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Mirroring MLK: Improving intelligibility in homilies for international
priests and seminarians

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Abstract

The Mirroring Project (Lindgren, et. al, 2005, Meyers, 2013, 2014, Tarone & Meyers, forthcoming) is a holistic and “top-down” approach used to improve the suprasegmentals and intelligibility of international teaching assistants (ITAs) giving short, oral monologues. While a rich history of literature supports the use of this approach with ITAs, a gap exists in how to support the growing population of international priests and seminarians in the US similarly needing to perform short oral monologues, but in a liturgical setting. This case study is an exploration of whether an adapted mirroring approach can be effective in improving the suprasegmental elements and intelligibility of an international seminarian training to preach in North American English (NAE).

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The teaching and learning of oral skills in a second language (L2) has a long history of approaches, strategies, and techniques attempted with many distinct groups of learners. This study focuses on the teaching of L2 English pronunciation to a growing population in the United States: International Catholic priests and seminarians whose native language is not the North American English variety. As of 2010, there were 6,453 international Catholic priests serving in parishes nationwide; in 2014-2015, there were 801 international seminarians (graduate students studying and preparing to be ordained priests), 81% of them training to live and work in the US after ordination to the priesthood (CARA, 2015). These seminarians prepare to lead parishes all around the US, providing pastoral ministry, and especially giving *homilies*, or sermons preached during mass.

International seminarians and priests primarily use English to perform *homilies* - short (5-20 minutes) oral monologues to large audiences, while they secondarily use English to interact casually with parishioners in a one-on-one, interpersonal setting. To be able to produce intelligible speech in English is a high-stakes task, as building a community of parishioners is a key responsibility, and the threat of parishioners leaving the international priest's parish for another (perhaps with an L1 English-speaking priest) is a common fear. In learning to give intelligible homilies in their second language, these priests have a compelling need for American English presentational skills, including pronunciation training appropriate for speakers of American English as a second language or variety.

Intelligibility is generally defined as “a measure of the extent to which a listener has understood what a speaker said” (Derwing & Munro, 2015, p. 178). This study reviews current

research on how to improve the intelligibility of public speakers whose second language is English. A large part of this research has been done in a related area — the diagnosis and remediation of problems encountered by international teaching assistants (ITAs) in U.S. universities in effectively giving lectures to American undergraduates. Both ITAs and international priests whose native language is not North American English (NAE) share a common need: to be able to give formal presentations that are intelligible to an audience of NAE speakers. The model of instruction used with ITAs is applied in this study to meet the public speaking needs of one international seminarian to answer the question: can this approach improve the intelligibility of international priests and seminarians?

Review of Literature

International Catholic priests in the US come from many different countries, with the largest groups coming from Mexico, Colombia, Vietnam, The Philippines, Poland, and Nigeria (Hoge & Okure, 2014). The native languages of priests coming from those countries are typically Spanish, Vietnamese, Filipino, and Polish, or varieties of English such as Filipino English and Nigerian English which may or may not be intelligible to speakers of North American English. All of these priests must deliver homilies or sermons in North American English, though some may also be asked to preach in their native language. While the US Catholic Church has seen a slight decline of American-born priests over the last two decades, the number of international priests speaking accented English continues to rise. Many of these priests come having completed their seminary training in their countries of origin, and there are many others who complete some or all of their training in the US. For over a decade, the desire and great need for further support in ESL/US Pronunciation training for international seminarians and priests has been well-documented. Gautier, Cidade, Perl, & Gray (2014)

present sociological research conducted by The Center for Applied Research in the Apostolate (CARA), an institute located at Georgetown University which tracks and publishes demographic data on the Catholic Church and its institutions, to explicitly address and illuminate the opportunities and challenges of international priests working their ministry in the United States. Gautier, et. al. report on the acculturation and language challenges faced by these international priests (IPs). According to data collected by a national survey of international priests (CARA, 2012), 60% of international priests serving in the US reported that it would have been “very helpful” to receive continuing formation in “U.S. pronunciation” at the beginning of their ministry in the U.S. An additional 45% reported that this formation would be “very helpful” now in their current ministry (p. 68). The self-perceived need of IPs is not only just to speak English, but to use the pronunciation patterns of a specific variety of English in their speaking.

Hoge & Okure (2006) is a 2-year study surveying US Catholic dioceses and religious institutes regarding their policies and surveying over 1,000 IPs to learn about their experiences and what they would recommend going forward with regard to international priests in the US. Hoge & Okure’s phenomenological and qualitative research has included 86 personal interviews and three focus groups (p. 152), and found that linguistic issues surrounding the acquisition and use of English by international priests was highlighted as the foremost challenge:

Language is the main problem [with international priests]. It came up in all our interviews. It has two distinguishable aspects: that there are priests who never commanded enough English to communicate and that some priests speak English but with such a strong accent that nobody can understand them (p. 51).

The language difficulty of international priests was particularly noticeable in delivering homilies. A veteran lay minister stated:

Parishioners are somewhat taken aback because they can't understand them, particularly from the altar, even though they might be able to understand them one-on-one. It seems that when they get on the altar, it's much more difficult... (51)

This overarching theme of the IPs' experiences in the US was articulated by a variety of sources including lay staff and ministers who work closely with the IPs, diocesan leaders who may have appointed the IPs to their positions, and parishioners who may only listen to the IPs on Sundays. Hoge & Okure also solicited recommendations of current international priests on what would help them the most in their current ministries working in the United States, finding:

By far the most common recommendation was that the church should provide them acculturation training, including instruction in English. *This is the main recommendation from international priests for the American church today* (p. 51, italics original).

For example, an IP originally from Vietnam offered this recommendation: "Help them out with English; provide an English tutor; make them feel welcome, especially from the priests they work with" (p. 20).

And a director of religious education at one of these parishes stated:

If we are going to have a flow of international priests, there ought to be some kind of orientation program which is much like an English as a Second Language program. But it would be broader than just the language; it would be the language and the culture. I am not aware of any of these for priests (p. 109).

Thus, the research cited above, soliciting the perspective of the IPs themselves and those who work closely with them, has found that further training in US acculturation and English language

skills is highly desired.

In order to address this growing need, it is necessary to understand current training processes and practices in place for international priests and seminarians. As mentioned, a key task for all priests is to deliver homilies. Great importance is placed on effective preaching throughout a priest's seminary training and priestly career. Homiletics — sometimes referred to as “preaching”— is addressed extensively and with great urgency within the realm of priestly formation for all priests, whether native speakers of the language or not (Schuth, 2016). Within the US, seminarians are required to study homiletics as part of their coursework and formation. It is usually considered part of “Pastoral Theology,” of which the required credits ranged from 12-34 in 2015 among all seminaries in the US, with the median average number of required credits being 24.1 (Schuth 2016). This requirement reflects the broader stress placed on homiletics within the US and global Catholic Church. Homiletics is emphasized in the Program of Priestly Formation (2005), numerous publications by the United States Conference of Catholic Bishops (USCCB), and even by Pope Francis in his 2013 *Evangelii Gaudium*. In describing how to prepare and deliver a homily, the Holy Father states that it must be “inculturated” (p. 143), meaning that an effective homily must be informed by cultural-competence and presented in a culturally-relevant way by the homilist.

Despite this great importance placed on homilies within the church and the great need international priests face when delivering these homilies to their American audiences, to my knowledge there is no standard and comprehensive homiletics training specialized to meet the language and culture needs of international seminarians. As of 2010, the 176 different dioceses, archdioceses, and eparchies in the US reported the following specialized cultural training for international priests:

Table 1: <i>Current Orientation and Training Provided to International Priests in the US.</i> Source: USCCB (2010)		
Type of preparation/training	Number of (arch)dioceses/eparchies offering	Description
Nothing	78 (44%)	Includes those which reported only one-time general evaluation meetings with no follow-up training.
Mentorship only	31 (17%)	Ranges from a structured, residential mentorship program, to an informal placement with an American-born pastor.
Refers to another agency	25 (14%)	Wide range May or may not include any language training No data on qualifications of trainers, teaching approach, techniques or methods
Orientation/training focused on policies	25 (14%)	Provides a special orientation program for IPs, but explicitly focuses on policies, procedures, relational boundaries in the US church (no language or “cultural” training).
“Case-by-case” with mention of “accent reduction”	11 (6%)	Includes any that state training is offered on a “case-by-case basis”, and who state that they offer and provide “accent reduction if necessary” (with no additional explanation or detail)
Some cultural training that explicitly addresses language support	6 (3%)	Includes hiring private corporate trainer/language coach (1 diocese) and the Language, Culture and Church for International Priests No data on qualifications of trainers, teaching approach, techniques or methods
TOTAL	176 (100%)	

Table 1 shows that the majority of (arch) dioceses/eparchies in the United States provide no specialized language and culture training or orientation programming for international priests. Many of them state that the IPs attend the same orientation programs as their local or American-born peers, and most state that they are aware of a need for cultural training for their IPs and are

working on a solution. This includes those who reported only “meeting with a vicar” or similar one-time general evaluation that does not address any linguistic or cultural issues or provide follow-up training. Table 1 shows 17% provide only a mentor for each incoming IP. The mentor may be “American-born” or from the same culture as the incoming IP but who has lived in the US for some years. This may be a structured program with support from a parish or diocese, but most do not include enough detail to specify. And 14% refer their IPs to other local agencies or organizations to provide acculturation training. This training or orientation program may include a wide range of support, but most of the (arch)diocese/eparchies’ reports do not include enough detail to ascertain how much support they receive, how effective it is, or whether linguistic or public speaking support is included. For example, it can range from “acculturation workshops” (p. 1), a one-month “cultural class” (p. 14), or “helping the international priest with enrollment in weekly classes at a local community college” for “English language training” (p. 15). Other outside agencies reported to provide assistance are MaryKnoll, Cultural Orientation Program for International Ministers (Loyola, 2017), and local ‘international priest seminars’ offered occasionally. An additional 14% provide some kind of specialized orientation or training program for their international priests which does not explicitly address homiletics or language-related support. Those programs instead focus on diocesan policies, procedures within their parishes, and some additional “cultural topics” which may include relational boundaries in the US church, personal boundaries, driving, and “safe environment issues” (p. 3). These range from a one-day workshop to “once per month for 12 months” (p. 83). These programs may or may not include a mentorship with a local priest in addition to the orientation or training they provide. Only 6% mention “accent reduction” in their description of the cultural orientation/training they provide. Most add that this is provided “if necessary” (p. 6) or “if needed”. No further detail is

provided regarding who provides this training, their qualifications, methods, or approach. Finally, 3% of the US (arch)diocese/eparchies provide training that gives some mention of language or public speaking skill training. One diocese hires a corporate trainer to give a training that includes public speaking skills, “accent modification” and “American slang and idioms” (Wilner, 2015). Another three require their IPs to attend a three-week summer program offered by a college seminary, which includes “public speaking and language skills, with a particular focus on accent reduction, pronunciation, and American idioms” as one of their five areas of focus (Conception Abbey, 2017). Again, there is not sufficient data available to ascertain how these elements are incorporated into the training, the qualifications of the instructors, how much individual attention is provided to each IP, or the overall efficacy of the program.

Given that 97% of the (arch)dioceses/eparchies in the US provide no training or orientation that specifically addresses the public speaking needs of IPs giving homilies, and only one such program in the entire country exists to serve these international priests, let’s consider what factors and obstacles may contribute to the absence of a standard and comprehensive homiletics training specialized to meet the language and culture needs of international seminarians and priests in the US.

In order to create such a program, a diocese would need to be informed about effective approaches for training international seminarians in the area of oral intelligibility. Given the data in Table 1 above, and since there has been no work done to explore this topic, it’s likely that an archdiocese would not know how to create an effective language intelligibility program for IPs even if they recognized the great need. In other words, how do they know what to teach and how to teach it, to make such a program a reality?

To create an effective intelligibility program for IPs, it may be helpful to turn to a related field: international teaching assistant training programs (ITAs). These two populations of learners share many similarities. ITAs, like international priests, must learn to give intelligible formal presentations to Americans in North American English, which is not their native language variety. Fortunately, there's a considerable amount of research on the difficulties American undergraduates have in understanding their international TAs' lectures, and the pedagogical approaches used to improve ITAs' intelligibility. Therefore, I will now review some of the important contributions of research on the communication needs and the effectiveness of pedagogical approaches used with international teachings assistants (ITAs) in U.S. universities.

Perlmutter (1989) was one of the first classroom-based studies to address pronunciation using ITAs. He focused on "global intelligibility" with 24 ITAs speaking various L1s. The ITAs were recorded upon their arrival in the US before pronunciation instruction and once again after instruction took place. Perlmutter found significant improvement in intelligibility over this period of six months. One criticism of this study is that while using a substantial number of participants, the absence of a control group which did not undergo pronunciation instruction leaves the question of whether improvement was due to the instruction or due simply to the immersion in an English-speaking environment. Given that the first six to twelve months are often considered the "window of maximum opportunity" (Derwing & Munro, 2015, p. 43), or the time in which ITAs' L2 pronunciation features are most responsive to change, it's conceivable that at least some of the ITAs' improvement would be due simply to the exposure to a naturalistic L2 environment. Nevertheless, this study was pivotal at opening a new sub-field within second language teaching and learning, specifically addressing pronunciation training for ITAs.

Since then, work in ITA training has investigated which specific features of pronunciation have been shown to be most important to improve ITA oral intelligibility. There has been much debate over the teaching of segmentals (individual consonant and vowel sounds) versus the teaching of suprasegmentals (stress, intonation, and rhythm) as most beneficial for learners (Celce-Murcia, et. al., 2010, Kang, 2010). Over the last three decades, suprasegmentals have taken center stage as foundational (not secondary) to L2 learning and teaching of English pronunciation. Anderson-Hsieh, Johnson, and Koehler (1992) used a perceptual analysis of L1 English speakers listening and rating the speech of L2 learners. When judgments of these raters were correlated with the analyzed deviance in segmentals, prosody, and syllable structure, the prosodic variable had the strongest correlation with the raters' judgments of comprehensibility. The listeners were most likely to rate the speech as less comprehensible when the prosody was less target-like. Furthermore, prosody was consistently found to be significantly related to the global ratings of intelligibility when individual analyses were completed, while the same could not be said of the segmentals and syllable structure variables. Derwing, et. al. (1998) used three groups of learners: a suprasegmental group which received instruction exclusively on prosody, intonation, and rhythm, a segmental group which received instruction exclusively on phonemes and individual sounds, and a third control group which did not receive instruction. The study found that only the suprasegmental group showed a significant improvement in comprehensibility in unrehearsed picture descriptions. Finally, Pickering (2001), which compared NNS lecturers to "native speaking" lecturers, found tone choice to be a major impediment to successful oral communication among non-native speakers (NNS) in English-medium classroom lectures. The native speaking lecturer (NS) group systematically used choice of tone to connect with students and make the discourse content more accessible to its listeners,

while the tone choice of the NNS group directly inhibited the listeners comprehension and even caused the students to view the lectures as unsympathetic. Tone choice analysis in Pickering's study was done using a model of intonation developed by Brazil (1997) that describes the interaction of three related systems to produce what we perceive as intonation. These systems are tone, key, and termination. Key and termination are determined by the onset and nuclear syllable, respectively, within a tone unit. A semantically coherent group of tone units makes up "pitch sequence" or what resembles a paragraph unit of intonation. Barr (1990) applied this framework to discourse in academic lectures, like those analyzed in Pickering (2001). This framework allowed Pickering to demonstrate how vital suprasegmentals like intonation are when working to improve the communicative competence of ITAs.

Sardegna (2011) focused specifically on linking to improve intelligibility through instructional intervention. Linking (or liaison) is "the connecting of the final sound of one word or syllable to the initial sound of the next", used to utter appropriately connected speech in English, and is a related aspect of the suprasegmental elements of stress and rhythm (Celce-Murcia, et. al., p. 165). With 38 ITAs of various first language backgrounds, participants were recorded upon their arrival before any instruction, four months later after instruction took place, six months later, and finally once more up to nine months after that. Significant improvement of linking was maintained even long after the intervention at the final recording. Two points of criticism are that not all participants were able to participate in the later recordings, and, as with Perlmutter (1989), there was no control group to isolate the variables present among the learners. Nevertheless, this study provides evidence that it is possible for learners to maintain the progress made from instructional intervention in their pronunciation in L2 English even after substantial time has passed.

All of these studies have been limited to a linguistic-focused “bottom-up” approach to the instructional intervention, incorporating covert rehearsal model pronunciation strategies (Sardegna, 2011), among others. The “Mirroring Project” (Lindgren, et. al; Meyers, 2013, 2014; Tarone & Meyers, forthcoming) is a capstone unit in an ITA training course that takes a top-down, holistic, and embodied approach to pronunciation teaching that can be effective at improving intelligibility within this population of advanced adult learners of English. This ITA training course combines a bottom-up method of instruction that increases the ITAs awareness of NAE intonation and stress patterns, with innovative “top-down” approaches in teaching ESL pronunciation to better improve the intelligibility of ITAs.

In this Mirroring Project model, the ITA course begins with a traditional focus on “bottom-up” linguistic analysis, in which each learner works with the teacher to identify areas of their L2 speech that most interfere with intelligibility and comprehensibility. Weeks are spent using video and technological tools such as Praat which are designed to raise the learner’s understanding of ways to improve their intelligibility using acoustic analyses of their public speaking in NAE. Then, in the second half of the course, the Mirroring Project begins; the student searches for an intelligible model (who may produce accented speech) with whom they feel they can identify and whom they want to emulate. They discuss their chosen model with the instructor who decides if each model is a “comprehensible and intelligible L2 model who is well-suited to the pronunciation features that they specifically need” (Meyers, 2013).

Tarone & Meyers (forthcoming) identify the nine pedagogical steps in the 3-week capstone mirroring project:

1. Identify L2 speaker’s pronunciation and body language challenges using rubric
2. Choose appropriate speaker model and short speech sample

3. Analyze model's speech sample for communicative effectiveness using rubric
4. Transcribe speech sample, identifying and marking thought groups, prominence and nonverbal communication
5. Mirror ("channel") model to produce original recording—Done one thought group at a time
6. Practice internalizing speech/nonverbal communication for pronunciation features
7. Video-record a "trial" version
8. Critique the trial version
9. Video-record a "final" version

This combination of bottom-up and top-down strategies in a holistic approach was shown to be effective in improving the intelligibility of an ITA called "Mary" in Tarone & Meyers (forthcoming) case study, suggesting that this approach could be an effective way to address intelligibility in advanced adult learners of English.

The theoretical framework that underlies the use of the Mirroring Approach in ITA training is very consistent with the current understanding of the process of second language acquisition (SLA). Many SLA researchers, including those focusing on ITAs, have moved beyond seeing the process of SLA as a "decontextualized cognitive linguistic computation" (Tarone & Meyers, forthcoming, p. 4); a theory that underlies second-language instruction focused only on bottom-up instruction in linguistic items and rules. Many SLA researchers are instead embracing an approach that is top-down, embodied, and holistic in nature, an approach that includes a focus on sociolinguistic context and nonverbal communication. The "Douglas Fir Group" (2016) proposes a transdisciplinary framework that reflects the multifaceted nature of language learning and teaching, one that emphasizes the interplay of social identities, ideological

structures, and semiotic resources that necessarily result in a “complex, ongoing, multifaceted” view on the learning of language. For international priests and seminarians interested in improving intelligibility for homilies, a focus only on decontextualized linguistic forms is not enough. Instead, three other key elements need to be considered in this case: the nature of the homily as a genre, the nonverbal elements of oral presentation, and the cultural information used in successful communication.

Among other things, seminarian training should include the structure of the genre of homilies. Unlike other short oral monologues (academic lectures, business presentations) a homily uses a one-way transmission model of communication, meaning that there is an understanding that the priest speaks and the audience listens, with no interpersonal communication during or following a homily. An important consequence of this feature of the genre is that the burden of intelligibility must be carried by the speaker, in this case the international priest. Because no questions or comments are taken from the listeners in the context of a homily, there is no way for an IP to receive *oral* feedback on what was more or less intelligible in his speech. This has a considerable impact on how homiletics training for IPs needs to be specialized and different from public speaking training in other genres.

Second, because a priest receives no oral feedback on his use of NAE, sensitivity to nonverbal feedback from the audience is especially critical, and a theoretical framework must include considerations of nonverbal communication. International priests performing homilies need to have a better understanding of “reading their audience”: searching for and identifying bodily signals of confusion or disinterest and how they can respond using their features of speech. In other words, listeners usually respond with facial expressions (or lack thereof) when comprehension is not achieved and an IP needs to be able to recognize these signals and adjust

his performance (by repeating, slowing down, changing his volume, or providing wait time, to name a few possibilities). Furthermore, the IP can learn to take advantage of his own nonverbal communication skills by incorporating appropriate gesture, facial expressions, body positioning, head movement, etc. to increase intelligibility. Developing these skills in any learner demands the theoretical understanding that language learning is semiotic learning (Douglas Fir Group, p. 27) which incorporates nonverbal elements in addition to paralinguistic resources such as intonation and pausing. Without taking into account the nonverbal, embodied communication taking place, a key piece in comprehension and communicative effectiveness (and intelligibility) is overlooked.

Finally, a theoretical framework for IP seminary training needs to incorporate the role of culture. As language and culture are deeply intertwined, no teaching and learning of language can take place without the teaching and learning of cultural elements as well. For international priests giving homilies, this is key to building rapport with their parishioners and improving their intelligibility. As stated previously in the literature on current practices within IP training, even those who had been speaking English for decades were reporting a lack of comprehension among their parishioners. Remediation should impart an understanding that language is situated and “attentionally and socially gated” (Douglas Fir Group, p. 27). In other words, the language an IP needs to effectively communicate with his particular community requires language and other semiotic resources that are culturally- shaped and defined by the sociocultural communities and institutions to which those listeners belong. These resources include idioms as well as the use of cognitive models, metaphors, analogies, and images in thinking, all of which are used daily by highly intelligible speakers in the form of cultural references (Ellis, 2015). By incorporating these types of culturally-defined and situated references into one’s speech, an IP can not only

build rapport with his listeners, but can also increase communicative competence with a more robust linguistic repertoire.

The ITA research and theoretical considerations just presented are directly relevant to efforts to improve the intelligibility of international priests. However, it is clear that the approach used with ITAs would need to be adapted to the different social context and communicative purposes of IPs. In what way are the speaking needs, social contexts and communicative purposes of ITAs and IPs the same and different?

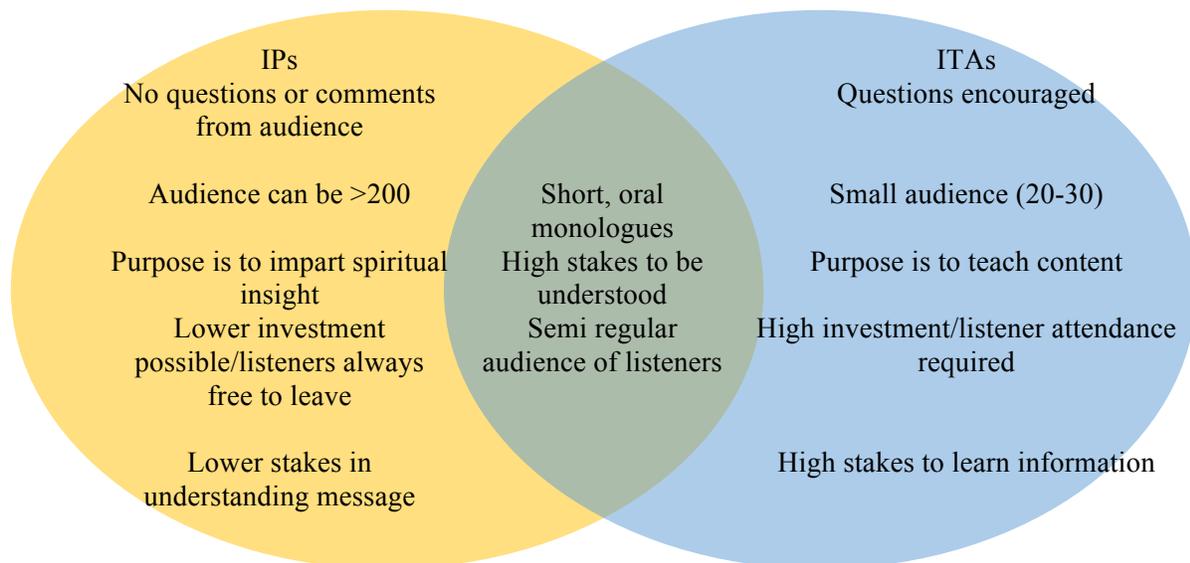


Figure 1: Overview of similarities and differences between international teaching assistants (ITAs) and international priests (IPs).

In exploring the usefulness of the ITA training model for the preparation of international priests, we should consider the similarities and differences in context and purpose between an international priest's and an ITA's use of North American English in public speaking (see Pickering, 2001 and Tarone & Meyers, forthcoming). An ITA is responsible for teaching

undergraduate students in a specific field, and may use English to give a lecture, lead a discussion, or facilitate pair work in a classroom. In such interactions, the audience is small (20 to 30 students) and questions from the audience are encouraged. An international seminarian, on the other hand, uses English to give homilies to a potentially much larger audience, which is not expected to ask questions or verbally interact with the priest during the presentation. In addition the purposes of the ITA and the IP presentations are different. While both may perform monologic public presentations, ITAs intend to teach academic content, usually to prepare students for some kind of summative assessment for which they will receive a score and, ultimately, a grade. In this way, ITAs primarily intend to transmit very specific pieces of information to ‘inform the mind’, which is a very pragmatic goal. Students are almost always quite invested in listening and understanding the content of the monologue, as their comprehension will directly impact their grade in the course and therefore have other important consequences (GPA, scholarships, parents’ expectations, etc.). Finally, students are often committed to completing a specific class after a semester has started, without necessarily having the option to switch classes if they have a difficult time understanding. While ITA training programs were largely created in order to address the need for ITAs to improve their intelligibility, the responsibility for listening, taking notes, and ultimately comprehension, often falls on the undergraduate student. Therefore, given the assessment and commitment involved, the task of comprehension among the ITA’s audience is generally rather high-stakes, and high investment.

On the other hand, the purpose of a seminarian or priest is less to impart information than to ‘move the heart’ of each of his parishioners, and can never know ahead of time which piece of his homily may be more or less impactful on any given listener. Typically, the homily is given

by first paraphrasing and explaining a gospel reading, followed by an application of the reading, relevant to the lives of his audience. In this way, it is likely that a seminarian or priest should have more emotional, evocative language and ways of communicating, that reflect the more personal and spiritual purpose of his speech. There is obviously no assessment of the listeners' learning of specific pieces of information provided in the homily, and the investment his listeners have in the IP's message is variable and possibly much lower in comparison to the undergrads in a class taught by an ITA. While many parishioners listening to a homily may have every intention to listen and understand, without an assessment of their content learning, it can also seem like a lower-stakes listening task in comparison. Furthermore, these parishioners always have the option of leaving a specific parish for one in which they may more easily comprehend the homilies. In this way, there is much more of a responsibility on the priest to be understood than on the listeners to understand, leaving the listeners with less investment (and therefore perhaps a lower probability of making the effort to understand).

Second, the practical performance of monologic speech is slightly different between an ITA giving a lecture and a seminarian or priest giving a homily. For the international priest, writing a prepared homily and reading it -to whatever extent the seminarian/priest is comfortable- is perfectly acceptable and rather common in the authentic environment of speaking. It would be considered quite adequate and respectable for a priest to stand at a pulpit or podium and deliver the entire homily with notes in front of him, though many priests also choose to instead approach the listeners and speak more freely without notes. In contrast, it would be considered poor pedagogy for an ITA to read from notes while standing behind a podium when speaking to their students in a classroom. Rather, as mentioned above, the ITA is

expected to approach the listeners and speak freely with minimal notes, and expects and encourages his or her audience to verbally interact in response.

In summary, international teaching assistants and international priests/seminarians have many similarities in their high-stakes need to produce intelligible oral presentations in NAE to a semi-regular audience of listeners. Although their purpose for speech varies in important ways concerning the investment and the burden of comprehension, there are enough similarities to suggest that pedagogical approaches that have been developed for ITAs may also be productive if adapted and applied to the education of IPs. The current study seeks to adapt the ITA approach incorporating the Mirroring Project, to see if it is effective in improving the intelligibility of an international seminarian training to give homilies in NAE.

Methodology

Research Questions

Can the suprasegmental elements (pitch range, placement of prominence and pausing) and overall intelligibility of an international seminarian's presentational English be improved through an adapted mirroring technique? Again, intelligibility is defined here broadly following Derwing and Munro (2015) and Tarone and Meyers (forthcoming) as whether the listener can understand what the speaker says, and follows the aforementioned literature in how to measure intelligibility based upon the factors which most affect it, as opposed to using an intelligibility transcription test as seen in Munro and Derwing (1995), among others.

Participant

"Lawrence" is an international seminarian from Nigeria at one of the largest Diocesan-owned and -operated major Catholic seminaries in the US, located in the Midwest. He was

earning his M.Div at the School of Divinity and preparing to be ordained a transitional deacon. This means he had approximately two and a half years left of his studies and parish (practicum) work before being ordained a priest for a neighboring diocese of approximately 270,000 parishioners at the time the present study began. At the time of the study, he had been in the US for approximately 18 months.

Lawrence has a highly multilingual background. During the project, he self-reported his native language to be a “pidgin” English that was “highly influenced” by Igbo, a language spoken by his parents. Starting at age seven, he began learning English and French in school, and later Hausa in high school. All the while, he was learning Igbo from his parents and Yoruba from his friends and in social settings. At the time of the study in the U.S., he reported mostly using English in his daily life interacting with Americans, Igbo when calling home to Nigeria, and a “pidgin English” when talking with Nigerian friends in the US.

Lawrence had taken ESL courses at a nearby university before the present study took place, per recommendation by his superiors at his institution. He self-reported that these courses did not focus on pronunciation or oral skills, but mostly on grammar drills and decontextualized writing. He came recommended by several professors and staff who work with him closely after a recommendation from his ESL instructor: "recommendation is for [Lawrence] to continue meeting with a native English speaker who guides and monitors his English language progress for a minimum of one to three hours per week during his next semester at [his university]." While rich in content, Lawrence’s preaching was described as “monotone” and with “room for improvement” by his professors.

Pedagogical Treatment

Responding to this described need for improved intelligibility in his English preaching, the author taught Lawrence in a 10-week one-on-one tutorial intervention during the spring semester of 2017, using a pedagogical approach adapted from the Mirroring Project (Tarone & Meyers, forthcoming; Lindgren et al. 2003; Meyers 2013, 2014). Adaptations were made based on the participant's goals, the instructor's diagnostic assessment, and the participant's progress. Table 2 below outlines the focus of instruction during each week of the 10-week pedagogical project. As will be described in detail below, during the first 6 weeks, the pedagogical project featured two main components: instructor input focused on suprasegmental features of American English, public speaking, and culture, and a 'lab' component, focusing on Lawrence's speech production: a video recording of one of Lawrence's homilies, electronic review of elements of his speech and nonverbal patterns, language practice, and homily simulations. These recordings were analyzed perceptually and acoustically by the instructor on an ongoing basis, and then used throughout the 10 weeks as part of a process of feedback to the learner with visual aids of spectrographs from Praat¹ software (Boersma & Weenink, 2015). An adapted 'mirroring' project took place at the end of this pedagogical intervention, beginning in the 7th week of the pedagogical project. The mirroring project entailed selection of a recording of a speaking model, supervised practice in imitating that model, and 4 videorecordings of Lawrence's performances imitating that model, three of which were analyzed for this research project, and which will be described in detail in the Data Collection section below.

Table 2: *Ten-week Pedagogical Project, Final 3 weeks constituting the Mirroring Project*

Week	Description	Focus*
1	Initial meeting	Introduction of selves and of project

¹ Praat is a software program for phonetic analysis developed by Boersma & Weenink at the University of Amsterdam; the word "praat" is the imperative form of the verb "to speak" in Dutch. (Tarone, in press)

2	Initial recording (Time 1) Use of own, written homily in simulated environment.	Content, diagnostic. Introduction to rhythm in American English.
3	No meeting	Practice rhythm
4	Chose model	Intonation, rhythm, reductions
5	No meeting	Practice model segment with intonation and rhythm
6	No meeting	Practice model segment with intonation and rhythm
7	Mirroring Project Memorized recording (Time 2)	Thought groups, pausing
8	Mirroring Project Recording (Time 3)	Focus words, stress/prominence
9	No meeting	Practice model segment with focus words, stress/prominence, pausing, intonation, and rhythm
10	Mirroring Project Final recording (Time 4)	Review

* 'Focus' refers to the objective of the lesson or practice session administered by the instructor.

The pedagogical intervention largely followed Meyers' recommendations for implementing the mirroring approach (see the review of literature for the nine steps of the process).

Based on the research on intelligibility in L2 speech reviewed above, the focus of the first seven weeks of pedagogical time was spent on explicit instruction incorporating elements that most impact intelligibility. This included American English patterns of intonation, rhythm, thought groups/prominence, and pausing between thought groups. For these purposes, a thought group was defined as a discrete stretch of speech that expresses a single idea, forms a semantically and grammatically coherent segment of discourse, and is not separated by a noticeable pause. (Derwing and Munro, 2015; Celce-Murcia, et. al, 2010)

When it comes to nonverbal elements for the present study, differences between the practical context of Lawrence's monologic speech and that of ITAs affected the pedagogical treatment. Unlike the ITAs in previous Mirroring Project studies, Lawrence planned to use

written notes at a pulpit (or lectern) when delivering his homilies. In such a context, while some nonverbal elements of public speaking are clearly still important in this situation (eye contact and head movement primarily), other nonverbal elements used in the settings of ITAs and their models (classrooms, TED talks) were less relevant in this context. Nevertheless, eye contact and head movement, as well as gesture to a lesser extent were incorporated during the pedagogical treatment.

Recording 1 was made during the second meeting in Week 2 (Time 1). This was a simulated homily or “Micro-Preaching” in which Lawrence preached on the gospel reading from the preceding week at a pulpit in a local chapel to an audience consisting of a fellow seminarian, two local parishioners, and the instructor. As Tarone and Meyers (forthcoming) explain, this stage of the process should include a video recording in a social context that is as “authentic” and as close to the target communication situation as possible. Lawrence preached in a real chapel in front of a few parishioners, and an imagined audience of listeners. He had written the homily himself. This was not Lawrence’s first time ever preaching like this, as he had completed similar “micro-homilies” as part of a homiletics course the preceding semester. This recording was used as a diagnostic to evaluate his strengths and weaknesses in American English pronunciation, public speaking/preaching skill, and cross-cultural accommodation. Lawrence’s focus for this homily was on content (the week’s gospel reading, connecting to parishioners, etc.), and he wrote it for the parishioners at his teaching parish. Within his Time 1 video recorded homily (shown in Table 2 above), Lawrence included a lengthy quote from Martin Luther King, Jr.’s Christmas Sermon (1967) (See APPENDIX A), as it fit well with the other content of the speech. Since Martin Luther King Jr. (MLK) was a highly respected and acclaimed Christian preacher, and given that the participant had independently chosen this quote earlier, when the

Mirroring Project began in Week 7, the instructor suggested that MLK would be an appropriate model to use for the Mirroring Project. Lawrence agreed, and the instructor suggested using the quote from the Christmas Sermon that Lawrence had already used at Time 1. She found a recording of Martin Luther King Jr. delivering the Christmas speech, including the segment Lawrence was focused on. Unfortunately, this recording was not a video, but rather an audio recording with superimposed still photos of him. There was no video footage available of this speech. Lacking the video footage of Lawrence's model, Martin Luther King Jr., assuredly prevented a more authentic replication of Meyers' Mirroring Approach. For example, it inhibited mirroring of bodily nonverbal elements timed to coincide with prominent syllables, eye contact, and gesture. As described above, these elements were still incorporated into the pedagogical treatment, but were not able to be mirrored, given the circumstances.

In Week 7 (Time 2), Lawrence was required to memorize and video-record the Martin Luther King segment he produced at Time 1. The instructor and he then compared his performance of this memorized segment at Time 2 to his Time 1 performance reading the MLK quote (see Table 2). This comparison was used pedagogically to stress the importance of emotion, eye contact, head movement, and how marking one's notes can be a helpful strategy when presenting to an audience (See APPENDIX B and APPENDIX C). Lawrence gave the instructor his own perception and thoughts comparing his Time 2 video recording with the recording of MLK in terms of pausing, segmentals, suprasegmentals, volume, emotion, and overall speech style. After Lawrence provided his perspective, the instructor gave him feedback and strategies specifically on the areas they agreed needed the most improvement: suprasegmentals, pausing, and expressing emotion. Explicit instruction on 'marking' up a script to help signal pausing and prominence was then provided during the pedagogical treatment (See

Appendix C). This was done in steps beginning with thought groups and pausing. Thought groups had been explicitly taught during the first seven weeks of pedagogical treatment using co-construction and free practice. Since Martin Luther King had already been chosen as a model, his “I Have a Dream” speech was used as an example. Thought group boundaries were marked with single and double slash marks to signal a “short pause” or “long pause”, respectively:

I have a dream // that one day / this nation will rise up / and live out the true meaning of its creed // we hold these truths to be self-evident / that all men are created equal

Next, Lawrence was asked to identify and underline the “most important” words from the example segment. When one thought group had two important words, the more important of the two received double underlining (shown here in bold):

I have a **dream** // that one **day** / this nation will **rise** up / and live out the **true** meaning of its creed // we hold these truths to be self-evident / that **all** men are created equal

This was used to review the ways American English speakers stress important words: by making them louder, longer, and higher in pitch. Then, Lawrence was asked to identify which words from this example were least important. These were identified and re-written as follows, with smaller letters and by replacing vowels with a “ə”:

I have a **dream** // thət one **day** / this nation will **rise** up / ‘n live out the **true** meaning əv its creed // we hold these truths to be self-evident / thəd **all** men are created equal

This was a scaffolded introduction to linking and reduction of unstressed syllables. The discussion included how oftentimes, students of English find it more difficult to reduce unimportant words than to stress the important ones. However, when speaking American English, sounds change from their written form, especially when they are reduced (unimportant, not stressed): “and” turns into ‘n, for example. Lawrence was asked for examples of this he has

seen in the US, and quickly came up with several (“Mac ‘n Cheese”). We discussed how this happens all the time when what we really care about are the nouns. The example of “that all” was used to discuss linking. The words link together and the /t/ changes to a /d/, with the ‘thəd’ part softer, lower, and very short. This results in: “thədall”. The Time 3 recording was made after the scaffolded instruction on marking a script for the above elements (thought groups, pausing, prominence, reductions). During the three weeks between Time 2 and 4, Lawrence practiced his script both with the instructor and alone, using the model MLK video, the feedback from the instructor on his Time 2 and Time 3 videos, and his script marked for thought groups, pausing, prominence, and reductions before his final recording at Time 4 in Week 10.

Data Collection

As shown in Table 2, Lawrence’s speech was recorded four times during the 10-week period in order to inform instruction. The data from Time 3 was used to inform instruction, but not used for analysis. The remaining three recordings were used as part of the study – collected before (Time 1), during (Time 2), and after (Time 4) the mirroring project. Time 2 was used instead of Time 3 as Time 2 was recorded earlier, providing a substantial comparison of Lawrence’s development over time. More detailed information on those 3 data collection sessions will now be provided.

The model Lawrence focused on in Times 2, 3 and 4 was again an audio-recording, accompanied by still photos, of Martin Luther King Jr.’s Christmas Sermon (1967). This was the same quote Lawrence originally sought out and included in his own homily for his Time 1 recording, and no video footage was available of this specific sermon. In this original recording of Martin Luther King, Jr., the target quote lasts approximately 50 seconds. It was then used as the segment for Lawrence to mirror for the later data collection.

Lawrence's original micro-preaching from Week 1 was recorded using a Canon Vixia HF M300 video recorder. As described above, this was a simulated homily in which Lawrence preached on the gospel reading from the preceding week at a pulpit in a local chapel² to an audience consisting of a fellow seminarian, two local parishioners, and the instructor. For purposes of this study, Lawrence's Time 1 video recording was then trimmed to only include the Martin Luther King, Jr. quote (See APPENDIX A) that was to be the later focus of his mirroring project.

Recording 2 was completed in Week 7 (Time 2). This was Lawrence's first attempt to mirror the recorded MLK segment. Recording 2 was video recorded using the built-in camera on a laptop computer and the external microphone on a headset. The instructor was the only audience for Recording 2. (Recording 3, which is not included in this study, was made 7 days later in Week 8 (Time 3)). Lawrence's final recording (Time 4) was made during Week 10, three weeks after Time 2. Again, it was video recorded using the built-in camera on a laptop computer and the external microphone on a headset; the instructor was the only audience.

Data Analysis

Acoustic analysis. After all recordings were completed, they were trimmed and analyzed according to Table 3 below. As explained above, the recording of Time 1 was trimmed to only the MLK quote. The recordings of Time 2 and Time 4 were each comprised of only Lawrence mirroring that MLK quote. One specific segment of this quote occurring in all three time segments was isolated for further acoustic analysis, as described below.

Table 3: *Overview of what was recorded and analyzed from data collection*

² As explained in Data Analysis, the acoustic features of this chapel caused significant echo resulting in poor audio quality in the Time 1 recording.

Week	Recorded	Analyzed
2	Time 1	<ul style="list-style-type: none"> • Praat analysis of only MLK quote (~46 seconds)
	Entire homily	<ul style="list-style-type: none"> • In-depth analysis of “We shall match your capacity to inflict suffering by our capacity to endure suffering” (6.2 seconds)
7	Time 2	<ul style="list-style-type: none"> • Praat analysis of MLK quote (~48 seconds)
	MLK quote	<ul style="list-style-type: none"> • In-depth analysis of “We shall match your capacity to inflict suffering by our capacity to endure suffering” (6.6 seconds)
8	Time 3	None
	MLK quote	
10	Time 4	<ul style="list-style-type: none"> • Praat analysis of MLK quote (~54 seconds)
	MLK quote	<ul style="list-style-type: none"> • In-depth analysis of “We shall match your capacity to inflict suffering by our capacity to endure suffering” (6.6 seconds)

Table 3 presents an overview of learner speech segments collected and analyzed during the 10-week project.

In order to investigate the first part of the research question, related to the suprasegmental elements of Lawrence’s speech, the audio of the three recordings of the MLK quote (Times 1, 2, and 4) was analyzed acoustically using Praat software (Boersma & Weenink, 2015) for elements most crucial to intelligibility. Praat is a computer software package designed by phoneticians for the analysis of speech. It allows researchers to record, view, edit, manipulate, and analyze speech samples on a spectrogram and in waveform, isolating variables such as pitch, intensity, and vowel formants. Figure 2 below provides an example showing what a Praat display of an unrelated segment of MLK’s speech would look like.

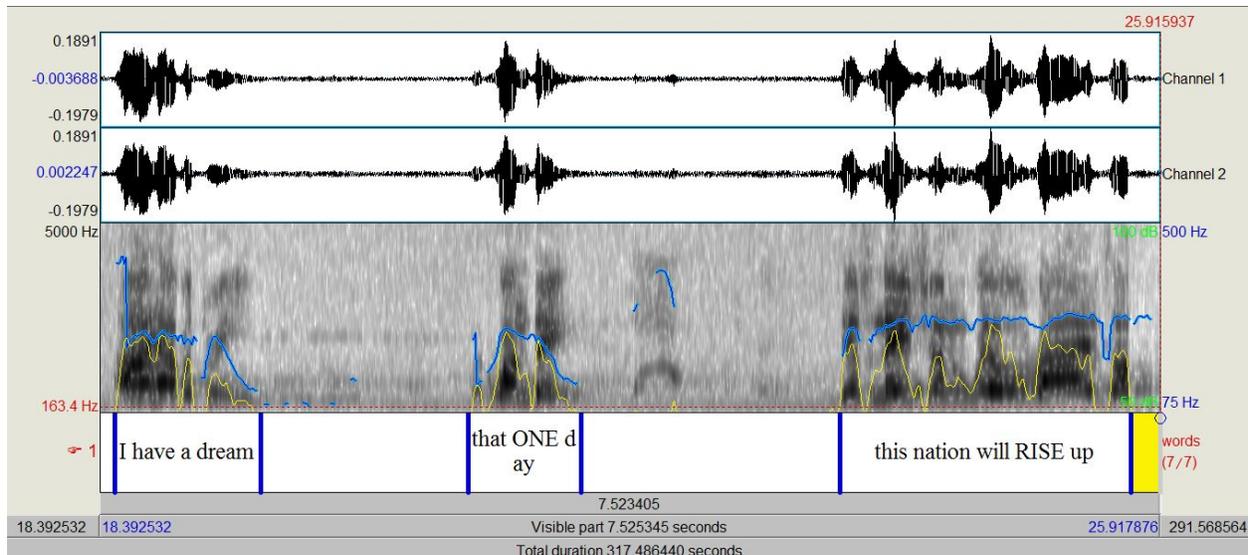


Figure 2: Example Praat Display of Martin Luther King, Jr.'s "I have a Dream" Speech.

The waveform display (top) shows the time-varying amplitude of a speech sample with large peaks pointing upward and downward indicating loud vowels, and flat parts along the flat line of fundamental frequency (F_0), or pitch indicating silences or absence of sound. (For a detailed guide to reading Praat visuals, see Tarone & Meyers, forthcoming or Derwing & Munro, 2015) Prominence can be measured and analyzed in various ways using this software.

For the present study, in order to examine the suprasegmental elements of pitch range and prominence in the data samples selected for analysis, the intensity and pitch features were used in the editor menu. First, recordings for Times 1, 2, and 4 were converted to .wav files and viewed using these functions of Praat. For each recording (time), overall parameters of pitch (frequency) and the time in seconds it took for Lawrence to complete the quote were calculated. This was calculated from the moment Lawrence began the MLK quote (see Appendix A), to the moment he completed it.

The pitch track setting in Praat was also used to show the maximum, minimum, and mean pitch, from which the pitch range was calculated. It has been "well-established" that restricted

pitch range may adversely affect the comprehensibility of learners of English (Mennen, 1998; Pickering, 1999, 2004; Wennerstrom, 2000; Kang, et al, 2010, p. 563), and pitch range was stressed by Pickering (2004) as key to improving comprehensibility. It is for these reasons that pitch and pitch range were chosen as part of the acoustic analysis for the present study, and given that the use of visual pitch displays has been demonstrated to be effective pedagogically (e.g. de Bot & Mailfort, 1982; Hardison, 2004). While using an authentic setting like the chapel where Time 1 recording took place was deemed important, the echo and acoustic features of said chapel and the lack of an external microphone, caused too poor of audio quality to be able to analyze the entire recording for pitch. Nevertheless, the features of pitch at Time 1 were analyzed within the shorter utterance of Excerpt (1) as detailed below.

In addition to the overall analysis of time and pitch, an in-depth acoustic analysis using Praat waveform displays was carried out of one utterance, chosen out of each speech sample, as one which was especially troublesome for Lawrence throughout the project. That utterance, produced at Times 1, 2 and 4, appears in Excerpt (1).

(1) “We shall match your capacity to inflict suffering by our capacity to endure suffering.”

This segment spans 9.96 seconds in the original video of Martin Luther King, Jr.’s video of the sermon, and was selected for analysis because the researcher/instructor felt it demonstrated the primary areas needed for improvement for Lawrence during the project: pausing/speaking rate, prominence (including contrastive stress), and emotional expressiveness. Contrastive stress, or highlighting a particular word with stress in order to signal a contrast or contradiction, is often something new and problematic for learners of English as many languages do not use it the way English does. (Derwing & Munro, 2015) In the selected segment of speech, clear use of contrastive stress is used by the model in a famously paradoxical claim about Christian love.

Because of this paradox, the prominence lies on the words *inflict* and *endure*, as opposed to the final word of the thought group, *suffering*, as might be assumed given the typical pattern in English of placing it on the last content syllable (Derwing & Munro, 2015). Finally, given this famously paradoxical claim (and the sociopolitical, violent nature of the context of the original sermon) this segment features powerful emotive qualities by the model speaker, Martin Luther King, Jr. Given the distinctive feature of contrastive stress, the chosen segment lends itself well to in-depth prosodic acoustic analysis. The segment features two thought groups, lending itself to easily analyze pausing between contrasting thought groups using the waveform display in Praat.

For this in-depth analysis of the shorter utterance seen in Excerpt (1), the intensity track setting in Praat was used additionally to find the maximum, minimum, and mean intensity, from which the intensity range was calculated. Intensity corresponds to the amplitude of the speech on the waveform display and the dark areas where acoustic energy is concentrated as seen on the spectrogram. It is measured in dB, and is useful for identifying prominence, as the stressed words of an utterance are indicated with darker areas of the spectrogram and larger waves on the waveform display. Stress is generally understood to be communicated through pitch (most important), length, and loudness (Chun, 2002, p. 5). This helped identify which words Lawrence stressed, how much, and the overall range of stress in his utterances.

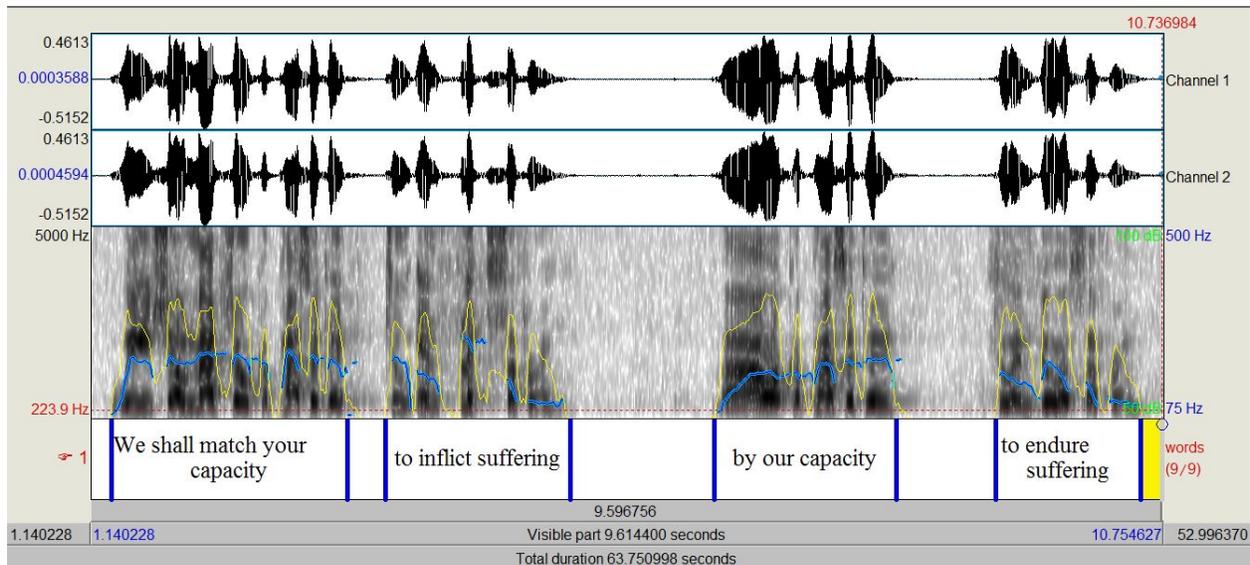


Figure 3: Martin Luther King, Jr.'s original quote, Praat Analysis.

Perceptual analysis. In addition to the acoustic analysis of pitch and intensity, a perceptual analysis of the overall intelligibility of these recorded data was also carried out. In applying a perceptual analysis to these data, the researcher watched and listened to Lawrence's three speech samples (Times 1, 2, and 4), identifying thought groups, prominence, and patterns of intonation in relation to his intelligibility. Nonverbal elements of eye contact, head movements, and facial expression were also noted to a lesser extent in relation to how Lawrence assigned prominence as these have been known to affect intelligibility (Tarone & Meyers, forthcoming). Furthermore, while contrastive stress was noted acoustically by locating the maximum stress within the segment, it was also analyzed qualitatively by the instructor by listening and noting the prominence in each thought group. In addition, a comprehensibility judgment task was completed to further assess Lawrence's improvement. Again, following Munro and Derwing (1995), Derwing and Munro (2015), Lane (2015), and Tarone and Meyers (forthcoming), comprehensibility is understood to be the ease with which listeners can understand the message being communicated (how much does the listener have to work to figure

out the meaning?). Because the researcher is also a teacher of English as a Second Language with extensive experience working with English learners and speakers of other varieties of English in a professional setting, it was deemed that the perceptual evaluation of the researcher alone was not necessarily indicative of that of Lawrence's authentic audience and future listeners in his context. A Likert scale similar to that used in Munro and Derwing (1995) was used to assess Lawrence's comprehensibility at Time 2 and Time 4 with a more authentic current or future audience of listeners.

Comprehensibility is defined as the ease with which a listener can understand a speaker's overall message, and requires a listener to rate it. In contrast to intelligibility which could be tested by whether a listener can transcribe the words being said, comprehensibility involves how much work a listener has to do to figure out the meaning behind the words. For this reason a rater judgment task of Lawrence's speech was used. Lawrence was working in a teaching parish largely homogenous in ethnicity, race, educational background, and socioeconomic status. He was also preparing to serve as pastor in a diocese that would likely place him in a rural parish whose population would probably not resemble the instructor/researcher. Therefore, a comprehensibility judgment task was completed using two groups of raters from the researcher's own personal networks of family and friends who were selected to be more representative of Lawrence's future audience than one experienced language teacher with graduate study in phonology and second language acquisition

Demographic data was collected from each rater participant, from which language learning background, experience with learners of English, and language teaching experience were determined. Raters were then selected or disqualified based on this background information. The selected raters used for the study were geographically from the same or nearby

diocesan area as Lawrence's future parish. They varied in age from 21 to 71, all identified as White, monolingual English speakers, and the maximum foreign language coursework any one had taken was four college semesters. Their educational background ranged from 'less than a high school diploma' to a completed bachelor's degree. None had any immersion experiences abroad (though some had vacation and English-medium study in Europe), and all self-reported that they had "limited experience with non-native speakers of English" (defined as maybe 1 or 2 people in casual/friendly environments). None of the raters had any experience teaching language in any context nor had they received phonological training in any language. The researcher selected these raters to help provide multiple perspectives on Lawrence's speech data from Time 2 and Time 4, and to provide the dimension of perceived comprehensibility to the analysis, as Munro and Derwing (1995) demonstrated.

The selected raters were divided into two separate groups. The first group of six raters listened to and rated only the clips from the Time 2 recording. The second group of seven raters listened to and rated only the clips from the Time 4 recording. Therefore, no single rater ever listened to both Time 2 and Time 4 recordings. This was done so raters were not primed having already listened to the same segment by Lawrence, but were rating based upon their first time hearing this speech.

The ratings were completed using an online google form (See Figure 4), in-person and over the phone. For raters available in-person, the form was completed by the researcher sitting with the rater, transcribing and selecting their responses for them, while they listened to the audio using a headset. For those unavailable to meet in-person, the researcher spoke with them over the phone or through Google hangout while they completed the form remotely. This insured that they followed the instructions carefully, including only listening to each audio clip

once. The form walked raters through the process of preparing to hear recorded speech, listening to the speech, and rating it on a five-point Likert scale of how easily they could understand the message being communicated (see Figure 4 below). The instructions read as follows:

You will listen to the following segments of speech from a Martin Luther King Jr. sermon, spoken by a seminarian training to give homilies.

After listening to each segment, please rate how well you can understand the message of the segment on the following scale.

You will only hear each segment once. Please be sure that your surroundings are quiet, and your audio is working properly on your device.

Then, the rater advanced to a separate page in which they could listen to the audio from their device. At this point, the audio recordings were presented in three different clips on three different pages, so each rater listened to an isolated clip from the speech sample, rated it, then listened to another clip, rated that one, and repeated a third time with a different clip. The excerpt was split as follows:

Clip 1: “to our most bitter opponents, we say / we shall match your capacity to inflict suffering / by our capacity to endure suffering”

Clip 2: “we shall meet your physical force / with soul force // do to us what you will / and we shall still love you”

Clip 3: “throw us in jail / and we shall still love you // bomb our homes and threaten our children / and we shall still love you // send your hooded perpetrators of violence into our communities at the midnight hour / and beat us and leave us half dead // and we shall still love you

Segment 1

Please listen to this segment of speech and rate how understandable this was. Could you understand what he was saying?

segment 1



How understandable was this segment? Could you understand his message? *

	1	2	3	4	5	
Not at all understandable (I don't know what he was trying to say)	<input type="radio"/>	Very (I understood completely)				

BACK **NEXT**

Figure 4: A page from the rater form used in comprehensibility judgment task. This figure features a page used in the comprehensibility judgment task device, in which each rater listened to an isolated clip of the speech segment and rated it on a five-point Likert scale.

Mean scores were calculated for each item rating at Time 2 and Time 4, and these means were compared.

Results

Acoustic Analysis

A comparison of time and pitch analyses of Lawrence's quotation of MLK in his homily produced at Times 1, 2, and 4 (see Table 4 below) showed an overall lengthening of time it took Lawrence to produce the same quote, from 45.58 seconds, to 47.48 seconds, to 53.81 seconds, respectively. This suggests that Lawrence was slowing down, pausing between thought groups, and lengthening his stressed syllables. This is further supported by Figures 5 and 6 below which provide visual evidence that he was employing these tactics and not others that would also result in longer time to produce the same utterance, but would not improve intelligibility (e.g. lengthening all syllables equally). Furthermore, his overall pitch range increased by 137.7 Hz, or 52 percent from Time 2 to his final recording in Time 4. In accordance with the teaching objective, this is evidence of improving intelligibility.

Table 4: *Comparison of Time and Pitch of the MLK Speech Sample*

Entire recording (of MLK speech only)			
	Time 1	Time 2	Time 4
Time (seconds)	45.58	47.48	53.81
Max pitch (Hz)	*	363.54	498.14
Min pitch (Hz)	*	99.96	96.85
Pitch range (Hz)	*	263.59	401.29

*As explained in Data Analysis, because of the echo in the chapel in which Time 1 took place and the lack of an external microphone, the audio quality was too poor to analyze the rest of the recording for pitch.

Table 4 displays a comparison of these prominent features (time and pitch levels) among Times 1, 2 and Time 4, of Lawrence's quotation of the MLK segment (See Appendix A for transcript).

Comparison of in-depth analyses (utterance seen in Excerpt (1)). As described in Data Analysis, one specific utterance from the MLK quote was chosen for further acoustic analysis within each recording. Table 5 below compares the total time, measured in seconds, and the levels of pitch and intensity, used to produce this utterance, as seen in Excerpt (1) at the beginning of his mirroring project (Time 1), during (Time 2) and at the end (Time 4) at which time he focused on emulating the suprasegmental features, pauses, and emotions of Martin Luther King, Jr.

Table 5: *Comparison of Time, Pitch and Intensity Produced at Times 1, 2 and 4 of Lawrence’s Mirroring Project*

	Time 1	Time 2	Time 4
<i>“We shall match your capacity to inflict suffering by our capacity to endure suffering”</i> utterance			
Time (seconds)	6.2	6.6	7.9
Mean pitch (Hz)	141.54	142.43	128.39
Max pitch (Hz)	171.89	180.60	195.51
Min pitch (Hz)	126.58	114.91	94.91
Pitch range (Hz)	45.31	65.69	100.60
Mean intensity (dB)	53.71	63.05	61.98
Max intensity (dB)	62.08	74.73	76.80
Min intensity (dB)	44.03	27.62	26.81
Intensity range (dB)	18.05	47.11	49.99

As seen in Table 5, the amount of time it took Lawrence to produce this utterance increased from Time 1 to 2, and again from Time 2 to 3, from 6.2 seconds, to 6.6 seconds, and 7.9 seconds, respectively. As with the overall speech sample in Table 4, this suggests that Lawrence was slowing his speech, increasing his pauses between thought groups, and

lengthening his stressed syllables, all of which improve intelligibility. To verify this, measurements are shown below.

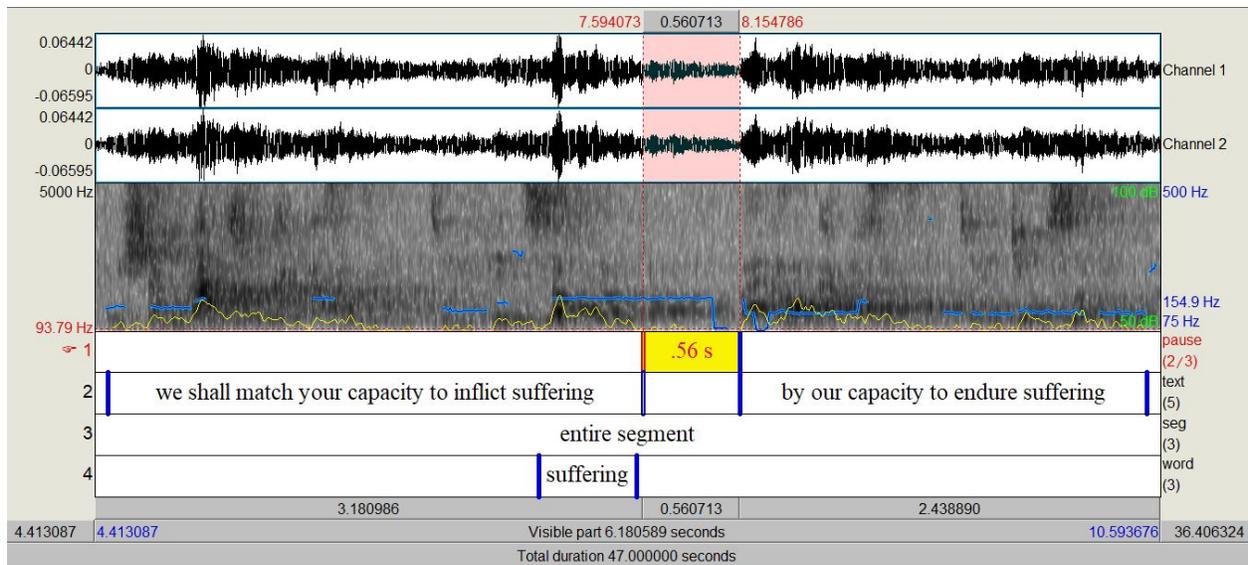


Figure 5: Length of pause between thought groups at Time 1

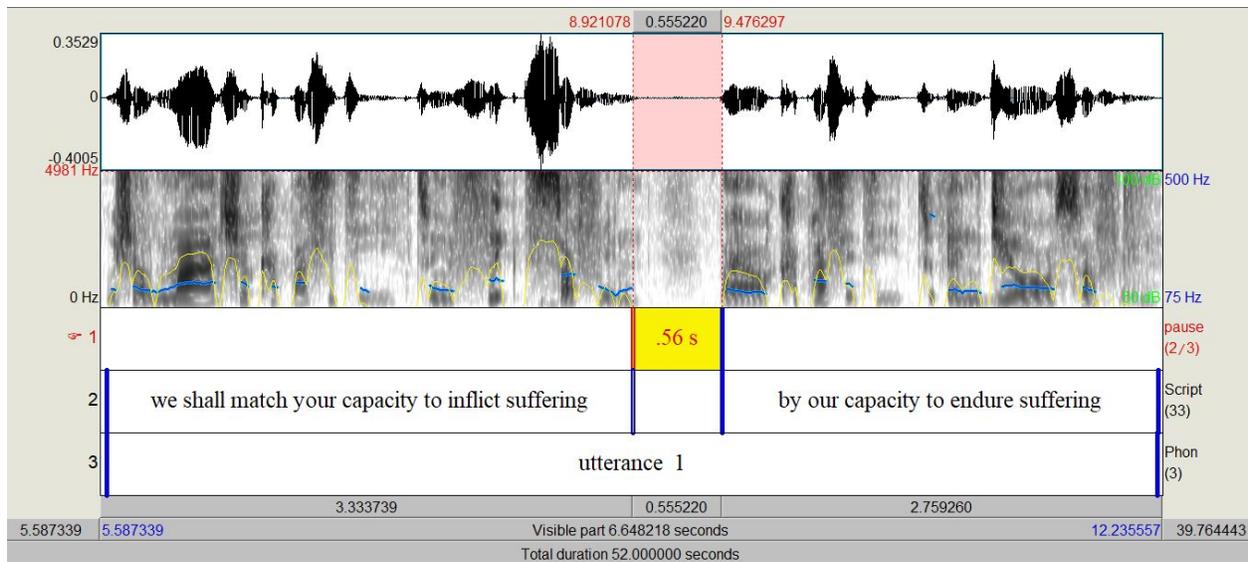


Figure 6: Length of pause between thought groups at Time 2

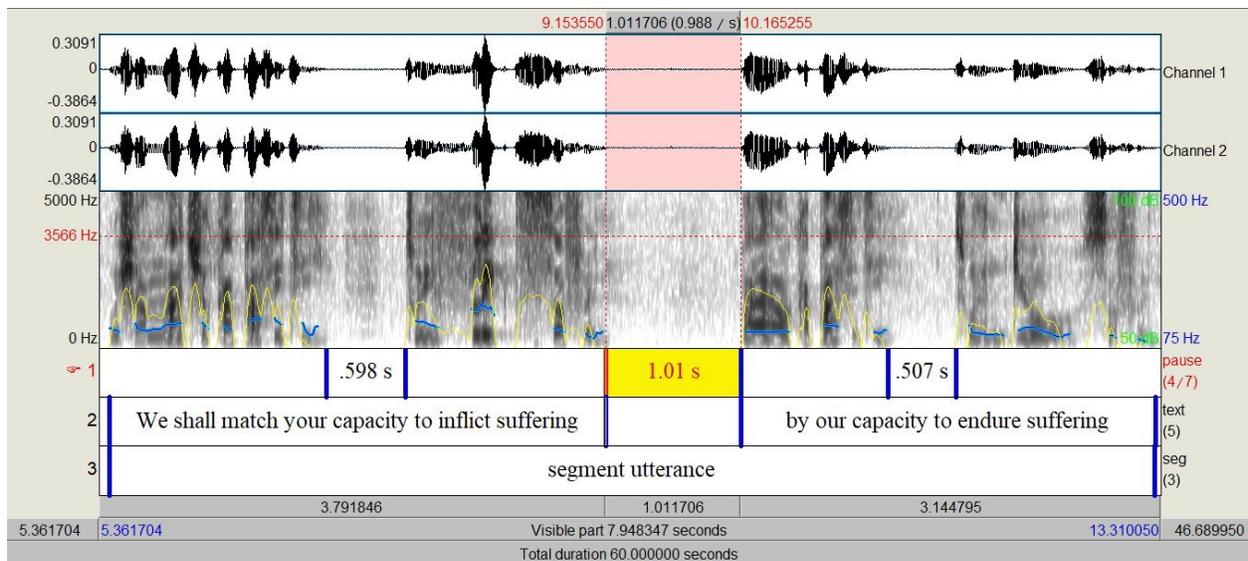


Figure 7: Length of pause between thought groups at Time 4

As shown in table 6 below, the length of pausing between thought groups increased only from Time 2 to Time 4. This means Lawrence's pausing between thought groups increased, not after more traditional form-focused bottom-up instruction, but after the focus was on a more top-down mirroring of thought groups and pausing. Table 6 also shows, with regard to vowel length, Lawrence showed the greatest increase in the length of the stressed syllable of the focus word *inflict* between Time 2 and Time 4, when mirroring was used. He did show a steady increase in vowel length of the stressed syllable in *endure* from Time 1 to Time 2 and again from Time 2 to Time 4.

Table 6: *Measurements of lengths between thought groups and vowel length in stressed syllables at Times 1, 2, and 4.*

	Time 1	Time 2	Time 4
Length of pause between thought groups (seconds)	.56?	.56	1.0117
Length of vowels in stressed syllables (seconds) ³	Inflict: .06 Endure: .20	Inflict:.07 Endure: .36	Inflict: .16 Endure: .53

Beyond these features, from Time 1 to Time 4, Lawrence’s maximum pitch increased by 23.62 Hz, his minimum pitch decreased by 31.67 Hz, resulting in his pitch range increasing by 55.29 Hz, or 122 percent. His intensity range also increased from Time 1 (18.05) to Time 4 (49.99) by 31.94. dB, nearly tripling.

Praat analysis of Time 1: MLK utterance in Micro-Preaching. At Time 1, Lawrence was recorded delivering an entire homily which he had written himself, and which included the Martin Luther King, Jr. quote from APPENDIX A. The segment of that quote analyzed here appears in Excerpt (1).

³ Praat was used to measure these lengths. For “inflict”, the vowel was measured from after the lateral /l/ to before the stop /k/. For “endure”, Lawrence used an affricate /dʒ/ before the /ʊ/ and a vowel-like rounded approximate /r/ after. Therefore, the measurement was taken from after the affricate /dʒ/ to before the fricative /s/ that begins the following syllable in “suffering”.

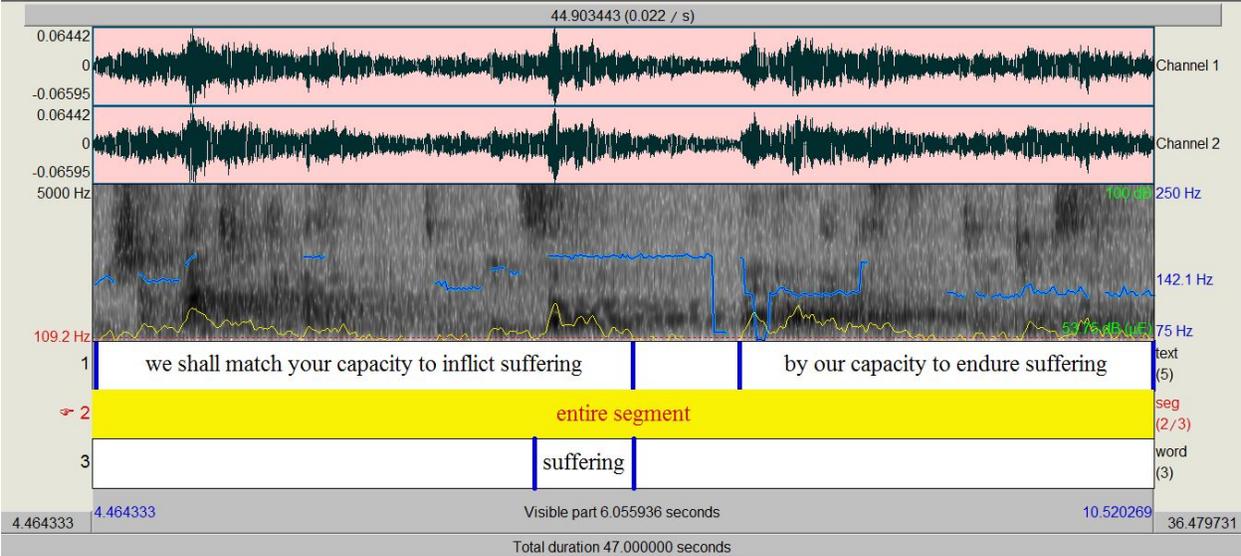


Figure 8: Lawrence’s Micro-Preaching MLK Utterance at Time 1, Praat Analysis. This figure shows the Praat analysis of pitch, measured in Hz and intensity, measured in dB, of this utterance from Lawrence’s micro-preaching recording at Time 1.

Again, it is more difficult to identify pauses in this analysis due to the acoustic environment and substantial echo in the chapel.

Table 7: Pitch and Intensity Levels of Lawrence’s Micro-Preaching MLK Utterance at Time 1

(1) “We shall match your capacity to inflict suffering by our capacity to endure suffering.”		
	Pitch (Hz)	Intensity (dB)
Mean	141.54	53.71
Max	171.89	62.08
Min	126.58	44.03
Range	45.31	18.05

Table 7 shows the specific levels of pitch and intensity used to produce the utterance.

In-depth analysis of Time 2: Trial mirroring. At Time 2, Lawrence was recorded delivering his trial version of the mirroring project (memorized). The same utterance in Excerpt (1) was again analyzed acoustically.

(1) “We shall match your capacity to inflict suffering by our capacity to endure suffering.”

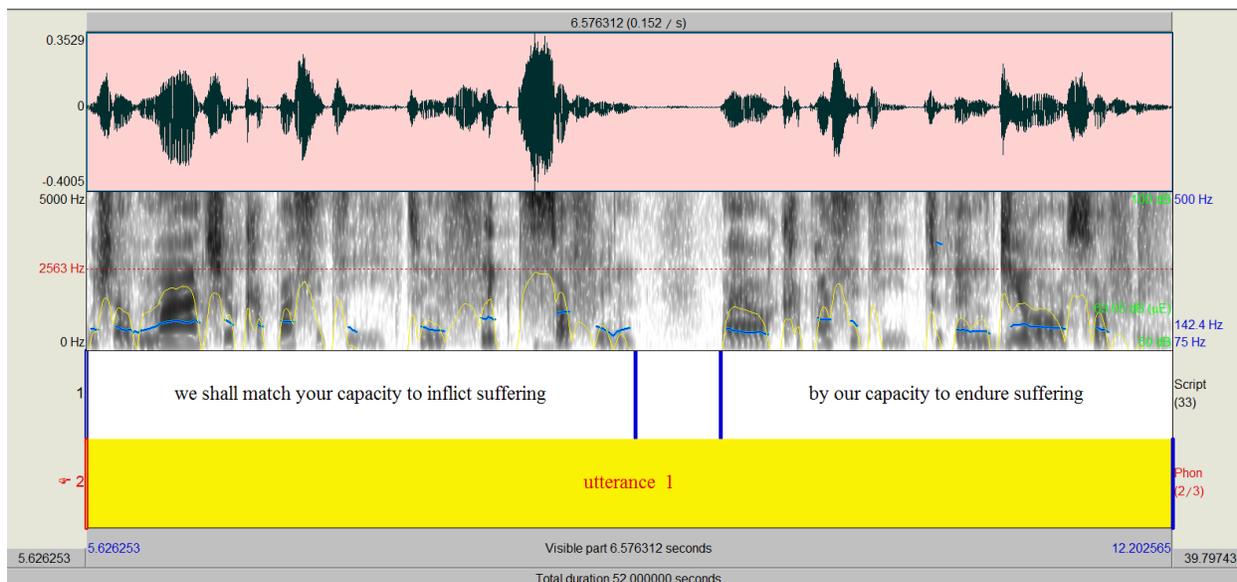


Figure 9: Lawrence’s trial mirroring sample at Time 2, Praat Analysis. This figure shows the Praat analysis of pitch, measured in Hz and intensity, measured in dB, of this utterance from MLK in Lawrence’s Time 2.

Table 8: Pitch and Intensity Levels of Lawrence’s Trial Mirroring at Time 2 (segment)

(1) “We shall match your capacity to inflict suffering by our capacity to endure suffering.”		
	Pitch (Hz)	Intensity (dB)
Mean	142.43	63.05
Max	180.60	74.73
Min	114.91	27.62
Range	65.69	47.11

Table 8 shows the specific levels of pitch and intensity used to produce the utterance at Time 2.

In-depth analysis of Time 4: Final mirroring. Lawrence recorded his final version of the mirroring project at Time 4. The same utterance of MLK was analyzed.

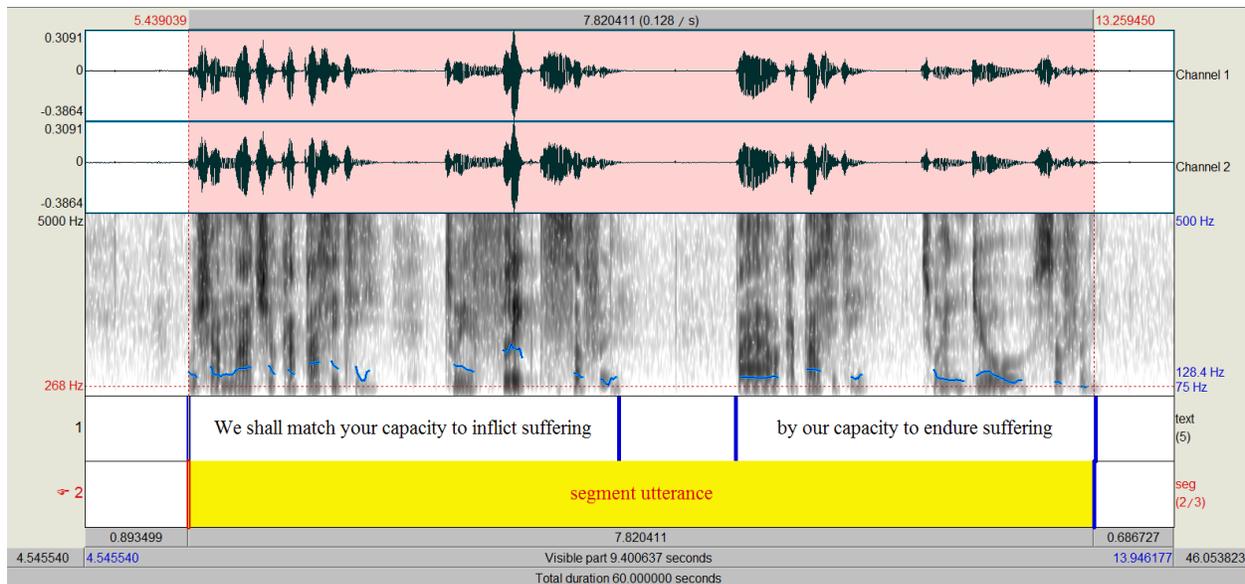


Figure 10: Lawrence’s final mirroring project recording at Time 4, Praat Analysis. This figure shows the Praat analysis of pitch, measured in Hz and intensity, measured in dB, of this utterance from MLK in Lawrence’s final recording at Time 4.

Table 9 shows the specific levels of pitch and intensity used to produce the utterance.

Table 9: *Pitch and Intensity Levels of Lawrence’s Final Version of Mirroring at Time 4 (utterance)*

(1) “We shall match your capacity to inflict suffering by our capacity to endure suffering.”		
	Pitch (Hz)	Intensity (dB)
Mean	128.39	61.98
Max	195.51	76.80
Min	94.91	26.81
Range	100.60	49.99

Results of Perceptual Analysis

Instructor judgment. At Time 1, his instructor judged Lawrence as having excellent oral fluency and pragmatic competence, and being highly intelligible when speaking in an interpersonal one-on-one context. However, immediately upon beginning his homily at the pulpit in the chapel for the recording of Time 1, Lawrence became noticeably less intelligible, especially in using suprasegmentals to clearly signal thought groups and convey prominence. When delivering his entire homily at Time 1, he sounded flat and monotonous. Though his overall volume levels were audible, the lack of prominence, made it often difficult to gauge what was most important, and to stay attentive for the entire nine-minute homily. His nonverbals showed a lack of confidence in his infrequent eye contact and somewhat stooped posture in reading from his notes (see Image 1 below).



Image 1: Lawrence's body movement at Time 1 shows a lack of confidence in posture and gaze.

At Time 2, focusing on his first attempt to mirror Martin Luther King, Jr.'s quote, Lawrence clearly had improved upon his use of suprasegmentals. He reduced function words such as “by” and “to”, stressed content words such as “homes” and “children” by producing them at a higher volume and pitch and lengthening the vowels, and he demonstrated some instances of blends⁴ such as “perpetrator[zəv]iolence” after spending weeks practicing rhythm of American English. This made a noticeable difference in his intelligibility. Nevertheless, Lawrence still produced many of the content words with equal prominence, instead of highlighting new or important information. In the first half of the MLK utterance, he noticeably stressed *suffering*, instead of *inflict*, incorrectly using contrastive stress. He also did not pause

⁴ Blends and linking are terms used in teaching English pronunciation to refer to features of North American English. They occur when a speaker joins the last sound of one word to the first sound of the next, such as “this evening” in which the /s/ sound is shared by both words. It is considered to be an important aspect of intelligibility and the reduction of foreign accent when speaking NAE.

nearly as long in between thought groups as Martin Luther King, Jr. does, making it sound a little too fast for overall comprehensibility. As a result, there was still room for improvement at Time 2.

By Time 4, the most noticeable improvement in Lawrence's speech was in his delivery of thought groups. The pauses between thought groups were long enough to allow the listener to process what has been said and identify the message. Secondly, he correctly used contrastive stress in the selected MLK utterance. This made a very noticeable difference in intelligibility. His pitch range was noticeably wider, evident in his prominence. His emotion was noticeably more believable. For example, when he said, "bomb our homes and threaten our children," his pitch range was perceived as much more varied, especially in the word "children" in which his pitch was noticeably higher. Praat acoustic analysis shown in Figure 10 above was consistent with this perceptual analysis. His nonverbals show an increase in confidence with posture, eye contact, head movement and use of his hands (see Image 2 below).



Image 2: “We shall MATCH your capacity...” at Time 4. Lawrence’s nonverbals show more confidence in improved posture, consistent eye contact, and movement of head and hands at Time 4.

Raters’ judgment task. For the raters’ judgments of Lawrence’s comprehensibility, recall that six raters’ responses were compiled for the recording of Time 2, and another seven raters’ responses were compiled and averaged for the recording of Time 4. Table 10 below displays the results of the rater judgment task. Overall, they appear to rate Lawrence’s comprehensibility as better in Time 4 than at Time 2.

Table 10: Compiled averages of raters scores of comprehensibility task

	Clip 1	Clip 2	Clip 3	Average (mean)
Time 2	3.17	3.3	4.17	3.55
Time 4	4	4.57	4 ⁵	4.19
Difference	+.83	+1.27	-.17	+.64

Discussion

This study provides evidence that a pedagogical approach modeled after Colleen Meyers' pedagogy with ITAs was an effective tool to help one international seminarian improve the intelligibility of the presentational English he used in his homilies. It did so in a relatively short amount of time. His intelligibility improved through lengthening pauses between thought groups, increasing stress (length, loudness and pitch) on focus words, and reducing function words in discourse. As seen in both the acoustic and the perceptual analysis of a short segment of mirrored speech, Lawrence was able to improve these suprasegmental features using biofeedback from Praat readouts and mirroring the voice of MLK in delivering a sermon.

While this approach had earlier been shown to improve intelligibility within the ITA context, it had not yet been used in the context of international seminarians learning to preach in a liturgical setting. This study shows the Meyers' pedagogical approach to ITA training could also successfully improve an international priest's intelligibility in delivering homilies in a second language or language variety. In this way, it holds potential to improve acculturation and

⁵ It is not entirely conclusive why comprehensibility judgment ratings went down for Clip 3 of the Time 4 recording, but as shown in DATA ANALYSIS, Clip 3 was twice the length of Clip 1 or 2, and featured longer, more advanced vocabulary, such as "perpetrators of violence" which could have contributed to this change. Furthermore, Martin Luther King, Jr. produces this part more quickly and with more emotion in his original sermon, which Lawrence was trying to emulate in his mirroring at Time 4.

language training for a wider audience of new and experienced international seminarians and priests in the US in response to this growing need.

During the pedagogical treatment of this study, Lawrence was asked for feedback on the process and commented on what he may or may not use to prepare differently for homilies in the future. He specifically said that he appreciated the way we practiced marking a script (see Appendices B and C for examples). He said he planned to mark up his script the way we had done together by double-spacing the text, marking for pausing using single slash brackets (/) for short pauses and double slash brackets for longer pauses (//), marking stressed content words with underlining, and marking reduced function words.

Of course, language-focused pedagogy study using biofeedback in the form of Praat readouts and mirroring of an intelligible speech model to improve intelligibility is only one piece of the puzzle in improving communicative competence in another language. But it may be a worthy addition to the acculturation training for international priests already being provided by some US dioceses. A complementary resource for this training is also recommended: a video library of highly intelligible priests delivering homilies. These priests should ideally represent a wide range of linguistic backgrounds, including multilingual international priests as well as local monolingual English-speaking priests. This variety of models will demonstrate the variability of what is intelligible when it comes to preaching in English to the IP or seminarian, and provide many options for potential models to mirror. I suggest this as a national resource available to any (arch)diocese or eparchy seeking to better support their international priests in effective homiletics.

Additional strategies could also be helpful to raise international priests' awareness and elicit feedback on intelligibility at the parish level. For example, international priests could give

a brief, open invitation to parishioners to meet to discuss the homily immediately following mass, or more formal focus groups could be held after mass in which parishioners and priest could openly discuss any aspects of the homily that were not intelligible. Any focus groups held should be carefully facilitated in a way that encourages the IP as opposed to focusing on problems which may actually threaten the IP and make him more resistant to change. Anonymous written feedback could also be elicited by providing notices with pens and paper in a public space of the parish building.

Parish intervention initiatives such as these could serve two purposes. First, they could help to build a better relationship between the parishioner (listener) and the priest. This is crucial for developing empathy, which in turn could help make language ego boundaries more permeable (Guiora, 1972) and increase the likelihood that the IP will adopt pronunciation features of his parishioners. Getting to know the IP could break down the power dynamic (seeing him as a real person as opposed to just an authority figure), and could help encourage parishioners to be more willing to work to listen for comprehension during homilies, as opposed to being “resistant to making the effort to understand these [international] priests” (Hoge & Okure, 2014, p. 52), as is sometimes the case in US parishes. Beyond establishing relationships, direct (or indirect) feedback could help the priest raise his awareness of and sensitize him to his own linguistic and semiotic patterns when preparing for and delivering future homilies. This in turn could increase the likelihood that he will improve his intelligibility over time.

Given the importance of building relationships and interacting more outside of the setting of the mass, even casual gatherings with the international priest not necessarily related to his homilies or public speaking ability should also be encouraged, especially when the IP is first assigned to a new parish. This type of “Get-to-know-you” night with the priest could be

proposed as open to all during which anyone could ask the priest questions. These ideas for parish intervention strategies are by no means exhaustive or meant to be the answer for every parish; they are offered as a first step in getting *everyone* in the life of the parish involved in supporting their international priest and assisting him in building a community together.

Limitations

One limitation of this study is the use of only one learner as a participant. While this shows that the approach worked with one international seminarian, it is important to determine whether it would work for other IPs. Further studies should seek to replicate the Mirroring Project especially with speakers of other first language varieties such as Spanish, Vietnamese, Tagalog, and Polish, and from other cultural backgrounds representing the demographics of current international priests and seminarians in the US (Hoge & Okure, 2014).

A second limitation is that the MLK sermon used as a model was not video-recorded; only audio recordings were available of the sermon Lawrence chose for his model. Videos were centrally important in Meyers' study to show ITAs how the Mirroring Project model used nonverbal patterns of communication to improve intelligibility. This focus on nonverbal patterns is a key piece of the Mirroring Project (Tarone & Meyers, forthcoming). Being able to mirror these is only possible with video, not audio alone. Future studies should make every attempt to include video footage for the identity model and implement nonverbal mirroring as part of the participant's pedagogical treatment.

A third limitation of this study is that the IP did not select his own model for the Mirroring part of the pedagogical treatment; rather, the researcher selected MLK as a model for the IP to emulate after he chose an MLK quote on his own. It would be better to offer the IP a range of models of priests giving homilies, as part of his own model-selecting process. As

recommended in Discussion, providing a variety of videos featuring priests giving homilies would also allow the learner to see that intelligible homilies can look and sound substantially different from one another while still being intelligible and effective.

A final limitation is that the study did not show whether Lawrence generalized the suprasegmental improvements he made to the MLK quote, to any of his subsequent homilies. More research is needed to determine how much the overall intelligibility of his homilies improved following the instruction he received.

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Appendix A

Transcript of Lawrence's Speech Segment (adapted from Martin Luther King, Jr.'s Christmas Sermon (1967))

To our most bitter opponents we say: 'We shall match your capacity to inflict suffering by our capacity to endure suffering//

We shall match your physical force / with soul force//

Do to us what you will / and we shall continue to love you//

Throw us in jail / and we shall still love you//

Bomb our homes / and threaten our children / and we shall still love you//

Send your hooded perpetrators of violence into our communities at the midnight hour / and beat us / and leave us half dead and we shall still love you//

Appendix B

Marked transcript of speech segment after Time 2

(pause)

To our most bitter opponents we say: 'We shall match your capacity to inflict suffering by our capacity to endure suffering. We shall meet your physical force with soul force. Do to us what you will, and we shall continue to love you... Throw us in jail, and we shall still love you. Bomb our homes and threaten our children, and we shall still love you. Send your hooded perpetrators of violence into our community at the midnight hour and beat us and leave us half dead, and we shall still love you....

indict
physical

Appendix C

Example of "Marking" of transcript from pedagogical treatment

