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## An Invented Language Project for the Introductory Linguistics Classroom

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**Abstract:** This paper presents a brief description of a constructed language project developed for the introductory to linguistics/language classroom. The paper describes the project, its history of development and use, and provides links to sample syllabuses, the project outline, and student project examples. The project described has been used with thousands of students at three different universities. Developed for a large lecture-style setting with up to 500 students at a major research university enrolling over 30,000 students, the project has been taken to a smaller research university (12,000 students) and a metropolitan university (13,000 students), where it has been implemented in a variety of undergraduate courses. The project has been used as a means to introduce basic linguistic concepts to the non-major in a general education setting. In addition, it is currently being piloted in a course on typology. These applications demonstrate the versatility of the project as tool for a variety of linguistic classrooms.

**Keywords:** *constructed language, general education, introduction to linguistics*

### 1. Introduction<sup>1</sup>

In 2006 Dr. Amy Fountain and a team of graduate student teaching assistants piloted an *invented language* project at the University of Arizona (henceforth U of A). The project had been developed by Fountain for a freshman-level course in the University's general education program offered by the Department of Linguistics. The population of students served by the course were, therefore, primarily freshmen, many of whom would be undecided as to major. An underlying assumption during course development was that students were unfamiliar with linguistics and language analysis.

The project was developed in an effort to (1) improve mastery of core concepts, (2) generate more interest in the major, (3) differentiate the general education course from the introductory course

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<sup>1</sup> Syllabuses, project assignments, and example projects can be found via the following link: <https://sites.google.com/a/email.arizona.edu/lisa2017-invented-languages/>. In addition, the authors can provide the same material upon request.

for majors (problem-set focused), and (4) provide a more hands-on, project-based learning environment. Eleven years later, the project is still being used successfully at the U of A with little change, and is a core element of the course. In addition, two of the graduate students who participated as teaching assistants in the 2006 pilot of the project have taken the project to different institutions where they are using it today.

In 2012 Dr. Shannon Bischoff began using the project in a similar non-major general education introductory linguistics course at Indiana University and Purdue University's shared Metropolitan Campus in Fort Wayne (henceforth IPFW). Goals and inspiration for implementing the project were the same as those at the U of A. More recently (at the time of writing), Dr. Jeff Punske is implementing the project in a typology-focused course structured around constructed languages in order to explore typological concepts, forms, and theory at Southern Illinois University (henceforth SIU). In the remainder of this paper we first discuss the different settings where the project is being implemented. We then describe the project and its use as a classroom tool.

## **2. The Settings**

The project was first developed at the University of Arizona in the Department of Linguistics. The U of A is what the Carnegie Foundation identifies as a RU/VH: Research Universities (very high research activity), a distinction formerly known as R1. U of A's undergraduate population is approximately 34,000 students. The Department of Linguistics offers a BA (major and minor), MA, and PhD. The course that the project was developed for is a general education introduction to language course established in 1998. The course has enrolled as many as 500 students per semester, and is staffed by a faculty member and a team of dedicated teaching assistants. The course targets freshmen and is meant to satisfy campus wide general education requirements. Many of the students are assigned to the course via a lottery system. The project was first implement in 2006 and has been used every semester since. Over

the course of the past eleven years more than 3800 students have taken the course and been engaged with the project at the U of A.

In 2012 the project was implemented by Bischoff at Indiana University-Purdue University Fort Wayne. IPFW is a Metropolitan University with approximately 13,000 students and classified as a Large Master's Granting University (formerly M1) by the Carnegie Foundation. The course is similar to that taught at the U of A in that it is an undergraduate general education course designed to meet university-wide general education requirements and to recruit majors to the BA program in English, where linguistics is a concentration. In contrast to the large TA-supported U of A course, the IPFW course is generally capped at 25 students, although it has been as large of as 30 students and as small as seven students during the summer sessions. In addition, the course has no TAs. The demographics of the course mirror those of U of A: overwhelmingly freshman and non-majors. The project has been used in regular Fall and Spring semesters as well as in intensive Summer semesters. Approximately 160 students have completed the project over seven semesters at IPFW.

At the time of writing in early 2017 Punske is using the project at Southern Illinois University (SIU) a Carnegie Foundation RU/H: Research Universities (high research activity), formerly R2. SIU has approximately 12,000 undergraduate students and nearly 4,000 graduate students. Unlike the courses at U of A and IPFW, the course at SIU is specifically advertised as a course on constructed languages, entitled: *From Esperanto to Dothraki: The Linguistic Reality of Invented Languages*. The course is a junior-level course with an enrollment of 22 students. The course is fairly evenly distributed between linguistics majors and students taking the course for general elective credit. The course heavily focuses on the core subject area of linguistic typology. Students are assigned a modified version of the project outlined in section (3) (available via the link in footnote 1 above).

### **3. The Project**

The project is based on generalizations derived from fieldwork where an intrepid linguist works with a community of speakers to produce a wordlist and grammatical sketch of a previously undocumented language. In the assignment students are encouraged to imagine that they are such a linguist and have encountered a community of speakers whose language they will document. Students are given wide latitude in constructing the community they encounter and how they came to find themselves in the community. In our experience students have *encountered* alien civilizations in outer space, lizard communities deep below the earth's surface, lost tribes on distant islands, criminal communities that employ argots, and numerous others. In the very first assignment related to the project students must explain how they came to the community, explain what the community is like, and identify an imagined consultant who will help them with their documentation of the project. They begin by 'eliciting' a small set of vocabulary items, using a version of the Swadesh List to identify a set of fundamental concepts that can serve as a basis for subsequent steps in the process

The basic model of the project consists of four primary steps and a final submission. The basic model has not been significantly modified at any of the campuses where the project is being used, but we imagine that it would be quite possible, and desirable, to modify the project as needed for specific environments and/or courses. The primary steps of the project include the following: (1) *first words*; (2) *phonemic inventories and phonotactics*; (3) *inflectional morphology and simple sentences*; and (4) *question formation and expressive speech*. The steps are outlined in a series of interconnected individual assignments referred to as *project homework* and *field notebooks*. Each project homework introduces the students to skills and concepts needed to complete a following field notebook entry. At each step students are encouraged to revise drafts of the previous step(s) so that the final submission will require minimal revision. In the following we briefly describe each step (see appendices for detailed instructions for each assignment).

In general, the project is introduced at the outset of the semester in its entirety to the class and parallels instruction of basic concepts as they are introduced throughout the semester. For example, when phonetics and phonology are introduced in the semester the second *project homework* is introduced, completed, graded and returned. This is followed by a *field notebook* assignment which requires students to develop a phonetic inventory for their language and phonological processes: the embodiment of step (2) phonemic inventories and phonotactics. When morphology is presented, section (3) inflectional morphology and simple sentences is introduced via the relevant project homework and field notebook as discussed below.

In addition to the four primary steps the project includes a *reference and citation style sheet* to help students develop relevant citation skills and guidelines or *written project general assignment rules* outlining the final project requirements. In the guidelines for the final project students are presented with instructions on compiling the final project based on the four primary elements, information on grading, and reference page criteria. These two components, the citation style sheet and project assignment rules will not be further discussed, but both can be found via the link in footnote 1. Instead, we focus on the four primary elements of the project.

### *3.1 Where are We and First Words*

In the first section of the project, students are given a homework assignment (Homework 1) followed by their first field notebook assignment (Field Notebook 1). In Homework 1 students must simply demonstrate they are capable of using resources appropriately for the representation of data and the use of the International Phonetic Alphabet or IPA symbols.<sup>2</sup> In the project students are not required to create a writing system, but they must record the words of their language in the IPA.

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<sup>2</sup> Students are often directed to some type of IPA font picker such as the one found at the following website <http://ipa.typeit.org/full/>.

Homework 1 requires students to engage with a version of the Swadesh List developed by Claire Bower (2007), present data organized in a table, and convert a Word document into a PDF document. It further requires them to engage with the reference page criteria and demonstrate an understanding of proper formatting and citation for the project. Homework 1 is followed by Field Notebook 1 in which students are directed to do the following:

1. describe the community in which they have found themselves;
2. describe the consultant they will be working with;
3. describe a simple greeting found in the community; and
4. provide ten words and their meaning they have learned using IPA transcription and the Swadesh List.

While students are given complete freedom to construct the language and community as they wish, there are specific guidelines they must follow in terms of formatting, presentation, and linguistic consistency (e.g. if they decide words have CV syllable structure only, all words must follow that structure). Formatting is addressed in the style guidelines and in Homework 1 as well as throughout the project. Internal consistency is also addressed throughout the series of project related assignments and the following caveat is given at the outset of Homework 1: “No language should be described as stupid, backwards, or otherwise portrayed as deficient or lacking.”

### *3.2 Consonants, Vowels, and Minimal Pairs Oh My!*

Following Homework 1 and Field Notebook 1 students are given Homework 2 which requires students to read and briefly summarize an *Illustrations of the IPA* from the Journal of the International Phonetic Association. These illustrations tend to be 2-3 pages in length and provide an accessible description of the vowel and consonant inventories of one of the world’s languages. Students are directed to relevant features in the World Atlas of Language Structures Online (Dryer and Haspelmath 2013, henceforth WALs), as well as interactive IPA charts such as the one provided by the International Phonetic

Alphabet.org (<http://www.interphabet.org/ipa-sounds/ipa-chart-with-sounds/>), and an ‘IPA character picker’ such as the one provided by the World Wide Web Consortium (WC3) (<https://r12a.github.io/pickers/ipa/>). In their summaries students generally provide illustrative minimal pairs and a brief discussion of syllable structure along with comments about the phonetic inventory. This assignment is meant to provide students with an example of how linguists discuss phonetic inventories and to further expose them to the various ways sounds can be organized in a language. Further, it gives students an opportunity to briefly describe a phonetic inventory and discuss minimal pairs. In

Homework 2 students are asked to do the following:

1. write a brief summary of the *Illustration*;
2. discuss illustrative minimal pairs; and
3. add the appropriate citation in the reference for their *Illustration*.

The following Field Notebook 2 requires students to develop a phonetic description of their language and compare and contrast it with the phonetic inventory they read about in the Illustrations of the IPA article. In addition to describing the phonetic inventory of consonants and vowels students must also include minimal pairs from the language that they are constructing to illustrate phonemic contrast. Further, students must indicate the basic syllable structure or structures found in their language and provide illustrative examples. Thus the students must provide the following in Field

Notebook 2:

1. a description of the language’s consonants;
2. a description of the language’s vowels;
3. illustrative minimal pairs;
4. description of syllable structure; and
5. illustrative examples of syllable types.

Students are instructed throughout the project that they cannot simply copy elements wholesale from languages they are familiar with or that we are covering in the course. Students are encouraged, in fact required, to construct their own languages using what they know of the world's languages but without simply copying elements of one of the world's languages to fulfill the assignment.

At this stage students are reminded that it is expected that they will revise the various field notebook assignments based on instructor feedback in preparation for the final submission of the project. This generally becomes relevant for the first time when students realize that they are limited to the phonetic inventory they create and the syllable structure(s) they identify in Field Notebook 2 when creating additional words and structures in their language.

### *3.3 What's in a Word?*

Homework 3 and Field Notebook 3 ask students to embed the words they've created so far, and to create new words and morphemes, in imagined sentences in their Field Language. The step focuses on arranging meaningful elements – morphemes – into complex words, and those words into phrases and sentences. The need for speakers to communicate in sentences generates a motivation for students to create several categories of inflectional morphology – identifying categories such as grammatical person, number, tense, case, gender or categorization, evidentiality or directionality – to develop as part of the obligatory system of inflection in their field language.

In Homework 3 students develop morphemes to address any three of those categories, and to practice presenting complex words via inflectional paradigms using 'three line glossing'. Students

1. select three inflectional categories from a list of familiar (i.e. person, number) and unfamiliar (i.e. evidentiality, directionality) categories;
2. for each category, create a paradigm illustrating all of the values their language will use for that category, using 3-line glossed examples sharing a root morpheme; and

3. discuss in prose the category, the values and the morphological processes used (i.e. affixation, reduplication, truncation).

In developing this work, students are able to access examples from real languages – using relevant chapters and features from WALs. This resource is useful not only because of the content and explanations found there, but also because its chapters provide models of three line glossed language examples. Students can use the associated feature maps to locate their imaginary language and identify the characteristics of neighboring languages, should they wish to do so.

The field notebook includes the following:

1. Paradigms for the inflectional categories each student has selected, as practiced in the homework, and
2. three example sentences in which students can develop and model a ‘basic constituent order’ for their language. The sentences include a simple intransitive, simple transitive, and modified sentence.

This introduces notions of syntactic constituency – students identify functional as well as content elements, and show how those elements are ordered into the core units – subject, object and verb - in their imagined grammar. Including a modified sentence allows students to develop and demonstrate understanding of the notion that the structure of a sentence is driven in some sense by its meaning (and vice-versa). Students again use WALs to learn about the possibilities of basic constituent order – including the possibility of flexibility in constituent order.

#### 3.4. Asking questions, making trouble.

The last step of the project asks students to think beyond simple statements and to consider how people use language to accomplish social goals. One of these goals is question-asking. Students survey the inventory of strategies used in natural language to create interrogatives – polar questions as well as content questions, and select those strategies they’d like to implement in their field languages.

In developing question formation strategies, students build on their understanding of linguistic constituency, and on the relationships between sentence structure and meaning. They develop an understanding of the idea that an element in a sentence may be pronounced in a position different from that in which it is understood. They are also able to reflect on the complexities underlying their own formulae for question-formation in the languages they speak, and appreciate how grammar, along with context, drives interpretation of these complex utterances.

In addition to developing question-formation strategies, students consider at the last step in the project some social or cultural rules that they would like to discuss in reference to their invented languages. During the first several years of implementation, this step focused on development of linguistic strategies to communicate deference, politeness or respect. More recently, this aspect of the project has shifted to ask students to imagine the opposite – a system of swearing, joking, teasing, word-taboo, or sarcasm. In either case, students are directed in Homework 4 to the literature in linguistics and anthropology, in order to discover a published article reporting some relevant system in a language community unfamiliar to the student. Students learn how such systems can vary, and how they are described in a scholarly presentation. The homework allows them to

1. Consult the scholarly literature in Anthropology or Linguistics to find an article that discusses a relevant pragmatic practice in an unfamiliar language community, and
2. Use the phenomena described in the article as a model for comparison or contrast with the phenomena they develop in their language community.

The fourth field notebook combines with the materials developed in Field Notebooks 1 through 3 the following additional material:

1. examples of the creation of polar questions using intonational change, introduction of a question particle, and/or change in constituent order;

2. examples of the creation of content questions using interrogative phrase substitution with or without change in constituent order; and
3. a discussion of the pragmatics of joking, teasing, swearing, word taboo (etc.) in comparison or contrast with the practice described in the scholarly article selected for Homework 4.

With the creation and submission of the fourth field notebook, students have developed a complete draft of a significant writing project – one which has a scope greater than most students have previously accomplished. The cumulative length of the project text after step 4 is typically 8-12 pages, with an accompanying reference sheet citing a variety of carefully selected and vetted scholarly sources. Students have practiced applying an unfamiliar referencing and citation style, using special and unfamiliar characters, creating advanced formats for presentation (charts, graphs, and three-line glossed word paradigms and sentences), in addition to exercising their understanding of the core concepts and vocabulary used in linguistics. Because the project is implemented for students at the start of their undergraduate careers, as a general education course, these general-purpose scholarly skills are themselves learning objectives in the course. The intensively iterative nature of the assignment (the final revision of the fourth field notebook into the high-stakes term paper for the course, the field report, is the 9<sup>th</sup> graded writing assignment in the course in which these skills are developed and assessed) allows them to practice, get feedback, and develop these skills in a way that a more typical writing project generally does not.

#### **4. Lessons from the Invented Language Project**

Using language invention as part of a freshman level course aimed at students who have no pre-existing interest in or knowledge of linguistics or language invention has both benefits and drawbacks from the point of view of students and instructors. Many of the benefits are outlined above, which are generated by the fact that the project requires students to dig into and manipulate the grammatical concepts and terms that they are learning about in the course. Our impression is that this approach

generates a deeper learning of, and appreciation for, the basic structures of human language than do more traditional read-research-describe models.

Drawbacks include the intensive nature of the project, both from students' and instructors' points of view. Those readers who engage in language invention as an interest or hobby will not be surprised to learn that students perceive the project as 'difficult', and it is clearly complex. Engineering an imaginary language requires a mix of creative thinking and attention to detail that most students have not been asked to undertake in academic writing before. While we do find that a number of students who had never heard of or considered linguistics before 'discover' their avocation in the project, we also acknowledge that the great majority of students will never take another course in linguistics, nor will they pursue language construction on their own. For these students, the benefit of the project lays primarily in the extent to which it allows them to develop an appreciation for and understanding of the subtleties of human language, and in the focus on development of academic skills that have broad applicability outside of the study of language.

On the instructional side, assessing students' work and providing them with useful feedback is labor-intensive and time-consuming. Over the years the majority of innovation in the project has happened not in terms of the assignment design for students, but in the development of techniques for efficiently and effectively assessing students' work, and providing them with targeted and helpful guidance. The instructional labor required makes implementation of such a project unfeasible in any environment in which the student-teacher ratio is high, or in which the available instructional support is not sufficiently comfortable with core linguistic concepts themselves.

We suspect, and hope, that the project may introduce a few truly gifted new scholars to the world of linguistics and language invention, who might not have found their ways into this community without it. For the remainder, we suspect (and hope) that the project provides students an advantage in

developing themselves as scholars and refining their understanding of the genius that is human language.

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