Thinking Allowed

International teaching assistants at universities: A research agenda

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International teaching assistants (ITAs) are Indian, Chinese, Korean, Turkish, etc. international students who have been admitted to graduate study at universities in the U.S.A. and Canada, and are being supported as instructors of undergraduate-level classes and labs in biology, chemistry, physics, and math. For the past 30 years, the number of ITAs has been increasing, and many departments at universities have come to rely largely on ITAs to cover their undergraduate teaching needs. As high-intermediate and low-advanced second language learners who must use their second language for professional purposes, ITAs face linguistic, social, professional, and cultural challenges. This is a learner population that deserves more attention, as I hope to establish here with this presentation of six research tasks. I have organized proposed research projects in such a way as to increase readers’ familiarity with this little publicized field, and also to relate the projects to different contexts of inquiry. By ‘contexts’ I mean ‘who is asking what and for what reasons.’ The two contexts of inquiry are: (1) Established areas of ITA program concern, including acquisition of fluency, prosody, and vocabulary; and (2) Working with ‘outside’ theories, such as the Output Hypothesis, and deliberate practice theory.

1. Introduction

When I arrived in the U.S.A. after many years abroad to take a new job as an assistant professor, I was almost casually told that I would be running a ‘summer workshop’ for international teaching assistants (ITAs). I took time to learn what ITAs were, as I had never before heard of such a group. In an immediate, local sense, I learned that ITAs were Indian, Chinese, Turkish, etc. international students who had been admitted to graduate study at Texas Tech and were to be supported as instructors of undergraduate-level classes and labs in biology, chemistry, physics, and math. Thirty years ago, as the number of ITAs assigned to teach required undergraduate classes in the U.S.A. began to increase, the ITAs’ perceived lack of ability to use English to communicate in classrooms brought protests, undeserved or not, from students and parents. Legislation mandating language assessment for ITAs at state universities dates from this time (Thomas & Monoson 1991; Hoekje & Linnell 1994). The ITA program I was running was an early and continuing response to this movement.
(Texas Tech University 2013). I knew that roughly 120 ITA candidates per year participated in the summer workshop, and in other semester-long ITA courses that I quickly developed. Nationally, 300,430 international graduate students were enrolled in U.S. universities in 2011–2012, and 164,394 were supported by those schools, likely many of them as teaching assistants (The Institute of International Education 2013). Ninety percent of them came from countries in which English is not widely or consistently used for official, social, or educational purposes (The Institute of International Education 2013). The overall trend of growth in ITA numbers and an increasing salience of ITAs’ contributions to undergraduates’ educational experiences are mirrored in Canada (Kim & Kubota 2012).

It would be fair to say that despite the existence of a well-informed and engaged interest group in the professional organization Teaching English to Speakers of Other Languages, ITA programs and educators operate at a local, institutional level (Epperson & Yule 1991). As a result, ITAs and ITA support programs are under-represented in published research resulting from sustained research agendas (Gorsuch 2012a). And there is rich soil to cultivate, as I hope to establish here. I have organized proposed research projects in such a way as to increase readers’ familiarity with this little publicized field, and also to relate the projects to different contexts of inquiry. By ‘contexts’ I mean ‘who is asking what and for what reasons.’ The two contexts of inquiry are: (a) Established areas of ITA program concern; and (b) Working with ‘outside’ theories and established areas of ITA program concern.

2. Projects in established areas of ITA program concern: Language, teaching, and culture

The idea that LANGUAGE, TEACHING, and CULTURE, and the intersections between them, comprise the needs of ITAs (Civikly & Muchisky 1991; Hoekje & Williams 1994) is one of the few concepts that approach the level of a theoretical model in ITA education (Gorsuch 2012a). This trilogy guides the curricula of most ITA programs (see Gorsuch 2012a for empirical evidence of this; see also Kaufman & Brownworth 2006). This context of inquiry, then, has the object of improving ITA programs. Questions in this context are largely posed by English as a second language (ESL) educators and researchers, who may work primarily within one of the components. They may, even more productively, seek theoretical interconnections between the three components, such as teaching AND language or culture AND language, which may then result in applicable models or approaches for designing instruction and other formal learning systems.

2.1 Research projects focused on fluency and pronunciation

While ITA educators remain interested in all aspects of pronunciation (Meyers & Holt 2001; Gorsuch 2012a), suprasegmental aspects of pronunciation have gotten some focused attention, which has been expressed in research and materials (see also Isaacs (2008) for pronunciation research conducted with an ITA population). There have been descriptive
studies based on ITA learner populations on sentence-level stress (Hahn 2004; Levis, Muller Levis & Slater 2012), and tone choices and intonation (Wennerstrom 1998; Pickering 2001) with an aim to linking ITAs’ spoken intelligibility to these aspects of pronunciation. There has been pedagogical intervention research on ITAs’ pausing patterns (pauses violating clause and sentence boundaries) (Gorsuch 2011a; Gorsuch 2013) motivated by descriptive studies linking pausing patterns to listener perceptions of spoken fluency (e.g., Ejzenberg 2000; Olynack, Anglejan & Sankoff 1990; Pawley & Syder 2000).

Pickering (1999, see also 2010) applied a then-untested descriptive framework to ITA learner populations (Brazil 1997) with explicit linkages between language, teaching, and culture. For instance, in extended speech, a speaker of English uses prominence (sentence-level stress) to mark new or important information (which teachers need to do). English speakers also use tone choices (rising, level, or falling intonation contours) to express what the speaker believes is new or known information (which teachers need to do), and to express engagement and authority (which teachers also need to do). A textbook for ITAs based on this descriptive framework was published (Gorsuch et al. 2013), and other books on pronunciation and academic discourse for advanced-level learners, have appeared (e.g., Hahn & Dickerson 1999). Interestingly, even the availability of principled, pedagogical presentations of suprasegmental aspects of pronunciation has failed to result in suprasegmentals becoming anything like an organizing force in ITA program curricula (Hahn 2004; Gorsuch 2012a). This review sets the stage for two projects.

**Research task 1a**

*Extend Anderson-Hsieh & Koehler’s (1988) study or Hahn’s (2004) study to further establish links between ITAs’ use or non-use of appropriate sentence-level stress and general fluency markers, and undergraduates’ comprehension and learning. At the same time add one key feature: Increase and diversify the ITA group the undergraduates listen to.*

The two studies mentioned here firmly linked ITAs’ sentence-level stress and holistic fluency measures to undergraduates’ comprehension and recall of extended academic talk (cf., Field (2005) and Kang (2010)). Using large groups of undergraduates (N = 224 and N = 90, respectively), Anderson-Hsieh & Koehler and Hahn built up a consensus base of listeners’ perceptions connected directly to content learning. Yet this has not really registered with ITA educators. Carrying out additional studies will do more to convince current ITA educators of how salient ITAs’ needs are for appropriately using just a few well-defined suprasegmental aspects of pronunciation in academic talk. Thus far, only male speakers with first language (L1) Mandarin Chinese or Korean have comprised the ITA speakers. To be fair, the two studies explored variables such as speech rate and sentence stress patterns on undergraduate comprehension, and thus the researchers controlled for speakers’ L1s in favor of variables of greater interest to them. Nonetheless, ITAs are a diverse group, being equally male and female, and coming from dozens of countries and regions including Turkey, Jordan, the African continent, Brazil, and the Indian sub-continent. An ITA speaker pool for research linking ITAs’ use of suprasegmentals to undergraduate comprehension and learning should
take into account this diversity, allowing variables involving ITAs consciously speaking faster or slower to the undergraduate group to take a back seat. Using a more diverse speaker pool may convince ITA educators of the contribution of well-defined features of continuous speech to ITA intelligibility across L1s.

Both Anderson-Hsieh & Koehler and Hahn employed large groups of native English speaker listeners, which I think was possible because the number of ITA speech samples they had to listen to was limited. For example, Hahn (2004) used one male Korean speaker reading the same script but with different sentence stress patterns. Anderson-Hsieh & Koehler used three speakers with three different English proficiency levels. If the number of speech samples a group of learners has to listen to is greater in number, it may be more difficult to work with large, intact undergraduate groups. A ‘larger speech sample’ might be defined as three to five L1s, and perhaps non-fluent and fluent speaker groups speaking on the same topic for each L1. Smaller groups of 30 NS listeners might do, where undergraduates could come in independently by appointment to one or two dedicated computers with the multiple speech files, perception questionnaires, and content recall quizzes ready to use.

**Research task 1b**

*Add a second key feature: Focus on a more, and better-defined, array of suprasegmental features, and devise machine measures that reliably align these features to listeners’ perceptions of ITA comprehensibility.*

There has been accumulating evidence of how ITAs use, and do not use, key aspects of suprasegmental pronunciation in comparison with native English speaking TAs. This has significant implications for ITAs’ success in teaching, and their ability to negotiate cultural norms in U.S. classrooms (for a review, see Gorsuch 2011b). In other words, we need to move beyond the sentence-level stress feature that Hahn (2004) focused on, and the holistic fluency measure Anderson-Hsieh & Koehler used. For instance, Pickering (1999: 51–52) found that ‘pauses in ... NNS data were both longer and more erratic ... and tended to regularly break up conceptual units,’ meaning that their pauses violated clause boundaries. Working from two different descriptive frameworks, both Wennerstrom (1998) and Pickering (1999) found that ITAs used a preponderance of level and falling intonation contours, which had the potential of making the ITAs sound disengaged or unfriendly. These same researchers primarily used speech analysis software (e.g., ‘machine measures’) using precisely measured pause times, pitch frequencies, and volume measurements in decibels to reach their conclusions. In order to create measures that were less dependent on advanced knowledge of sophisticated speech software and database construction, Gorsuch (2013) used basic features of speech analysis software to identify pauses, sentence stress, and pause group final pitch as a starting point, but then also adapted and devised per-minute measures for these areas of speech.

The point here is that machine measures, regardless of how they are done, should be shown to have consistent relationships with listener perceptions and more importantly, listener comprehension of ITAs’ extended speech. In other words, listener perceptions should be quantified as specific measures of suprasegmental aspects of pronunciation that are meaningful to a general audience of ITA educators. There would be at least two benefits.
First would be to learn whether, and which, machine measures of suprasegmental aspects of pronunciation had the strongest, or most consistent, relationships with listener perception and comprehension and recall of content. This could help to prioritize which aspects of pronunciation ought to be focused on in the classroom. Second, it would also serve to underscore the salient role suprasegmental aspects of pronunciation has for ITA classroom communication success and undergraduate learning, and may result in a more principled treatment of these areas of speech in ITA training.

**Research task 2**

Create a developmental account of ITAs’ growth in fluency and prosody.

The developmental path of spoken fluency and prosody has yet to be well described. I use the perhaps more familiar term, ‘prosody’, to mean rhythm, stress, and intonation, also described in the accounts of discourse intonation outlined earlier. There is some conceptual overlap between fluency and prosody, in that listeners’ perceptions of fluency depend in part on whether a speaker’s utterances occur as complete idea units with an accompanying intonation contour (see previous discussion). Some broad developmental stages have been suggested where second language (L2) learners either HAVE fluency and prosody or DO NOT HAVE it (e.g., Wennerstrom 1998, 2001; Pickering 1999). The only other real, and depressing, finding is that there is much evidence for idiosynchrony in acquiring fluency and prosody (Freed 1995; Wennerstrom 2001).

Measures of fluency (such as pausing and speech rate) and prosody need to be done longitudinally on a diverse cohort of ITAs (L1s, levels, gender, etc.) spanning at least a two-year period. The measures should be based on listener perception and machine measures, and the ITAs need to be asked to do at least three parallel tasks at each data collection point: a read-aloud task, an extemporaneous one-on-one free-speaking task, and a teaching simulation task with some preparation time allowed. Having the longitudinal measures would establish which aspects of speech change over time, and how. There may be perhaps much variation on some feature at one point in time with less variation later, or more ‘progress’ at the beginning on some feature but not later on, etc. Having three different tasks would give an idea of what type of knowledge ITAs are using to do a given task, which could provide a window into how fluency and prosody are developed. For instance, on a read-aloud task, ITAs with poor initial fluency but with some formal instruction in fluency and prosody may do quite well because they are using explicit knowledge. The language processing demands on a read-aloud would be low compared to a free-speaking task. Such learners would not do as well on free-speaking tasks or teaching simulation tasks because processing demands increase in those conditions and learners could not invoke their explicit knowledge. However, ITAs with more implicit knowledge, or more proceduralized explicit knowledge, might do better later on, across all three tasks.

Such developmental accounts need to include detailed ITAs’ histories: what formal ESL/ITA classes they had and when, what mentoring in teaching they had, what teaching they have been doing and how much, what they believe their level of intercultural competence is at a given point (e.g., LaRocco 2012), and whether they participate extensively in L1 social
groups outside of immediate academic life. It is true that many other variables than those suggested here may account for ITAs’ fluency and prosody development. But such a study as proposed here may capture patterns that can be used to build and test models, not just for ITAs, but for other advanced-level learners. Results from this project would inform ITA educators about: (1) What kinds of instruction, such as explicit- and implicit-knowledge building, are effective; (2) How ITAs’ personal and professional history of L2 use influences their L2 growth; and (3) How long ITAs’ fluency would take to develop to a point they were considered successful classroom communicators.

2.2 Research projects conjoining ITAs’ L2 development to teaching or culture

I think that curricular responses which consider the components of ‘language, teaching, and culture’ in isolation may have questionable value. If culture is divorced from language, for instance, an ITA program might be reduced to presenting ‘norms’ of undergraduate behavior to ITAs through reading assignments or lectures on ‘what to expect from North American undergraduates.’ This would not support ITAs’ L2 growth (Gorsuch 2012a): First, the texts or lectures are not processed as L2 input and second, such an approach ignores an ITA program-relevant perspective that culture, and teaching is instantiated in verbal, social interactions (Gumperz & Cook-Gumperz 2007). Various commentators have argued for more emphasis on teaching (e.g., LoCastro & Tapper 2006; Kim & Kubota 2012) or culture (e.g., Kang & Rubin 2012) for ITA support, partly out of a resistance to viewing ITAs as linguistically deficient. Yet L2 ability and use is a pervasive subtext that cannot be discounted. For ITAs to learn how to teach, or access teaching experience gained in their home countries, they have to develop procedural knowledge, or ‘how to perform things’ in their L2, which is English (Chiang 2009: 464; Gorsuch 2012b). Further, as Kim (2001: 36) argues, one main means of cultural adaptation ‘occurs in and through communication,’ which is, again, in English, the L2.

At the same time, there is some sentiment among ITA educators that ITA programs are not designed to develop ITAs’ L2 vocabulary and grammar (‘language’). Rather, programs should seek to help ITAs learn to better use what L2 they already ‘have’ (Gorsuch 2012a). Disclaiming ‘language’ as a major program goal, and replacing it with ‘good teaching’ are together seen as helping ITA programs avoid being labeled as ‘remedial’ (Gorsuch 2012a), which is seen as politically and institutionally disadvantageous. ITA programs have favored spoken language production along these lines: do spoken task, preferably a teaching simulation ⇒ get feedback ⇒ do spoken task again (e.g., Byrd & Constantinides 1995; Alsbeg 2002; Papajohn et al. 2002; Gorsuch 2012a). At the same time, programs have somewhat avoided systematic attention to L2 grammar and vocabulary growth, either through listening or reading treated as L2 input, or through substantive explicit instruction (Gorsuch 2011a).

Levis et al. (2012) demonstrated convincingly that ITAs do require help with their L2 as teachers of freshman-level content (conjoining ‘language’ AND ‘teaching’). The researchers had Indian, Chinese, and American engineering TAs with at least two semesters of teaching experience give a presentation based on a silent reading of a physics text on the concept energy, plus preparation time. This is a common teaching simulation preparation technique.
in ITA education (J. Levis, personal communication, October 1, 2013). Using a Systematic Functional Linguistic descriptive framework, they found that the three groups of TAs structured their oral explanations with varying degrees of ‘success,’ meaning conceptual clarity and internal coherence. Compared to American TAs, the ITAs used lexical and grammatical choices that in the main misrepresented or under-conceptualized the text content. Levis et al. (2012) described specific types of choices that contributed to a lack of cohesion in the information structure, and attributed these lexical and grammatical choices to ITAs’ lack of L2 resources. The fact that the ITAs had already been at the university for two semesters emphasizes that simply being in the U.S.A. does not guarantee critically needed L2 growth (Gorsuch 2011a), and that ITA education as a field needs to find testable methods for building ITAs’ repertoire of lexis and grammar specific to their work.

Levis et al.’s (2012) findings lay smack on top of a contradiction that ITA educators get caught up in. We work with advanced L2 learners who work in academic areas we are not completely familiar with, such as chemistry or physics. Yet we must still be experts on how to communicate in English about concepts from these fields. Our practice of having ITAs read a basic text from their field and then base a teaching simulation on it may be a result of this perceived contradiction, hence our concern that ITAs are able to teach concepts North American freshman students are expected to learn. This is also why we use texts on foundational concepts. But we also may take these texts as exemplars of how North American academe believes concepts should be presented, and how undergraduates expect content to be presented. These texts may thus form the basis of a testable method for ITAs to learn L2 lexis and grammar relevant to their professional needs: that is, to give coherent explanations conducive to undergraduate learning. As noted above, the research task suggested here lies within a teaching simulation preparation model already familiar to ITA educators.

**Research task 3**

Create a course of treatments based on Levis et al.’s (2012) teaching simulation preparation task using short texts on foundational concepts from ITAs’ academic disciplines. Track changes in ITAs’ awareness of information structure, and changes in the breadth of their working grammatical and lexical repertoire, and appropriate use of this repertoire.

Levis et al.’s (2012: 541–542) teaching simulation preparation task consisted of:

1. Having ITAs silently reading a 130-word text which comprised a basic definition of the concept ‘energy’
2. Having ITAs prepare a teaching presentation for 20 minutes
3. Having ITAs give a 4- to 6-minute talk based on the text

In the study, ITAs’ presentations were video-recorded and transcribed. To develop this basic task into a course of treatments, I suggest finding texts of similar length and audience, such as basic freshman texts, which also exemplify established ways of structuring information. Levis et al. identified one such structure: ‘[a] logical taxonomy of items, and explained and
related to each other in some way... the speaker can [then] sum up the key relational points s/he wants the audience to remember’ (2012: 550). ITAs’ own academic disciplines are to some extent engaged in identifying these structures to be used in professional talks (see, for example, Leonhard Center for the Enhancement of Engineering Education 2013).

Different researchers/educators could use different instructional approaches to exploit the video or audio recordings of the teaching simulation resulting from the basic task. Here is one: Have ITAs transcribe their own video files and those of their classmates through a repeated listening and dictogloss procedure. This is a procedure where small groups of learners jointly reconstruct the talk (Wajnryb 1990; Vasiljevic 2010). This would increase ITAs’ level of attention to the grammatical and lexical features in a given presentation. This hypothesis could be tested through observations or recordings of ITAs’ interactions, or stimulated recall post-reconstruction interviews, using the resulting transcription as the stimulus. Then, ITAs could be lead through a guided discussion of the information structure of the original text passage with explicit comparisons to the information structure of an oral presentation, with the aim of encouraging the class and the ITA educator to jointly generate alternative grammatical and lexical choices that attain adequate conceptual clarity and coherence. If ITAs themselves were given increasing responsibility to lead the discussions and demonstrated their ability to do so, this may be taken as evidence of increased awareness of information structure. And, of course, the ITAs’ successive teaching presentations based on the texts (steps 1, 2, and 3 of Levis et al.’s 2012 basic task) could be analyzed for changes or growth in their working grammatical and lexical repertoire, which would support better conceptual clarity of their presentations.

The point here would be to devise a course of treatments with the understanding that ITAs’ L2 development will take time and in-class attention. It would not be enough to simply give ITAs a one-off lecture on proper information structure in academic talks, or even giving ITAs occasional feedback on their grammar use in teaching simulations. Tracking changes in ITAs’ awareness of information structure and changes in the breadth of their working grammatical and lexical repertoire would show whether a given instructional approach, based on text-based teaching simulation preparation tasks, was effective. In a larger sense, results of such research might demonstrate that information structures, and the grammatical and lexical repertoire required to convey them, might serve as an organizing force for L2 for professional purposes SPEAKING curricula. Typically, information structure has been seen as an organizing force in L2 WRITING curricula.

3. Projects focused on ‘outside’ theories and established areas of ITA program concern

It has been my impression that many ITA educators do not overtly use identifiable theories of L2 learning or metacognition when thinking about their teaching practice or program curricula (Gorsuch 2012a). Yet many of their teaching practices speak to these theories, even if the theories are not direct inspiration for their practices. I think this constitutes, then, a second context of inquiry where ITA educators and researchers can do research to improve ITA programs, but more importantly to contribute to fields of theory and research outside of
their programs with implications for general learner populations. This type of research could also be done by general applied linguists or psychologists specializing in human learning, who are not primarily concerned with improving ITA programs (e.g., Bardovi-Harlig & Hartford 1993).

3.1 Tasks on the role of output in L2 language learning

ITA educators have long believed that for ITAs to improve, they need to talk. Many ITA programs use some form of simulated teaching tasks with explicit feedback as a main instructional strategy as in this example: ‘they are not just recording the audio journal, after two minutes they are going to go back and listen to it [then] every time they meet the instructor in conference [they discuss] what are they doing to meet their goals’ (Gorsuch 2012a: 465). Some programs use, or have experimented with, teaching practica where low-advanced ITA candidates actually have instructional responsibilities. They are observed periodically during the semester by an ITA educator and then given feedback using video, audio, or observation notes taken during the observation (Tapper & Kidder 2006). While ITA practica have been used to explore intercultural miscommunication (e.g., Tyler 1995), development of ITA pragmatics (Liu & Wang 2012), and ITA teacher identity formation (LoCastro & Tapper 2006), ITA practica could be a significant setting in which to examine Swain’s (2005) Output Hypothesis in a non-experimental, naturalistic setting.

Swain proposes the hypothesis as ‘part of the process of second language learning’ in which learners engage in ‘processes . . . quite different than those involved in comprehending language’ (2005: 471) where learners move ‘from a primarily semantic use of language (as takes place in comprehension) to a syntactic use’ (Gass 2003: 227). The basic premise of the hypothesis is that in interacting with other L2 speakers, L2 learners would, in some circumstances, respond to their interlocutors’ apparent non-comprehension using a modification of their original utterance which was more precise, coherent, and appropriate (Swain 2005). This was taken to be evidence of an L2 speaker noticing a gap between what they wanted to say and what they actually said, which is thought to trigger processes such as learners ‘directing their attention to relevant input’ (Swain 2005: 474), or testing their hypotheses about the L2, or pushing them into useful reflection on the L2 (Shehadeh 2002).

Gorsuch (2005) did a case study with a Chinese biology ITA who was engaged in a team-teaching practicum with a native speaker TA in an undergraduate lab. The ITA had to introduce lab topics and work with students one-on-one while an experiment was underway. Through a lapel microphone, all of the ITA’s utterances were recorded, and when compared to concurrent teaching observation notes, Gorsuch found evidence that the ITA engaged in self-vocalization and self-repair while lecturing on content, and during interactions with undergraduates. She argued for a broader application of the Output Hypothesis beyond learners’ immediate responses to interlocutors’ non-comprehension ‘in that the act of teaching might . . . push ITAs into communicating their ideas with greater than ordinary care in order to be comprehensible’ (Gorsuch 2005: 100). Certainly, as currently described by Swain (2005),
the Output Hypothesis could apply to monologic, somewhat interactive teaching talk, and this sets the stage for a fourth task.

### Research task 4
**Do a case study with five ITA candidates who are engaged in a semester-long teaching practicum in which their teaching talk and interactions with students are recorded and analyzed for evidence that ITAs are using modified speech, such as self-repairs, or self-vocalization. Observe change or growth in recurring grammatical (or other) forms specific to individual ITAs in their specific teaching contexts.**

Researchers interested in the Output Hypothesis are not lacking research designs or data collection methods (e.g., Ellis 2012), any of which could be pursued within the basic premise of this task, which is to arrange teaching practica with cooperating departments, and observe and record the ITA candidates as they go about their work. These could include post-observation think-alouds, or stimulated recall sessions. For a 14-week semester, an observation session done once every two weeks would amount to seven lengthy observations and matching audio recordings and transcriptions. I think the observations are necessary to establish in which contexts the ITAs used modified speech. Was the ITA responding to non-comprehension of students either while teaching or during one-on-one interactions? Were there any obvious signals of non-comprehension to begin with? For instance, was the ITA engaging in rehearsal prior to an utterance, as the ITA in Gorsuch (2005) apparently did while writing items on the blackboard during a small break in her pre-lab lecture? Such evidence might argue for modified output as being evidence of an internal process for L2 learning which does not necessarily require direct non-comprehension from an interlocutor, such as might be seen in experimentally prepared tasks designed to elicit modified output (e.g., Shehadeh 2002).

What if, for example, the proposed task included a permutation where ITAs doing practica knew they would engage in pre-observation planning sessions or post-observation debriefing sessions, which had the purpose of discussing two or three salient and recurring linguistic features present in the talk (see Ortega 2005 for commentary on learner planning)? Might this, along with the greater pressure to communicate well as a teacher, be enough to result in modified output, and the processes underlying it, in a manner that is productive? Such pre- or post-observation sessions may provide the researcher with an array of linguistic forms to monitor for evidence of change or learning, which is still somewhat lacking in research specifically focused on the Output Hypothesis (Shehadeh 2002). This task would benefit other researchers interested in the Output Hypothesis in that additional evidence may be found for a contribution of modified output to learning over time. They may also be able to further broaden their description of the conditions under which learners are likely to engage in modified output outside of an experimental setting, which creates a useful emphasis on learner agency.

Five participants should be included in the case study in order to create perhaps more generalizable sets of data. Yet the group is small enough that a teacher/researcher, who has multiple demands on his or her time, can handle the data resulting from the observations.
in a somewhat timely manner, for the purposes of post-observation debriefing, for example. And there will be a lot of data.

3.2 Deliberate practice and how ITAs use learning materials

Program theory refers to how program designers, or other program participants believe their courses, or other systematic support, are supposed to help clients or learners to meet desired outcomes (Rogers 2000). For instance, one prevailing program theory in ITA education is in Gorsuch (2012a): three hours of language, teaching, and culture classes per week for up to two semesters should improve ITAs’ communication ability and thus result in an approval to teach. Courses should provide opportunities for controlled and free language practice which are specific to individual ITA’s present problems with L2 talk (Gorsuch 2012a). Thus, even though practice materials are continually sought and/or developed by ITA educators, traditional textbooks with an internal syllabus are not valued. They are seen as not sufficiently specific to individual learners’ needs.

Sustaining ITAs’ motivation is also a strong concern for ITA educators, and this plays out in prevailing program theories in a number of ways. First, there is an assumption held by some that if ITA program classes meet for more than three hours per week, ITAs will not attend (Gorsuch 2012a). This may be seen as one pressure causing ITA program designers to limit time scheduled to be spent in-class. Second, ITA educators try to ensure that ITA course materials and instruction seem relevant to ITAs and their future communication needs (Gorsuch 2012a). For some time, however, I have been thinking that the prevailing program theory for long-semester ITA courses may lack sufficient intensity to bring about changes in ITAs’ L2 knowledge and communication skills (e.g., Griffee et al. 2008), and that ITA educators, perhaps realizing this on some level, have produced individualized materials for ITAs to use outside of class.

Instructors at several programs randomly profiled by Gorsuch (2012a) reported using a variety of online course platforms which enabled the ITAs to upload recordings of their voices engaged in some kind of practice activity. Instructors would then: (1) Listen to the audio files; (2) give feedback on the audio files, perhaps recording their own voices modeling specific features; and (3) return the feedback and recordings electronically, or face-to-face, to individual ITAs for further practice. One ITA program director saw this as positive in that increasing the amount of practice done by ITAs outside of class ought to contribute to their ability to self-monitor their language use, a skill believed to be needed for life-long learning. The energy ITA educators say they put into materials development notwithstanding, there remains the question of how ITAs actually use the learning materials at hand, and whether, in their own minds, the materials have a place in their own goals for improvement. Furthermore, if feedback accompanies the use of the materials, is it enough, and of the kind the ITA feels is useful? Further, do ITAs form their own goals, and if so, are they aligned to actual potential improvements to their talk or teaching? If ITAs are supposed to work on their own for significant amounts of time due to prevailing ITA program theories, these are salient questions, and ones which ITA educators do not necessarily pose (Gorsuch 2012a). L2 educators and materials writers do not necessarily evaluate the effectiveness of their materials.
(Bautista 1995), and are likely unaware of how learners are using the materials they assign or design (Gorsuch 2012a). And, while ITA educators think offering feedback is a key element of their teaching, there is probably little tracking of the frequency and type of feedback ITAs get, and how ITAs might use the feedback (Gorsuch 2012a).

Enter deliberate practice theory, which posits that expert performance for medical doctors, musicians, insurance sales personnel, chess players, and other adult learners is attained through defining specific goals to improve performance, and engaging in repetitive ‘practice tasks that allow them to refine their knowledge and skills’ (van de Wiel et al. 2011: 82). Expertise is not innate, but must be cultivated (Ericsson 2004). The tasks themselves must be expressly for ‘the aim of learning or improving professional competence’ and include ‘preparation, mental stimulation, asking for feedback and advice, evaluation, reflection and updating activities’ (van de Wiel et al. 2011: 83). Learners cannot achieve expertise simply by reacting to events in a workplace, but rather by refining personal understandings of what they need to improve, often with the help of teachers or coaches, and then engaging consciously in repetitive, self-assigned tasks to improve in those self-selected areas (van de Wiel et al. 2012).

This suggests growth in learners’ ability to self-regulate, and self-generate ‘thoughts, feelings, and actions that are strategically planned and adapted to the attainment of personal goals’ (Zimmerman 2006: 705). As Ericsson notes (2004: S 73): ‘Engaging in practice activities with the primary goal of improving some aspect of performance is an integral part of deliberate practice.’ This sets the context for the next research task.

### Research task 5
**Investigate and characterize ITAs’ use of language practice materials over time.**

Sub-task: Characterize learning materials in regard to whether, and how, ITAs can get feedback on performances resulting from use of materials; Sub-task: Investigate whether ITAs use, or think they can use, the feedback they get using specific materials. Sub-task: Investigate and characterize ITAs’ L2 learning goal formation over time, and draw parallels, if any, between their use of materials and their goals, feedback they get, and ultimately, their development of expertise in self-selected language and teaching areas.

Like most longitudinal projects, this overarching research task can be broken into sub-tasks, as suggested above. The following procedures address the first and second sub-tasks, and will generate data to create a context for the third sub-task. Working over a period of at least one year, researchers need to follow a group of learners, collecting data using learner diaries, questionnaires, and interviews. In particular, interview protocols need to directly refer to whatever language practice materials ITAs say they are using. Such interviews may include a think-aloud in which an ITA candidate shows the materials he or she uses, and talks through how he or she uses it. This may provide needed detail on what feedback they can reliably get on performances resulting from their use of the materials, and how they use the feedback. ITA candidates should be queried on how they developed their practice methods, and how they believe their practice method helps them. For the third sub-task, ITAs’ formation of goals
concerning their professional communication needs can be tracked, again using learner diaries, questionnaires, and interviews. These data collection instruments can be designed to address specific questions, for instance, do ITAs’ communication goals become more specific over time? In what ways? Do the general areas of their concerns change? In response to what? Do their choices of practice materials and manner of use change in response to goals? Are the materials they use relevant to their goals? Are the ways in which they are asked to use materials relevant to their goals? Is there any evidence, perhaps gathered by video or audio recording ITA candidates’ teaching or teaching simulations over time, that language features ITAs self-select for practice change or improve?

Research of this type would reveal a few things relevant to ITA educators. ITAs may be using assigned practice materials, but in ways educators do not expect. ITAs may also be using self-selected materials according to more or less well-defined goals ITAs have formed for themselves. ITA educators may find value in ITAs’ choices of materials, and their goals. Certainly, findings from this research would, I hope, demonstrate the importance of keeping track of emerging or persistent issues in ITA performance in talk and teaching arising in feedback sessions. ITAs may learn to keep track of these issues for their own purposes. Sadly, it might also be found that whatever materials ITAs use, and how often, and in what manner, it is not enough to compensate for time spent out of class due to prevailing ITA program theories. Finally, the findings may lead ITA educators or researchers to more thoroughly explore self-regulation among ITAs, both during and after ITAs’ participation in preparation or in-service courses.

Researchers working with deliberate practice theory have their own issues to ponder, and research with ITAs as participants may inform their research. Currently their research does not include populations who need to develop their L2s for the purposes of teaching. It may be that deliberate practice is effective for only a limited number of agreed-upon attributes of expertise, whereas ITAs may have whole constellations of areas in their performance they need to improve. Further, publications on deliberate practice do not necessarily describe how the attributes of expertise being sought are defined, and by whom. For instance, do definitions of expertise require collaboration with learners in order to be effective as desired targets for improvement? Research done with ITA educators involved, and with ITAs as participants, may reveal how expertise is most usefully defined. Finally, the literature on deliberate practice does not reveal in detail whether or how this theory can be applied to large programs. Doing this research might demonstrate whether ITAs, or teachers and coaches, can sustain needed levels of focused feedback working with groups of ten or more learners.

4. Conclusion

As I mentioned earlier, the ITA education field is not well publicized, and I hope this agenda has piqued the interest of educators and researchers who may take up work with ITAs or similar learner populations for their own purposes. Even better, these educators and researchers who work with doctoral-level students may encourage their students to take up sustained research agendas involving ITAs. The stakes are high: ITA educators are not only responsible for the learning of ITAs but in some sense responsible for undergraduate...
learning at North American universities. Certainly ITA programs need to cultivate higher profiles and reputations, as I believe many individual programs sit on a precarious edge of survival, including the one I work in. Faced with the sometimes creaking slowness of ITAs’ L2 development (TESOL 2010), ITA programs need to have the best theory-driven and time-tested answers upon which they can defend themselves and explain to impatient, cash-strapped administrators why our courses are more than just window dressing, and that ITA programs are an essential part of any ‘internationalization’ plans universities hold dear.

References


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