 2, which resulted in an unequal number of students at the post-test. Assessing the videos of the public speaking competence via comparative judgement can result in negative numbers, because these refer to their relative position in the ranking, and thus constitute a perhaps less familiar type of assessment.

At test moment 1, the control group ($M$ = .88, $SD$ = .97) had a significantly higher score for public speaking competence than the experimental group ($M$ = -3.07, $SD$ = 1.54), $t(16)$ = 5.28, $p$ < .01. The L1 teacher responsible for this group was unable to give an adequate explanation for the discrepancy between these two groups. However, this result could not be retrieved at test moment 2, $t(13)$ = .33, $p$ =.75, which means that both the control ($M$ = -.50, $SD$ = 1.25) and experimental ($M$ = 2.19, $SD$ = .64) group scored a similar result for the public speaking competence.

*Table 1. Descriptive statistics of public speaking competence*

|  | test moment | condition | *n* | *M* | *SD* |
|---|---|---|---|---|---|
| **public speaking competence** | 1 | control | 9 | .88 | .97 |
|  |  | experimental | 9 | -3.07 | 1.54 |
|  | 2 | control | 7 | -.50 | 1.25 |
|  |  | experimental | 8 | 2.19 | .64 |

*Note*: the scores of the public speaking competence refer to their relative position in the ranking, but do not represent a certain rank.

### 4.2 Statistical analysis

To answer the research question of this study, we conducted a General Linear Model ANCOVA analysis with public speaking competence at test moment 2 as the dependent variable, and public speaking competence at test moment 1 as a covariate, and we tested for the effect of the condition (control or experimental). This study could detect a significant impact of the improvisation training that focuses on eye-contact, body language and voice on the public speaking competence of students in secondary education, $F(1,13) = 8.08$, $p = .014$, $d = .38$. This result indicates that the impact of the intervention is significant but moderate.

## 6. DISCUSSION, LIMITATIONS, AND CONCLUSION

The results of this study show that an improvisation training had a significant but modest effect on the public speaking competence of secondary education students. However, a number of important caveats regarding the research design need to be formulated in order to correctly interpret this research result. Moreover, with regard to the available research literature on this topic, one also has to emphasize the complex nature of improving public speaking and the intricate problems of research into this topic.

Compared to previous research (Casteleyn, 2018), this study could detect the impact of an improvisation training. Although both studies followed an identical research design, four points should be noted if we look into the actual execution of the improvisation training. First, the intervention in this study had an additional focus on eye-contact, body language, and voice, which may have had a more direct impact on

the public speaking competence. This could be more in line with a performance-oriented actor training given by Western educators who stress the naturalistic input ("don't act, but be") (Trenos, 2014) and with assessment criteria often linked to public speaking (De Grez, Valcke, & Roozen, 2009). Second, there is a difference in age between the participants of the two studies. While the previous research used students from the final year of secondary education, this study recruited participants from K10 (Grade 10). Although this difference in age may seem trivial, research emphasizes that this specific type of students are becoming increasingly sensitive to social evaluation due to the effects of pubertal hormones on affective regions of the brain (Van den Bos, Van Duijvenvoorde, & Westenberg, 2016). It is currently unclear which role age plays in the effectiveness of an improvisation training, but the results seem to suggest that there may be an age threshold to experience the immediate effect of an improvisation training. Thirdly, there is a difference in group size. This study used relatively small groups of students, whereas the previous study recruited more regular sized class groups of 16 students. With the intervention being limited to four 50-minute sessions, it becomes a challenge for a teacher to integrate every student into the learning process. In this respect, the effectiveness of an improvisation training may be the result of the interplay of the duration of the intervention and the number of participants. Finally, the personal relationship of instructor and participant could also affect the impact of an improvisation training. For students with public speaking stress, an instructor can always adopt individualized techniques to create a context in which these students can thrive (Piazolli, 2011), but then the effect of the intervention is strongly related to the professionalism of this instructor. For instance, in this study, it is possible that the effect reported by this study is caused by the teacher who handled the intervention, and as a result, cannot be traced back to the qualities of the intervention. The results at test moment 1 suggest that there are significant differences between the two groups in this study, although the teacher claimed that there were none. Consequently, it could be that the teacher unintentionally addressed these differences during the improvisation training, which eventually yielded the positive effect of the intervention.

This study reported a significant but modest effect size (.38). On the one hand, one should note that studies which combine a small sample size with a quasi-experimental research design, such as this study, usually have a substantially higher effect size than large, randomized studies on the same topic (Chueng & Slavin, 2016). It is thus very probable that the effect size reported by this study would be less large in another type of research setting. We also adopted a quasi-experimental research design, and thus not a randomized controlled trial, which may give rise to bias when assessing the intervention. Compared to a control group that received no additional training concerning public speaking, it is thus more likely that the experimental condition experienced a significant effect. Moreover, a very limited number of participants were part of the experimental condition, and 3 out of 18 subjects were lost from pre-test to post-test. This amounts to nearly 17%, which is a relatively high attrition rate. It may be possible that these subjects stayed away from the post-test

because they felt uncomfortable with public speaking, which in return may have clouded the results of this study. Further research should thus recruit a higher number of students to fully investigate the effect of an improvisation training on public speaking.

In this study, the public speaking competence was assessed via comparative judgement of videos of a public speaking task. Naturally, this poses questions about the validity of these videos. Is a video capable of adequately capturing a speaking task? To our knowledge, no study has yet investigated the differences between video and live performances of public speaking. On the one hand, it may be self-evident that videos can never fully grasp all the intricate details of being present at a speech. On the other hand, many students in teacher training programs are already being asked to incorporate video clips into their portfolios to demonstrate their performance as a teacher in class (Gaudin & Chaliès, 2015). If these assignments are accompanied with relevant and clear instructions, reliability and validity can be guaranteed (Admiraal, Hoeksma, van de Kamp, & van Duin, 2011). Moreover, despite some problems with feasibility, video-based performance assessment of medical procedures in a clinical setting was shown to be equally reliable and valid, compared with live assessment (Scaffidi et al., 2018). It would therefore not be unsafe to presume that concerning assessment, videos can indeed represent the public speaking competence to a sufficient degree. However, the videos in this study were scored in a holistic way, and as a result, the assessment did not focus on the three topics of the intervention, namely eye-contact, body language, and voice. This may imply that the actual effect of the intervention was only indirectly examined by this study, and consequently these three items should be included as dependent variables in further research to fully investigate this type of improvisation training.

Finally, we tend to believe that the public speaking competence might follow a more irregular path towards greater mastery than this study's pretest-posttest data seem to imply. In contrast with the view of learning as linear process, improving the public speaking competence of secondary education students could also be described as a spiral step-by-step method (Jing, Cheng, Wang, & Zhou, 2011), in which students gradually master the competence, but also sometimes need to concentrate on a specific aspect, seem to fail to develop during this specific stage of the learning process, but eventually move to the next phase. Further research could adopt this more longitudinal perspective. If the research scope is replaced by an interest in improvisational training programs that exist outside formal education, additional test moments could be introduced, because these programs often consist of ten three-hour sessions.

## AUTHORS' NOTE

## REFERENCES

Admiraal, W., Hoeksma, M., van de Kamp, M.-T., & van Duin, G. (2011). Assessment of teacher competence using video portfolios: Reliability, construct validity, and consequential validity. *Teaching and Teacher Education, 27*(6), 1019-1028. https://doi.org/10.1016/j.tate.2011.04.002

Bermant, G. (2013). Working with(out) a net: improvisational theater and enhanced well-being. *Frontiers in Psychology, 4*, 929.  https://doi.org/10.3389/fpsyg.2013.00929

Boesen, K. P., Herrier, R. N., Apgar, D. A., & Jackowski, R. M. (2009). Improvisational exercises to improve pharmacy students' professional communication skills. *American Journal of Pharmaceutical Education, 73*(2), 35. https://doi.org/10.5688/aj730235

Bonset, H., & Braaksma, M. (2008). *Het schoolvak Nederlands opnieuw onderzocht: Een inventarisatie van onderzoek van 1997 tot en met 2007* [The school subject Dutch researched again: A summary of research from 1997 until 2007].
Retrieved from  http://taalunieversum.org/sites/tuv/files/downloads/slo_het_schoolvak_nederlands_opnieuw_onderzocht_2008.pdf

Casteleyn, J. (2018). Playing with improv(isational) theatre to battle public speaking stress. *Research in Drama Education: The Journal of Applied Theatre and Performance*, 1-8.
https://doi.org/10.1080/13569783.2018.1552129

Cheung, A. C., & Slavin, R. E. (2016). How methodological features affect effect sizes in education. *Educational Researcher, 45*(5), 283-292. https://doi.org 10.3102/0013189X16656615

Council of Europe (2001). *Common European framework of reference for languages: learning, teaching, assessment*. Cambridge, UK: Press Syndicate of the University of Cambridge.

De Grez, L., Valcke, M., & Roozen, I. (2009). The impact of goal orientation, self-reflection and personal characteristics on the acquisition of oral presentation skills. *European Journal of Psychology of Education, 24*(3), 293.  https://doi.org/10.1007/bf03174762

Dickinson, D. K., Golinkoff, R. M., & Hirsh-Pasek, K. (2010). Speaking out for language: Why language is central to reading development. *Educational Researcher, 39*(4), 305-310.
https://doi.org/10.3102/0013189x10370204

Farkas, D. K. (2009). Managing three mediation effects that influence PowerPoint deck authoring. *Technical Communication, 56*(1), 28-38.

Gaudin, C., & Chaliès, S. (2015). Video viewing in teacher education and professional development: a literature review. *Educational Research Review, 16*, 41-67.
https://doi.org/10.1016/j.edurev.2015.06.001

Graham, S., Liu, X., Bartlett, B., Ng, C., Harris, K. R., Aitken, A., Barkel, A., Kavanaugh, C., & Talukdar, J. (2018). Reading for writing: a meta-analysis of the impact of reading interventions on writing. *Review of Educational Research, 88*(2), 243-284. https://doi.org/10.3102/0034654317746927

Greenfader, C. M., Brouillette, L., & Farkas, G. (2015). Effect of a performing arts program on the oral language skills of young English learners. *Reading Research Quarterly, 50*(2), 185-203. https://doi.org/10.1002/rrq.90

Hancock, A. B., Stone, M. D., Brundage, S. B., & Zeigler, M. T. (2010). Public speaking attitudes: does curriculum make a difference? *Journal of Voice, 24*(3), 302-307.
https://doi.org/10.1016/j.jvoice.2008.09.007

Hoffman, A., Utley, B., & Ciccarone, D. (2008). Improving medical student communication skills through improvisational theatre. *Medical Education, 42*(5), 537-538. https://doi.org/10.1111/j.1365-2923.2008.03077.x

Hulstijn, J. (2015). *Language proficiency in native and non-native speakers: theory and research*. Philadelphia, PA/Amsterdam: John Benjamins. https://doi.org/10.1075/lllt.41

Jing, L., Cheng, Z., Wang, J., & Zhou, Y. (2011). A spiral step-by-step educational method for cultivating competent embedded system engineers to meet industry demands. IEEE *Transactions on Education, 54*(3), 356-365. https://doi.org/10.1109/TE.2010.2058576

Jonsson, A., & Svingby, G. (2007). The use of scoring rubrics: reliability, validity and educational consequences. *Educational Research Review, 2*(2), 130-144.
https://doi.org/10.1016/j.edurev.2007.05.002

Lenters, K., & Smith, C. (2018). Assembling improv and collaborative story building in language arts class. *The Reading Teacher, 72*(2), 179-189. https://doi.org/10.1002/trtr.1689

Lesterhuis, M., Verhavert, S., Coertjens, L., Donche, V., & De Maeyer, S. (2017). Comparative judgement as a promising alternative to score competences. In E. Cano, & G. Ion (Red.), *Innovative practices for higher education assessment and measurement* (pp. 119-138). Hershey, PA: IGI Global. https://doi.org/10.4018/978-1-5225-0531-0.ch007

Ludwig, M. J., Boyle, A., & Lindsay, J. (2017). *Review of evidence: arts integration research through the lens of the Every Student Succeeds act*. Washington, DC: American Institutes for Research. Retrieved from http://www.air.org/resource/review-evidence-arts-integrationresearch-through-lens-every-student-succeeds-act

Mages, W. K. (2008). Does creative drama promote language development in early childhood? A review of the methods and measures employed in the empirical literature. *Review of Educational Research, 78*(1), 124-152. https://doi.org/10.3102/0034654307313401

Nash, G., Crimmins, G., & Oprescu, F. (2016). If first-year students are afraid of public speaking assessments what can teachers do to alleviate such anxiety? *Assessment & Evaluation in Higher Education, 41*(4), 586-600. https://doi.org/10.1080/02602938.2015.1032212

Nasiri, A., & Gilakjani, A. P. (2016). A review of Efl learners' speaking skill and the strategies for improvement. *Modern Journal of Language Teaching Methods, 6*(9), 53.

Onderwijs Vlaanderen (2015). *Secundair onderwijs - Derde graad ASO - Nederlands - Vakgebonden eindtermen [Secondary Education –General Secondary Education - Dutch – Subject-Specific Final Attainment Targets].*
Retrieved 9 January 2015 from http://www.ond.vlaanderen.be/curriculum/secundair-onderwijs/derde-graad/aso/vakgebonden/nederlands/eindtermen-nederlands-3egraad-aso-2012.pdf

Piazzoli, E. (2011). Process drama: The use of affective space to reduce language anxiety in the additional language learning classroom. *Research in Drama Education: The Journal of Applied Theatre and Performance, 16*(4), 557-573. https://doi.org/10.1080/13569783.2011.617104

Robson, K., Pitt, L., & Berthon, P. R. (2015). "Yes, and...": what improv theater can teach service firms. *Business Horizons, 58*(4), 357-362. https://doi.org/10.1016/j.bushor.2015.02.002

Scaffidi, M. A., Grover, S. C., Carnahan, H., Jeffrey, J. Y., Yong, E., Nguyen, G. C., Ling, S. C., Khanna, N., & Walsh, C. M. (2018). A prospective comparison of live and video-based assessments of colonoscopy performance. *Gastrointestinal Endoscopy, 87*(3), 766-775. https://doi.org/10.1016/j.gie.2017.08.020

Schoonen, R. (2019). Are reading and writing building on the same skills? The relationship between reading and writing in L1 and EFL. *Reading and Writing: An Interdisciplinary Journal, 32*(3), 511-535. https://doi.org/10.1007/s11145-018-9874-1

Schreiber, L. M., Paul, G. D., & Shibley, L. R. (2012). The development and test of the public speaking competence rubric. *Communication Education, 61*(3), 205-233.
https://doi.org/10.1080/03634523.2012.670709

Shaw, P., & Stacey, R. D. (2006). *Experiencing risk, spontaneity and improvisation in organizational change: Working live*. Oxon, UK: Taylor & Francis. https://doi.org/10.4324/9780203696934

Shi, X., Brinthaupt, T. M., & McCree, M. (2015). The relationship of self-talk frequency to communication apprehension and public speaking anxiety. *Personality and Individual Differences, 75*, 125-129. https://doi.org/10.1016/j.paid.2014.11.023

Spolin, V., & Sills, P. (1999). *Improvisation for the theater: A handbook of teaching and directing techniques.* Evanston, IL: Northwestern University Press.

Thielsch, M. T., & Perabo, I. (2012). Use and evaluation of presentation software. *Technical communication, 59*(2), 112-123.

Toivanen, T., Komulainen, K., & Ruismäki, H. (2011). Drama education and improvisation as a resource of teacher student's creativity. *Procedia – Social and Behavioral Sciences, 12*, 60-69. https://doi.org/10.1016/j.sbspro.2011.02.010

Trenos, H. (2014). *Creativity: the actor in performance*. Warsaw, Poland: Walter de Gruyter.

Van Daal, T., Lesterhuis, M., Coertjens, L., Donche, V., & De Maeyer, S. (2019). Validity of comparative judgement to assess academic writing: examining implications of its holistic character and building on a shared consensus. *Assessment in Education: Principles, Policy & Practice, 26*(1), 59-74. https://doi.org/10.1007/s10763-013-9497-6

Van den Bos, E., van Duijvenvoorde, A. C., & Westenberg, P. M. (2016). Effects of adolescent sociocognitive development on the cortisol response to social evaluation. *Developmental Psychology, 52*(7), 1151. https://doi.org/10.1037/dev0000133

Van Gasse, R., Mortier, A., Goossens, M., Vanhoof, J., Van Petegem, P., Vlerick, P., & De Maeyer, S. (2016). *Feedback opportunities of comparative judgement: An overview of possible features and acceptance at different user levels.* Paper presented at the International Computer Assisted Assessment Conference. 2016. Tallinn, Estonia. https://doi.org/10.1007/978-3-319-57744-9_3

Verhavert, S., De Maeyer, S., Donche, V., & Coertjens, L. (2018). Scale separation reliability: what does it mean in the context of comparative judgment? *Applied Psychological Measurement, 42*(6), 428-445. https://doi.org/10.1177/014662167800200319

Watson, K. (2011). Perspective: serious play: teaching medical skills with improvisational theater techniques. *Academic Medicine, 86*(10), 1260-1265. https://doi.org/10.1097/ACM.0b013e31822cf858

Wurth, A., Tigelaar, D., Hulshof, H., de Jong, J., & Admiraal, W. (2018). *A literature review of feedback and teaching oracy in L1-classes in secondary education*. Paper presented at ARLE (The International Association for Research in L1 Education), SIG Literacies & Oracies, Seminar Focus on Oracy. 2018. Leiden, Nederland.

SUPPLEMENTARY MATERIAL

*Note*: Each session is 50 minutes, and consists of a warm-up and exercises that focus on a specific aspect of public speaking, except for the last session that combines all aspects.

*Session 1. Eye contact*

| | |
|---|---|
| **Warm-up exercises** | **Name game**: A 'clap' is passed to another person, while saying the name and maintaining eye contact. |
| | **Whoosh**: The instructor passes a 'whoosh' (an imaginary energy ball) along. |
| | **Bunny**: A participant is the bunny, who says "bunnybunnybunny" and acts it out. Two neighbours pretend to be the bunny's ears, and also say "bunnybunnybunny". The 'bunny' passes 'the bunny' to a next participant. |
| | **Copycat**: The instructor makes a noise or movement, and everyone copies this. |
| **Eye contact exercises** | **Walking**: Students walk around the room. Instructor claps and participants look the nearest person in the eyes for 3 seconds. |
| | **Music**: Teacher puts on some music and two participants have to look each other in the eyes for the duration of the music fragment. They have to mimic the mood from the song in their expression. |

*Session 2. Body language*

This session uses the warm-up exercises 'name game' and 'whoosh' of the previous session, and introduces two additional warm-up exercises.

| | |
|---|---|
| **Warm-up exercises** | **Association**: Everyone stands in a circle and uses their arm to create a rhythm. The instructor says a word, the next person associates on this word, etc. |
| **Body language exercises** | **Job application**: The participants get a number between 1 and 4. These numbers correspond with a social status (1 is highest). They can't see their own number, but everyone else can. They walk around and use their body language and eye contact to show their fellow students what their number is (so without talking, except for greetings). After a while the students have to sit in the correct order from lowest to highest status. They then have to enter the room and apply for a job of their choice, but within character of their social status. |
| | **Object**: A participant pretends to be in a certain place. (S)he acts out something (s)he could do in that room. The other participants join in and play an object in that place. When they enter the stage, they state which object they are. The acting student uses the objects in his play. |

*Session 3. Voice*

This session uses the warm-up exercises 'whoosh' and 'copycat' of the first session, and introduces one additional warm-up exercise.

| | |
|---|---|
| **Warm-up exercises** | **Tongue twisters**: If you pronounce it incorrectly, you have to run around the circle and be back in time for your next turn. |
| **Voice exercises** | **Describe a picture**: Instructor starts to describe a picture. Anything can be it, but the instructor needs to go into detail. The first participant then chooses a detail from this picture and incorporates it into his/her own picture, etc. |
| | **Tell a story**: A participant tells a story, and the other participants randomly give words to incorporate into this story. |
| | **Association**: Students walk across the room, and say something about a certain topic with every step. The instructor provides the topic. The participants have to do this at a certain volume. The instructor provides a number between 1 and 10, 1 being extremely quiet and 10 being very loud. |

*Session 4. Fusion*

| | |
|---|---|
| **Warm-up exercises** | **Fill in the blanks**: Instructor says**:** "once upon a time there was … then there was a … however … luckily ….in conclusion … moral of the story …" The participants fill in the blanks. |
| **Fusion exercises** | **Threesome**: A participant starts and pretends to be an object. This students explains what he is, for instance "I'm a cactus". The next student comes on and associates a second object and acts it out. Third student does the same. The first student then repeats his words and takes another object with him off stage. One person is left then and a new participant comes in as a new object.<br><br>**Angel and devil**: One participant acts out a situation that the other students choose. In order to bring this task to a good end, the participant has an angel and a devil on his/her shoulders. The angel tries to help, while the devil tries to prevent finishing the task. |