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## Efficacy of Accent Modification Training for International Medical Professionals

### Abstract

International medical graduates (IMGs) comprise 26% of the U.S. physician work force. While IMGs bring all their knowledge and expertise, their pronunciation and intonation patterns often become a barrier in their ability to be understood. This breakdown in communication can affect physician-patient or physician-staff understanding and hence patient care. This study assessed the efficacy of an accent reduction program provided to IMGs and international medical researchers (IMRs) to address these communications problems. A pre and post course self-evaluation by the 82 participants, a pre and post audio-tape assessment by the course instructor, and a pre and post videotape assessment by two independent observers all pointed to significant improvement in their abilities to pronounce words distinctly, stress words or syllables more accurately and use body language/facial expressions appropriately. The results suggest that appropriate and focused training directed at improving the communication skills of non-native English speakers is highly effective.

### Keywords

accent modification, international medical graduates, foreign medical graduates, intercultural communication, patient satisfaction, English as a second language

## Introduction

Communication skills are not an optional extra in medical training. Without appropriate communication skills, all our knowledge and intellectual efforts can easily be wasted.

— Kurtz, Silverman, & Draper 2004

Healthcare workplaces in the United States are becoming increasingly diverse. International medical graduates (IMGs) constitute a critical and growing component of the US physician workforce, accounting for 26% of the total, a highly significant number (AMA-IMG Section Governing Council 2010). The number of IMGs in the United States nearly doubled from 1995 to 2004 (American Medical Association 2006). Seventy-three percent of these foreign-trained physicians are directly involved in patient care (AMA-IMG Section Governing Council 2010). They have the greatest representation in primary care, especially in underserved areas and underprivileged populations (AMA-IMG Section Governing Council 2010). US academic medicine and research programs have benefitted immensely from the IMGs, who enhance diversity and offer new perspectives in medicine (Kostis 2004). They are the safety net in the US healthcare system, as they provide services to underserved populations by entering specialties and geographic areas that US medical graduates tend to avoid (Hagopian et al. 2004, Thompson et al. 2009).

While IMGs bring with them all their knowledge and expertise, many often encounter difficulties with communication because of their prominent accents. In spite of fluency in the English language, their pronunciation and intonation patterns often become barriers in their ability to be clearly understood (Eggly, Musial & Smulowitz 1999; Friedman et al. 1993; Hall et al. 2004). Effective communication—both verbal and non-verbal—is a core component of quality healthcare; it is imperative that communication be clear, accurate, and appropriate (Stewart 1995). The patient-doctor scenario is essentially an exchange of information, in which both parties must comprehend the intended message. If at any time during this exchange comprehension is limited, communication breaks down. Miscommunication causes misunderstanding, which can in turn lead to risks to patient safety and poor quality of care (Suurmond 2006). This breakdown in communication can affect not only physician-patient relationships but also physician-staff understanding (Dorgan 2009; Searight 2006). Both native English speakers and internationals at all levels of training deal with these communication-based problems on a daily basis. Ineffective communication is listed as the leading cause of serious adverse events in the World Health Organization Joint Commission's sentinel-event database (World Health Organization Joint Commission 2007). For IMGs, the extent and consequences of communication barriers are exponential (Chen 2011). If these barriers are ignored, problems inevitably arise from the resulting communication gaps.

While innumerable personal stories and anecdotes shared in private conversations bear testimony to these gaps, there is limited literature that captures the depth of the problem (Dorgan 2009, Chen 2011). Patients, physicians and administrators often underestimate the extent and implications of these barriers. As a result, differences in language and culture often lead to negative outcomes, such as stereotyping and cultural dissonance, for IMGs in the United States (Kramer 2006, Chen 2011). Stress, isolation and limited advancement are common, sometimes leading to abandoned careers (Kramer 2006). Such losses hurt both the individuals and the system; these pressures—arising from diversity—affect the quality of healthcare (Ulrey & Amason 2001). If American physicians were in another country, they would instinctively base their practice on US training/cultural expectations unless they were trained differently. The same is true for

international physicians. They, too, instinctively practice in ways that reflect their native perspective. Hence IMGs may benefit from a training program that teaches them how to communicate in a manner consistent with US language and cultural norms. To address this need, a training program titled 'American English for Internationals' (AEI) was developed in an American university for English-speaking medical professionals with non-native accents. The program was spearheaded by the university's Department of Pediatrics, and was designed to help IMGs boost their communication skills through focused accent-modification training for a more rapid and successful transition to the US healthcare system. This study investigated the efficacy of the training program for IMGs and researchers.

Though this program was initially started for health professionals, it is relevant to all international students and professionals. US colleges and universities attract thousands of foreign scholars to teaching positions and graduate programs. These individuals add unique perspectives to US educational institutions, making them more interesting and attractive for students and faculty alike. After graduation, foreign scholars serve as a great resource, providing services to the 20% of the US population that speaks a language other than English (US Census Bureau 2009). However a diverse student pool brings both opportunities and challenges to the academic setting. One challenge with major consequences is the employment of international professionals with non-native accents (ASHA 2011). Students often complain about difficulties in understanding teachers who have heavy accents (Schevitz, 1999). While administrators hesitate to tell faculty that they need communication training, with increasing dependence on international professionals in education and research, many colleges and universities are beginning to offer accent-modification training on a sporadic basis (Ruane 2010). The Internet abounds in advertisements by private companies offering communication training for international professionals with foreign accents (such as Crompton Accent Modification, Executive Expression, Accent Pros, Speak-Easily and Accents Away). The press, too, has been active in bringing the issue of foreign accents to the attention of the public (Schevitz 1999; Luogo 2007; Ruane 2010). However, universities and other institutions of higher education seem to have taken a back seat in this discussion. Although several articles have been written about communication challenges for international professionals (AMA-IMG Section Governing Council 2010; Kramer 2006; Schyve 2007), there is very little literature about system-wide interventions to address these challenges. The AEI program is the first one of its kind that has attempted to do that. The results of the research study highlight the efficacy of this intervention. With suitable modifications, the program can be reproduced in most institutions that attract immigrants, both in the US and abroad.

## **Literature Review**

Three scenarios are commonly found in the context of intercultural communication in medicine: an American physician dealing with a culturally diverse patient; an international physician dealing with an American patient; and an international physician dealing with a culturally diverse patient. The first combination is most common, and has been addressed in different forums (Bruijnzeels & Visser 2005; Harmsen et al. 2003; Harmsen et al. 2005; Koehn & Swick 2006; Schouten & Meeuwesen 2006; Schyve 2007; Suurmond & Seeleman 2006). However, the other two combinations have not received much attention. These uncharted territories were explored in this study, with the primary focus on an international physician dealing with an American patient. A quick look at the IMGs in the US healthcare system will underscore the need to focus on this area (AMA-IMG Section Governing Council 2010). Each year, as the number of IMGs increases, so does the number of studies that address the complexities of intercultural communication in the medical field, each one bemoaning its difficulties. These studies have an underlying theme:

communication is more than just words and grammar; it is a highly complex skill that must make sense to both the speaker and the receiver. Bruijnzeels and Visser (2005) wrote, “Equal language is a prerequisite for effective communication” (p151). Kramer (2006) talked about language and culture being at the heart of IMGs’ communication problems: “Without a mastery of the language, both formal and informal, and a reduction in accent so that their spoken language is readily understood, IMGs may not understand their patients and teachers and may not be understood by them” (p167).

Some researchers have raised concerns about the levels of medical knowledge and quality of care that IMGs provide. Most of the research shows no clear differences between the care provided by US medical graduates (USMGs) and IMGs (Hofman et al. 1993; Mick & Comfort 1997; Rhee et al. 1986; Schnabl, Hassard, & Kopelow 1991). Most US residency training programs accept just a few of the highest-scoring individuals from the large number of IMG applicants each year (AMA-IMG Section Governing Council 2010). While IMGs comprise some of the world’s most talented physicians, differences in communication styles and accents, compounding the stressors of immigration, may be responsible for this perception to a large extent. Some researchers have tried to assess the communication skills of foreign-trained physicians. Friedman (1991) showed that “standardised patients” (SPs) can be trained to evaluate the English proficiency of IMGs, and that SPs’ evaluation is comparable to that of professional raters. Ulrey and Amason (2001) highlighted the need for development of intercultural-communication training programs for healthcare providers. They showed that cultural sensitivity and effective intercultural communication, besides helping patients, personally benefit healthcare providers by reducing their stress.

Hall et al. (2004) conducted a detailed assessment of IMGs’ communication-skill needs through focus groups, interviews and surveys with IMGs, program directors, allied healthcare professionals and communication experts. They found a high level of consensus amongst all participants about the need for communication-skills training for IMGs. Specific recommendations included English-language skills; adequate support systems for IMGs; and faculty-staff education on the cultural challenges faced by IMGs.

Two recommendations—though not mutually supportive—have been common themes in their research. First, researchers recommend that IMGs’ struggles be recognised and addressed instead of being ignored or minimised (Kramer 2006). Second, training should be provided in sequential stages to help IMGs identify and deal with their communication barriers (Suurmond & Seeleman 2006). It is this second step—sequential training for the IMGs—that was strongly promoted at the medical center where the study was conducted. The AEI program was developed to provide training in accent modification to IMGs and international medical researchers (IMRs).

## **Methods**

### **AEI program concepts**

Key concepts of the AEI program were based on the existing research into the communication challenges of IMGs and communication evaluation methods (Friedman et al. 1991; Ulrey & Amason 2001). The program focused on reducing, not eliminating, a foreign accent, since elimination is usually unrealistic and unnecessary. In addition, the program helped participants minimise discomfort with small talk by increasing their knowledge of regional dialects, slang, grammar and cultural differences in communication styles.

### **Workshop structure**

The course comprised eight to 12 weekly classes, each lasting 90 to 120 minutes. The class size was limited to between eight and 14 participants to enable individual attention.

### **Participants and staff**

The participants were IMGs and IMRs recruited from a large midwestern US university. Instructors who specialised in accent reduction were recruited from the university and the private sector. Their qualifications included Teachers of English for Speakers of Other Languages certification. Evaluators were “standardised patients” trained by the program instructors to evaluate communication skills; these “patients” focused primarily on international accents. Recruitment of participants was done through the university and hospital newsletters, emails to program directors, personal contacts and referrals by program directors and section chiefs. Participation was voluntary.

### **Objectives and goals for participants**

The program’s main objective was to address the most essential, obvious and universal communication challenges of IMGs through accent-modification training. The training started with the traditional focus on vowels and consonants. It progressed during the course to include newer territories such as fluency, word stress, sentence rhythm, intonation and casual speech (linking, blending, contractions, reductions).

### **Study design**

A three-pronged approach was designed to assess the efficacy of the program. Outcome measures included participants' self-evaluation, videotaped objective-structured communication evaluation (OSCM<sub>E</sub>) by an independent evaluator and audiotaped assessment by the course instructors. All evaluations and assessments were done before and after the course. Students evaluated their own communications on a two-page questionnaire. The questions addressed spoken-language skills as well as body-language skills, positive and negative feelings about their communication and percentage of speech understood. The participants were also asked to assess their feelings in different ways: first, by their perception of how well they had communicated (e.g. “I am confident that I can communicate with patients”), and then the same question reverse-scored and asked differently to bring out the underlying negative feelings associated with communication ability (for example, “I worry that patients will not understand me; I believe patients have difficulty understanding me; I am afraid I will be misunderstood by patients”). A Likert scale was used for measurement, with 5 as the most positive score and 1 as the least positive. At the end of the course, the two sets of scores were compared. It was hypothesised that positive-feeling measures would increase and the negative-feeling measures would decrease as a result of the course.

The OSCM<sub>E</sub> addressed similar questions. In the OSCM<sub>E</sub> component, American English-speaking individuals were asked to assess the participants’ communications skills during a short presentation. For the clinical OSCM<sub>E</sub>, American English-speaking actors posing as patients evaluated the participants’ communication skills during a mock doctor-patient office visit. All independent evaluators were initially trained to evaluate communication skills with a focus on foreign accents. The initial training was four hours long, with additional refresher sessions held prior to each class. Two evaluators assessed each participant in the first six courses. The two evaluators’ scores were averaged, and the averaged scores before and after the course were compared. Due to insignificant differences in the overall scores between the two evaluators in the first six classes, only one independent evaluator was used for subsequent classes to decrease participants' time input and program expenses.

The instructors in their audio-recorded assessments used a pronunciation-assessment rubric to assess the way participants' speeches. In the second class, a written assessment was provided to each student with recommendations for improvement in specific areas. A similar assessment was performed in the last class, and the results were discussed with each student in a half-hour post-course session.

### **Data analysis**

Since pre- and post-course performances were compared, T-tests were conducted between all pairs. Correlations were done between the evaluators to ensure that they used the same evaluating criteria. The scores of the two evaluators were averaged to be presented as a whole.

## **Results**

Ten courses were offered over a period of 32 months between June 2008 and April 2011. Participants who attended more than 70% of the classes and completed all three pre- and post-course assessments were included in the study. A total of 82 participants (83%), who had immigrated from 26 countries and five continents, fulfilled these inclusion criteria. The participants spoke 23 languages, and included clinical and non-clinical faculty members, post-docs, residents, undergraduates, medical and law school students, nurses and engineers. They worked in several different areas of healthcare and represented 41 medical and non-medical departments and programs in the university. Their ages ranged from 20s to 50s, with the majority (74%) between 30 and 49 years. The sample was equally split between men and women. Time spent in the United States before participating in the course ranged from four months to 26, years with the largest group (44%) having spent less than five years.

The study was undertaken to test the efficacy of the course. The data from self-evaluations by the participants, the independent evaluators and the course instructors suggested that the training was highly effective. Table 1 shows that, through the training program, the participants felt that they made significant improvement in all 11 areas in which they were trained. They reported a reduction in negative feelings about their own ability to communicate with others in English. They believed that their biggest improvement was in the following areas: the way they stressed words or syllables (37%), their accuracy in pronouncing words (22%), their intonation and fluency of speech (22%) and the volume at which they spoke (21%).

A T-test shows that men and women in the training program showed no significant differences among any of the variables, making approximately the same degree of progress in all areas. Age did not influence the outcome in any of the measurements, but it did make a difference in the way they stressed words or syllables, according to the one-way ANOVA test ( $F=3.49$ ,  $df=3$ ,  $p<0.05$ ).

Table 1: Participants' Pre- and Post-Course Self-Evaluations

	Before-Course Means	After-Course Means	Improvement (%)
The speed with which you speak	2.4	2.84	18%
The volume at which you speak	2.39	2.89	21%
How well you pronounce words	2.2	2.68	22%
The way you stress words or syllables	1.98	2.72	37%
Your intonation (melody) and fluency of speech	2.13	2.59	22%
The words you choose	2.82	3.23	15%
Your body language	3.06	3.28	7%
Your facial expressions	3.06	3.37	10%
The way you use your hands	2.93	3.3	13%
Overall, how well do you think you communicate?	2.66	3.05	15%
I am confident that I can communicate with patients/others	3.44	3.83	11%
I worry that patients/others will not understand me	3.13	2.65	-15%
I believe patients/others have difficulty understanding me	2.98	2.57	-14%
I am afraid I will be misunderstood by patients/others	3.13	2.75	-12%

*For all pre- and post-course evaluation comparisons,  $p < 0.01$ , pre  $df = 81$ , post  $df = 80$ .*

The scores from Evaluator One and Evaluator Two, based on their independent evaluations for all the participants, are highly correlated (Pearson  $R = 0.914$ ,  $p < 0.01$ ). Both evaluators found that the participants made significant improvement on all 11 counts (Table 2).

The evaluators noted an improvement in the participants' ability to communicate like a native speaker of English (40%), to use their hands (29%) and facial expressions (27%) appropriately and to stress words or syllables more accurately (26%). They also noted an improvement in the participants' speed of communication (24%) and pronunciation of words (21%) (Table 2).

Table 2: Evaluators’ Averaged Pre- and Post-Course Evaluations

	Before-Course Means	After-Course Means	Improvement (%)
The speed with which he/she spoke	3.105	3.84	24%
The volume at which he/she spoke	3.445	3.895	13%
How well he/she pronounced words	2.64	3.185	21%
The way he/she stressed words or syllables	2.65	3.35	26%
His/her intonation (melody) and fluency of speech	3.085	3.43	11%
The words he/she used	3.635	3.95	9%
His/her body language	3.645	3.995	10%
His/her facial expressions	3.065	3.895	27%
The way he/she used the hands	3.04	3.935	29%
Overall, how well do you think they communicated?	3.135	3.515	12%
How well did they communicate relative to the typical native English speaker?	1.865	2.615	40%

*For all pre- and post-course evaluation comparisons,  $p < 0.01$ , pre  $df = 81$ , post  $df = 77$ .*

In the same self-evaluation, before the training, the participants believed that on average 71% of their communications could be understood by patients and others; after the training, this reported number increased to 77%—a significant increase ( $p < 0.01$ ). The evaluators reported a similar improvement. Before the training, the two evaluators reported understanding an average of 75% of the participants’ communications; after the training, the evaluators could understand 85% of the communication—again, a significant improvement ( $p < 0.01$ ). In comparison to the evaluators’ average scores, the participants’ scores were more conservative, implying that the participants set higher standards for themselves than those set by the independent evaluators.

Finally, on a 1-to-5 scale of improving ordinance, the instructors’ averaged pre-course evaluation (3.41) and averaged post-course evaluation (3.93) also were significantly different (pre  $t = 32.1$ ,  $df = 62$ ; post  $t = 50.2$ ,  $df = 59$ ,  $p < 0.01$ ).

## Discussion and Conclusions

Statistical analysis of the participants’ self-evaluations suggests that, at the end of the training, the participants noted improvement in the speed and volume of their speech and in their ability to pronounce words distinctly, stress words or syllables more accurately and use body language/facial expressions appropriately. Additionally, after the course, the participants felt better about their ability to communicate: they had fewer negative feelings and believed they were better understood by others. Finally, they believed that others understood a higher percentage of their speech after the course.

Analysis of the data showed that the independent evaluators and the instructors also noted improvement in all aspects of the participants’ communication. They, too, rated the participants higher in their abilities after the course, thus validating the participants’ perceptions.

The greatest impact of the course was on the students’ confidence. Most of them reported a much higher level of confidence in their conversations in English with American peers and patients.

They reported a greater understanding of differences in speech patterns between American English and their own spoken English. The course helped them stop, review and correct themselves in conversations when lack of clarity threatened to impede communication.

The findings of this study suggest that appropriate and focused training in accent modification and intercultural communication can significantly improve IMGs' verbal and nonverbal communication skills.

It is evident that breaking down the barriers has to start with the international professionals themselves. To attain their full potential, they must learn to communicate in a manner that is consistent with US language and cultural norms. Universities and medical centers can see this training as a valuable investment in faculty development and quality healthcare. Evidence-based programs that reduce these barriers can be integrated into the curriculum, rather than added post-training. Some participants may not be motivated to enroll in the program until they have first-hand experience of instances where their accents and language interfere with their ability to communicate clearly. Thus, communication training should be offered in tiers at several different levels in colleges, universities and healthcare institutions. It should be offered at subsidised rates to the students and faculty, with the bulk of cost absorbed by the employer that will benefit from increased employee productivity and patient or student satisfaction. Organisations that do not have on-site training capability may provide it through online training programs.

## **Program Strengths**

This course provides a unique professional-development opportunity for international professionals. Group training keeps the classes interesting and the participants fully engaged. It exposes them to several different ethnic styles of communication and provides opportunities for networking with individuals with similar needs. It also keeps the program's implementation costs low. Limiting the number of participants allows time for individualised attention.

The students are able to ask questions in a safe environment where they will not be ridiculed for being different. As a result, many "Aha!" moments emerge. Participants who have been immersed in the US culture for years without understanding why they are often asked to repeat themselves suddenly develop an understanding of the specific differences between their speech patterns and American English. While sustained improvement in clarity of communication depends on continued practice, the understanding of differences, once developed, stays with the individual.

## **Limitations in Research**

One of the most time-consuming challenges in the study was getting the participants to follow through with assessments in a timely fashion to minimise data loss. Participants' schedules, responsibilities and professional needs took precedence, often leaving inadequate time for voluntary participation in professional-development activities such as the AEI program. Additionally, they came from a variety of cultural and educational backgrounds and spoke a variety of native languages with differing levels of English proficiency. It was difficult to ensure the control and consistency of learning variables (e.g. their learning curves, self-awareness, strategies and personal influences such as motivation, confidence, mentors, etc.). Evaluators, too, had inter- and intra-evaluator bias, with different standards and definitions of terms. It was sometimes difficult to ensure consistency in measures because the questions were subjective.

There is no other intervention with which we can compare the efficacy of this program. However, qualitative data from the participants speak to the perceived benefit of the training. Participants often stated that even though they knew that they had an accent, they did not understand what it meant till they attended this course. The training helped them understand the differences in speech patterns between American English and their own spoken English. The course helped them stop, review and correct themselves in conversations where lack of clarity threatened to impede communication. Even though it can be claimed that most people's communication skills would improve over time, the fact that participants who had lived in the United States for over 20 years felt the need to enroll in the program and actually benefitted from it shows that interaction with English-speaking colleagues, though essential for sustained improvement, has less benefit if it is not complemented with structured training. Anyone who has learned a new language knows that such learning is a time-consuming process. A 10- to 12-week course cannot teach an international professional to change his or her communication style entirely. But it can provide clear direction. To obtain lasting effects, the participants must use every opportunity to interact with English-speaking colleagues and continue to practice the lessons learned in class. Some participants came back to enroll in subsequent classes for a refresher course.

Follow-up data were difficult to collect due to participants' and researchers' time constraints, mobility of some of the participants and the researchers' focus on honing the primary program. Data obtained from a small number of participants show that some of the improvement has been sustained over time, though the degree of improvement is less than that found in these participants' post-course assessments.

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