Effectiveness of Learning 8 Languages Using Patterns

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A pattern is a two-way conversation with nature. We learn from existing designs and they guide us. Is it possible to learn a language in just 10 minutes per day? How about 8 in 80 minutes each day? Using 8 languages books, Spanish, Italian, French, Portuguese, Chinese, Japanese, German, and Hebrew, can we identify patterns? This research is important in facilitating learning and increasing productivity. It is time consuming to learn a language. If we could learn languages more expeditiously our communication and comprehension would improve and our ability to express ourselves to more of the population would increase. Most of the work in pedagogical patterns has been done from the point of view of the teacher. This work could lead to patterns that would guide the student. The purpose of this paper is to give you an immediate speaking ability in these languages. Data provenance covers the provenance of computerized data. Provenance is the information about the origin of the data inputs and the data manipulations to obtain a final result.

1. INTRODUCTION

1.1 The Problem

A U. S. passport is your key to international travel. When presented abroad, it is a request to foreign governments to permit you to travel or temporarily reside in their territories and access all lawful, local aid, and protection. It allows you access to U.S. Consular services and assistance while abroad. Most importantly, it allows you re-entry into the United States upon your return home. The Department of State's Passport Services Directorate issues U.S. passports to traveling Americans. We protect the integrity of the U.S. passport as proof of U.S. citizenship at home and around the world.

We are interested in this topic because of our very unique work situation. We have the opportunity to interview people. However, we do not know in advance, most of the time, who they are or the language they are fluent in. The interview is a conversation between the interviewer, as leader, and one or two interviewees. The interviewer asks the questions and the interviewee(s) respond with the participants taking turns talking. The interviewees may be newly naturalized citizens that have a limited knowledge of English. The interviewees may be parents of newborn babies. In either case, a conversational breakdown is a clear and present danger.

Communication breakdown can be eased if the interviewer can improve their language capabilities – speaking multiple languages to an extent appropriate for the interview sessions – hence my interest in learning multiple languages, quickly. We believe that knowledge of the exact 20-30 fields of information required to conduct a consular interview will solve the problem. Will patterns help us to solve this problem?

We are interviewing 1000 applicants per day and do not know what languages they will be speaking in advance. The patterns help to predict what should be done. We as interviewers need to know what to ask in the interview. We may observe how persons actually act as opposed to how they may act. We are asking the same questions to each person in the same order. Some people will easily answer all the questions and others will not.

1.2   The Approach

My first experiment was to use the 8 language books and devise common phrases in each language to see if we could really learn them in just 10 minutes per day. There was no particular reason for the languages chosen. The books were chosen in a random manner. In fact, Arabic and Russian books are also available for 10 languages to extend this study. That will be discussed in the future works section.

The interview is a structured interview when it is conducted for a first time applicant and the aim of the approach is to ensure that each interview is presented with exactly the same questions in the same order. It is easy and smooth and can be completed in a matter of minutes. More about the parameters of the situation: The interview is quick. It takes place on average 6-10 minutes; the applicant could be anyone speaking any language of any age; they may or may not be prepared. Going into the interview we have prior knowledge of the questions that need to be answered.

Some individuals complete the written application on-line, or while waiting or a combination. We thought about writing the exact script in each of the eight languages. The problem still has deficiencies as nuances and sidebar conversations are then not captured. Understanding communication and not losing details is important.

Being able to comprehend a variation to the script is a consequence in our pattern. If we say ...they will say ...How to ask the right questions. We have approximately 20 questions to the interview. However it varies, based on how the questions are answered or if the individual leaves items blank. Some applicants complete the entire form in advance and some do not. The interview is a series of exact questions that need to be completed. The individual must also sign their name. This step may or may not be a guided step.

They must present valid identification and valid proof of citizenship and a recent photo. Another part of the dilemma is that the items are not always acceptable.

If everything is acceptable, then payment is processed. If things are not in an acceptable format and language barriers occur it becomes difficult to communicate the next steps. If we had an online tool to draw information from we could respond and complete the task. Is it possible to know enough vocabulary to respond and communicate the message? Can a pattern approach help? Can technology fill the void in the lack of language skills?

Trying to complete this task perfectly in a timely manner is highly stressful. Venacular expression, cultural references are also of concern. There are multiple inputs that result in one output.

What we mean is that one document is produced as the final product. However, two things are required. One is proof of citizenship and the other is proof of identity. Depending upon what documentary evidence is submitted, additional evidence may be required.

For example, to submit an application for a child under age 16 both parents or the child's legal guardian(s) must appear and present evidence of the child's U.S. citizenship, evidence of the child's relationship to the parents, and original parental government-issued identification.

If they do not have a birth record then they must submit a combination of documents. The documents need to show the given name and surname, date and place of birth, and must be official with a signature of the issuing official. Additional documents include, a hospital birth record, an early baptismal or circumcision certificate, early census, school, medical, or family Bible records. The may submit insurance files or published birth announcements, such as a newspaper article and notarized affidavits of older blood relatives having knowledge of the birth.

We see citizenship documents from all fifty states, county and city level. The format of each document can be very different. We must become familiar with all the page layouts, and the text, images, cutting, stamping and

embossing. All the documents we receive become one new standard product produced the U.S. passport. Your birth certificate is one of your fundamental identifying documents. It's used as a reference point for acquiring many other forms of ID. Other factors can make a language easier for you personally to learn and therefore you should consider them to help you decide. Similarity to your mother tongue: a language closely related to your own, and shares many grammatical and vocabulary common ground should be easier, because you get free advantage. For example, a Persian speaker might find Arabic easier to learn than Spanish, even though Arabic is considered to be a hard language to learn. If you have a passion for learning and you are enthusiastic , any language could look easy, or at least fun to learn. This in return makes memorization easier, and allows for quick improvement. If you have resources available to you, with the right tools, you can make quick progress and therefore quick results. That includes audio lessons, grammar and vocabulary resources, practice with the natives and so on and so forth.

1.3   The Application

What if you were fluent in 8 languages and could conduct a consular interview to solve problems? Imagine being successful at meeting with different people for a very short period of time, identifying them and authenticating their credentials, so they are able to travel to their destinations.

It is easy to image a simple scenario. A mother, father, and new baby, all born in the United States are planning a vacation. If they all have the necessary paperwork, then we may quickly accomplish the task. Suddenly a six to ten minute process becomes an arduous task taking several hours with a different set of parameters. What if one parent is not present? What if there are language barriers? What if we doubt the parent is really the parent?

A very simple pleasant scenario of a mother, father and child going on a vacation may become a very different story. This is an important problem to solve to help reduce crimes of abduction and human trafficking.

The story may become more complex by several factors. What if, the paperwork is not complete? Currently, the expectation is for applications to bring all necessary translations and their own interpreter. This does not seem to be the best solution as we are relying on the honesty and validity of genuine translations. If we are receiving the information and do not understand it, how can we validate and verify the data? We currently look at short documents and try to pick out the relevant and valid information quickly. What if we are wrong? It is easy to overlook and gloss over information when it is a repetitive task.

The forces include the interviewer's bias. What if the interviewer has their own opinions and let them get in the way. For example, out of wedlock birth with either parent is such a case. Also, same sex couples are another. Absent parents create another struggle with our current laws. Death of a parent may be a factor. When we are trying to work with two-parent consent issues and language barriers the process is no longer expeditious. Family issues and emotions suddenly become part of the process. The sheer volume and nature of travel also may add to the confusion. The applicants' nature of travel may not be pleasure. They may be responding to an emergency, which may be highly charged with emotions. The interviewer must maintain control of the interview. What someone does and how he or she says it matters. The interviewer does not want to be combative or divulge too much personal information about them. Yet, at the same time, remain a balance and a rapport and remain professional.

A language acquisition is a beneficial skill. We advocate the tenet of learn constantly. What is the sustained motivation? The intent of the consular interview is quantity over quality and it should be more quality. The goal of this paper is to illustrate the importance for a better understanding of the conversation in each language. The patterns are the same questions asked in each language.

The model and the typical phrases fell short. The typical phrases are much more. The interview context questions are the form items. A uniform question is "where were you born?", for example. Why do we ask,

"How are you?" We need to establish a rapport and gain insight to a state of mind. Why is the person in a hurry? Why is the applicant really applying? What is their motivation?

Imagine that you had a machine that could think and provide you with the words for a conversation in a language that you needed like Google translate only better. The task is to conduct a consular interview. What is that?

2. MODEL

The following section is the result of the first experiment of trying to learn 8 languages in 80 minutes. Approximately six phrases were translated from English into another language.

English	German	Pronunciation
What is that?	Wass ist dass?	(Vahs ist dahs?)
How are you?	Wie geht es Ihnen?	Vee get is eennen?
I can speak German	Ich kann Deutsch sprechen.	Ik cahn Deutsch spreshan
Where were you born?	Wo sind Sie geboren?	Wo sind ZEE geboren
Thank you	Danke	Don-ke
Please	Bitte	Bit-te

English	Italian	Pronunciation
What is that?	Cos e quello?	(co) (se) quell-lo
How are you?	Come sta?	Co-me sta
I can speak Italian	Io posso parlare Italiano Posso parlare Italiano	E –O POs –so par- la-rey e-tal-i-an-o
Where were you born?	Dove sei Nato?/Nata?	DO-VE Say Na-TO/Na-ta(feminine)
Thank you	grazie	(GRA)(TZEE)(EH)
Please	Per favore	(pair) (fah-voh-reh)

English	Spanish	Pronunciation
What is that?	Que es eso?	Kae is ehso
How are you?	Como esta usted?	Kohmoh ehstah uhsteh
I can speak Spanish	Puede hablar en Español	Pweh deh ablahr ehn espah niol
Where were you born?	Donde naciste?	don deh nasihsteh
Thank you	Gracias	(grah-see-ahs)
Please	Por favor	(por) (fah-vor)

English	French	Pronunciation
What is that?	Qu'est-ce que c'est que ça? Qu'est-ce que c'est?	K-es-k say- k ca
How are you?	Comment allez-vous?	(koh-mah)(tah-lay-voo)
I can speak French	Je peux parler francais	(je) Pu par-le fran-cais
Where were you born?	Où êtes-vous né?	OO-e-voo ne
Thank you	Merci	(mair-see)
Please	S'il vous plaît	(seel)(voo)(play)

English	Portuguese	Pronunciation
What is that?	O que e isso?	(oh) (kay) (eh)(ees-soo)
How are you?	Como vai?	(koh-moo) (vy)

I can speak Portuguese	Eu posso falar Português	(EE)fah-lar
Where were you born?	Onde você nasceu?	(*ohn*-jee?)
Thank you	Obrigado/obrigada	(oh-bree-gah-doo)/(oh-bree-gah-dah)
Please	Por favor	(por) (fah-vor)

English	Chinese (Mandarin)	Pronunciation
What is that?	Na shi shenme?	(nah)(shr)(shun-muh)
How are you?	Ni hao ma?	(nee)(how)(mah)
I can speak Chinese	我会说中文	wǒ huì shuō zhong wen
Where were you born?	你在哪里出世？	Nǐ zài nǎr chūshēng de?
Thank you	Xiexie	(ssee-eh-ssee-eh)
Please	Qing	(cheeng)

English	Hebrew	Pronunciation
What is that?	?מה זה	(zay)(mah)
How are you?	?מה שלומך	(shlohm-Hah)(mah) masculine (shloh-mayH(feminine)
I can speak Hebrew	?אני יכול לדבר עברית	(meh-dah-bair)(eev-reet) (meh-dah-bair-et)(eev-reet)
Where were you born?	?איפה נולדת	m-(Meayin-ata) f(Meayin at) m(Mi-eyfo ata) f(Mi-eyfo at)
Thank you	תודה	(toh-dah)
Please/you're welcome	אנא	(beh-v ah-kah-shah)

English	Japanese	Pronunciation
What is that?	Nan desu ka?	(nahn dess kah)
How are you?	Ogenki desu ka?	(oh-gen-kee)(dess)(kah)
I can speak Japanese	Watashi hanashimasu Nihongo	(wah-tah-shee)(hah-nah-shee-mahss)(nee-hohn-goh)
Where were you born?	Nan doshira no goshusshin deshouka Shussh inwa doko desuka (in a formal way) dochira no go-shusshin desuka?	(nahn) (where are you from) (talking to a friend)
Thank you	Arigato gozaimasu	(ah-ree-gah=toh)(goh-zye-mahss)
Please	kudasai	(koo-dah-sigh)

Experiment number 2 added some phrases in Swahili:

English	Swahili	Pronunciation
What is that?	Hiyo ni nini?	Tee-yo nee nee-nee
Our Father	Baba yetu	Bah-bah yeh-tu
and lead us not into	Usitutie katika	Oo-see-toot-ee ka-tee-ka
temptation but	kishawishi lakini	Kish-a-wish-ee lak-ee-nee
deliver us from evil	utuopoe maovuni	oo-tu-O-poo-ee ma-O-voo-nee

Thank you	Asante	Ah-san-te

2.1 A GARDEN IS MORE THAN A COLLECTION OF PLANTS

The way that patterns are organized into their categories changes how we think about them with relation to each other. The Kadupal Flower, which is native to Sri Lanka is often called the most expensive flower in the world. In reality, it is priceless. The Kadupal Flower is so frail that it blooms just before midnight and perishes before the morning. Its sweet fragrance is also known for its calming, almost enchanting properties. Yet for all its special almost mystical qualities, Kadupal Flower seeds are relatively inexpensive and quite ordinary looking. Isn't it odd that to think that a priceless flower can grow from an ordinary seed?

Effective translation requires interpretation and interpretation is grounded in much more than mere words and syntactic arrangement. Visual information, e.g. gestures and facial expressions, cultural context, and even the physical setting in which the interview takes place: all come into play, just as a garden is far more than a collection of plants.

A Mediterranean garden requires plants that are matched to a specific climate: drought tolerant, cold hardy, tough and independent because in the Mediterranean climate water is a luxury, and conditions are not amenable to inter-dependence among plants. Sparse austerity – again reflecting the climate – would convey the overall feeling of a Mediterranean garden.

Japanese and Chinese Gardens – especially those inspired by Taoism and Zen – tend to reflect an ideal imposed on context. The overall climate is more benign and so it is possible to select, arrange, and even modify garden elements to suit an ideal, instead of mandating conformance to climate.

Initially, we studied the garden patterns because gardens exist for each language. We were looking for characteristics of commonality. These are the fourteen essential garden patterns.

14 Essential Garden Patterns

- Scale, which relates the garden to the environment;
- Garden rooms, which divide and connect the garden;
- Pathways, which define what we see in the garden;
- Bridges, which differentiate garden spaces and create compelling focal points;
- Gates, which are the portal to the garden;
- Shelters, which anchor the garden in space;
- Borders, which separate and make distinct garden sections;
- Patios, which tie the house to the landscape;
- Sheds, which add texture;
- Focal points, which create destinations in the garden;
- Water, which fully engages the senses;
- Ornamentation, which creates mood;
- Containers, which allow artistic flexibility; and,
- Materials, which add bulk, solidity, and softness to the garden.

In both cases, understanding the garden requires an awareness and use of elements other than the plants. In the case of language this shows the need to take into account gestures, facial expressions, and cultural customs that directly impact how language is used. For example:

This exercise was not sufficient as we had visitors from India and their language was Tamil. We were able to communicate with gestures and facial expression only, although we spoke to them. We are not sure how much they understood. We thought we could learn in advance of the visit. The Tamil written language system proved to be too much. Of the three visitors, one spoke English fluently, one spoke some English and one spoke only Tamil. The English speakers helped the Tamil only speaker. We were very limited. The Google translate tool helped us when we were speaking to the person who knew some English and Tamil. We had no difficulty with the person who was bilingual. We found it very difficult to communicate with the person that spoke no English in this case.
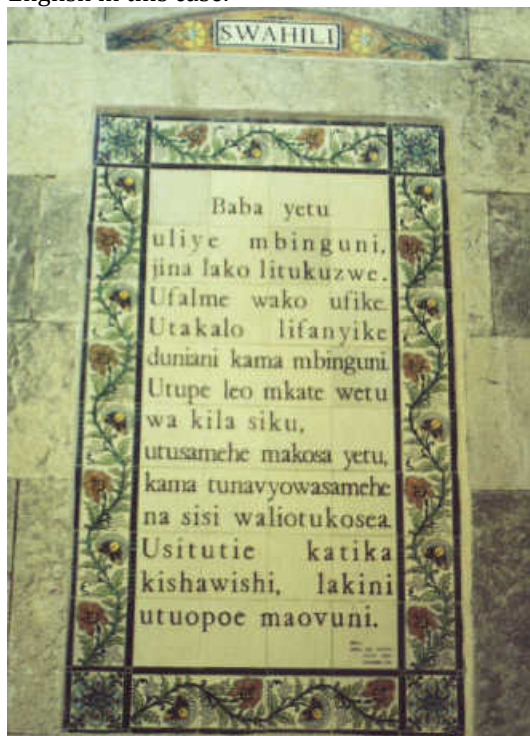

Figure 1The Lord's Prayer in Swahili

We also met someone visiting from Africa who was able to speak English but his native language is Swahili. Swahili was originally written with the Arabic script, but is now written in a Latin alphabet introduced by Christian missionaries and colonial administrators. The text shown is the Catholic version of the Lord's Prayer. The purpose of this prayer is to illustrate a translation pattern. We are not trying to use ethnocentrism but cultural relativity. We acknowledge that cultures are different but not ranked, with one being better than another. The use of this is a language comparison tool.

This person was able to communicate in English quite well, even though he claimed he could not. We believe he was a modest fellow. He said he only spoke in the church in English six or eight times. He was easily understood. How could this be possible?

The consular interview is both visual and auditory, as we must speak to the individual(s) and review documents at the same time. In this study, we examine the feasibility of using visual and auditory feedback of the effectiveness of learning 8 languages using patterns. The reproduction of the gestures was performed in the presence or absence of visual and auditory feedback, resulting in four (2 x 2) conditions.

(1) Visual and auditory feedback (V + A). (live counter agency)
(2) Visual feedback, no auditory feedback (V).(lockbox application)

(3) Auditory feedback, no visual feedback (A).(telephone interview)
(4) No visual or auditory feedback (None).(non existent)

The order of the four conditions was randomized across participants.

− *when + where Þ what*: State the properties of an object or objects at a certain time, or set of times, and a certain place, or set of places.
− *when + what Þ where*: State the location or set of locations.
− *where + what Þ when*: State the time or set of times.

When conducting a user study, the goal for the study is to measure the suitability of the visualization in some sense. What is actually measured is a fundamental question that we believe can be handled by using the concepts of effectiveness, efficiency, and satisfaction. These three concepts are derived from the ISO standard of usability 9241-11.

> Extent to which a product can be used by specified users to achieve specified goals with *effectiveness*, *efficiency*, and *satisfaction* in a specified context of use.

2.2 FUTURE QUALITATIVE EVALUATION

What language will make sense to participants in the study? Is the appropriate language English or bilingual? Should we use one of the 8 languages of this study? We are able to be tested and evaluated based on the criteria below.

Speaking proficiencies include the following:

(1) **S-0, No Practical Speaking Proficiency—**Is unable to function in the spoken language. Oral production is limited to occasional isolated words. Has essentially no communicative ability.

(2) **S-0+, Memorized Proficiency—**Is able to satisfy immediate needs using rehearsed utterances. Shows little real autonomy of expression, flexibility, or spontaneity. Can ask questions or make statements with reasonable accuracy only with memorized utterances or formulae. Attempts at creating speech are usually unsuccessful. The individual's vocabulary is usually limited to areas of immediate survival needs. An individual can usually differentiate between most significant sounds when produced in isolation, but when combined in words or groups of words, errors may be frequent. Even with repetition, communication is severely limited with people who are used to dealing with foreigners. Stress, intonation, tone, etc., are usually quite faulty.

(3) **S-1, Elementary Proficiency—**Is able to satisfy minimum courtesy requirements and maintain very simple face-to-face conversations on familiar topics. A native speaker must often use slowed speech, repetition, paraphrase, or a combination of these to be understood by an individual with an S-1 proficiency. Similarly, the native speaker must strain and employ real-world knowledge to understand simple statements or questions from this individual. This speaker has a functional, but limited proficiency. Although misunderstandings are frequent, the individual is able to ask for help and to verify comprehension of native speech in face-to-face interaction. The individual is unable to produce continuous discourse except with rehearsed material.

(4) **S-1+ Elementary Proficiency, Plus—**Can initiate and maintain predictable face-to-face conversations and satisfy limited social demands. However, he or she may have little understanding of the social conventions of conversation. The interlocutor is, generally, required to strain and employ real-world knowledge to understand some simple speech. The speaker, at this level, may hesitate and may have to change subjects due to lack of language resources. Range

and control of the languages are limited. Speech largely consists of a series of short, discrete utterances.

(5) **S-2, Limited Working Proficiency—**Is able to satisfy routine social demands and limited work requirements. Can handle routine work-related interactions that are limited in scope. In more complex and sophisticated work-related tasks, language usage, generally, disturbs the native speaker. Can handle with confidence, but not with facility, most normal, high-frequency social conversational situations including extensive, but casual conversations about current events, as well as work, family, and autobiographical information. The individual gets the gist of most everyday conversations, but has some difficulty understanding native speakers in situations that require specialized or sophisticated knowledge. The individual's utterances are minimally cohesive. Linguistic structure is usually not very elaborate and not thoroughly controlled; errors are frequent. Vocabulary use is appropriate for high-frequency utterances, but unusual or imprecise elsewhere.

(6) **S-2+, Limited Working Proficiency, Plus—**Is able to satisfy most work requirements with language usage that is often, but not always, acceptable and effective. The individual shows considerable ability to communicate effectively on topics relating to particular interests and special fields of competence. Often shows a high degree of fluency and ease of speech, yet when under tension or pressure, his or her ability to use the language effectively may deteriorate. Comprehension of normal native speech is typically near complete. The individual may miss cultural and local references and may require a native speaker to adjust to his or her limitations in some ways. Native speakers often perceive the individual's speech to contain awkward or inaccurate phrasing of ideas, mistaken time, space, and person references, or to be in some way inappropriate, if not strictly incorrect.

Reading proficiencies include the following:

(1) **R-0, No Practical Reading Proficiency—**Has no practical reading proficiency.

(2) **R-0+, Memorized Proficiency—**Can recognize all the letters in the printed version of an alphabetic system and high-frequency elements of a syllabary or a character system. Is able to read some or all of the following: numbers, isolated words and phrases, personal and place names, street signs, and/or office and shop designations; the above is often interpreted inaccurately. Unable to read connected prose.

(3) **R-1, Elementary Proficiency—**Has sufficient comprehension to read very simply connected written material in a form equivalent to usual printing or typescript. Can read either representations of familiar formulaic verbal exchanges or simple language containing only the highest frequency structural patterns and vocabulary, including shared international vocabulary items and cognates (when appropriate). Is able to read and understand known language elements that have been recombined in new ways to achieve different meanings at a similar level of simplicity. Texts may include simple narratives of routine behavior; highly predictable descriptions of people, places, or things; and explanations of geography and government such as those simplified for tourists. Some misunderstandings are possible on simple texts. Can get some main ideas and locate prominent items of professional significance in more complex texts. Can identify general subject matter in some authentic texts.

(4) **R-1+, Elementary Proficiency, Plus**—Has sufficient comprehension to understand simple discourse in printed form for informative social purposes. Can read material such as announcements of public events, simple prose containing biographical information or narration of events, and straightforward newspaper headlines. Can guess at unfamiliar vocabulary if highly contextualized, but has difficulty with unfamiliar contexts. Can get some main ideas and locate

routine information of professional significance in more complex texts. Can follow essential points of written discussion at an elementary level on topics in his or her special professional field.

(5)   **R-2, Limited Working Proficiency—**Has sufficient comprehension to read simple, authentic written material in a form equivalent to usual printing or typescript on subjects within a familiar context. Is able to read with some misunderstandings straightforward, familiar, factual material, but in general, insufficiently experienced with the language to draw inferences directly from the linguistic aspects of the text. Can locate and understand the main ideas and details in material written for the general reader. However, persons who have professional knowledge of a subject may be able to summarize or perform sorting and locating tasks with written texts that are well beyond their general proficiency level. The individual can read uncomplicated, but authentic prose on familiar subjects that are normally presented in a predictable sequence which aids the reader in understanding the prose.

Texts may include descriptions and narration in contexts such as news items describing frequently occurring events, simple biographical information, social notices, formulaic business letters, and simple technical material written for the general reader. Generally, the prose that can be read by the individual is predominantly in straightforward or high frequency sentence patterns. The individual does not have a broad active vocabulary, but is able to use contextual and real-world cues to understand the text. Characteristically, however, the individual is quite slow in performing such a process. He or she is typically able to answer factual questions about authentic texts of the types described above.

(6)   **R-2+, Limited Working Proficiency, Plus—**Has sufficient comprehension to understand most factual material in non-technical prose as well as some discussions on concrete topics related to special professional interests. Is markedly more proficient at reading materials on a familiar topic. Is able to separate the main ideas and details from lesser ones and uses that distinction to advance his or her understanding of the material. The individual is able to use linguistic context and real-world knowledge to make sensible guesses about unfamiliar material. Has a broad active reading vocabulary. The individual gets the gist of main and subsidiary ideas in texts which could only be read thoroughly by persons with much higher proficiencies. Weaknesses include slowness, uncertainty, and inability to discern nuance and/or intentionally disguised meaning.

3.   FUTURE WORKS

We would like to have a pattern language rich enough to create forms and feedback in the most popular languages without translation tools. Suppose that you have to implement a dialog box or form that looks like the one depicted in
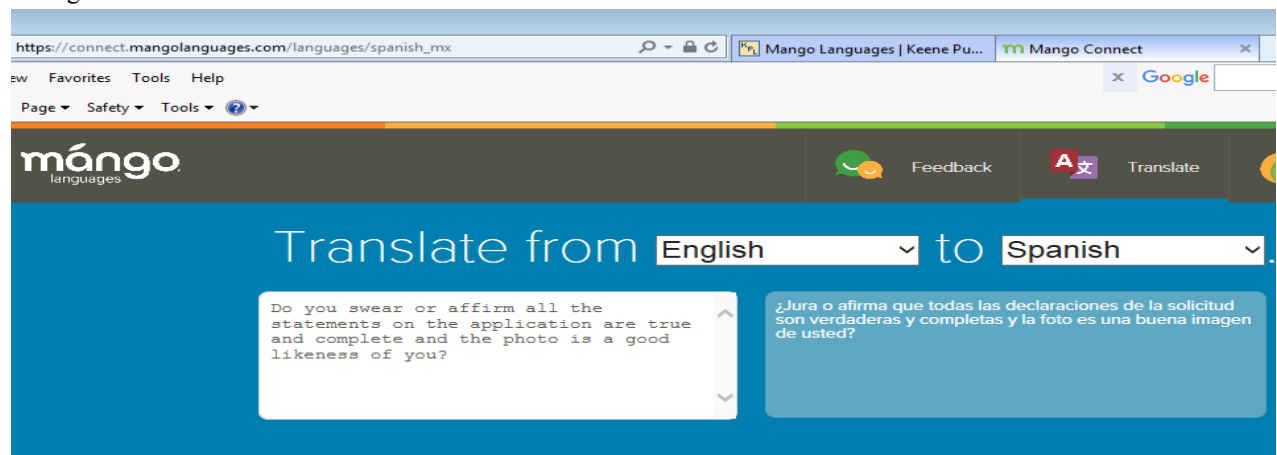
the figure below:

Figure 2Mango translation sample oath

 in order to collect feedback from our consular interview system.   The data lineage and business vocabulary need to be refined. We would like to build a system that has the structured interview in the desired language. That could be the 8 languages discussed in this paper and additional languages, such as Arabic, Korean and Russian.

A language of patterns for initiating contact, ending contact, approving and disapproving, thanking, showing satisfaction, showing surprise, offering to do something, suggesting, warning, exchanging facts, expressions notions of quantity, understanding, getting angry, arguing, reacting to statements, ordering, demanding. Patterns for non-verbal language are not yet addressed.

4.   RELATED PATTERNS

Imagine That Pattern

To kick start the change initiative; engage others in an exercise to imagine future possibilities. We used this pattern to engage others in my organization to be interested in my ideas. We started looking at this almost a year ago and devised the phrases with the help of my colleagues they are subject matter experts in the languages. They verified the translations.

The Imagine That pattern shares common roots with Linda Rising's and Marylou Mann's Evangelist pattern, found in *Fearless Change*. Both are about the excitement that comes from having a new idea and wanting to share that idea with others.

Explore For Yourself Pattern and Try for Yourself

From Patterns for active learning, PLoP 2002, a person's success is mainly about learning new concepts efficiently. Students have to learn on their own. You often have a difficult time knowing the degree of task competency during the presentation of a topic. Additionally students usually believe they understand the topic, but this is only true in theory. As soon as they have to accomplish a task based on this new topic they realize their lack of understanding. Learning a language is more than just reading about it.

Pattern Garden

Communicating with people who do not speak English has many challenges for natives that only speak English. A "pattern" is used to guide introduction of the properties into an environment. This paper uses the design to find how they can fit and serve the natural forces comfortably.

This pattern is grounded in my study and comparison of English, Asian, and Mediterranean style gardens. We studied different garden styles: French, Italian, Portuguese, German, Japanese and Chinese. My goal was to understand the elements and style, of commonalities and differences among gardens, to see if patterns found in gardens could be generalized, or used metaphorically, to expose language-learning patterns.

The following properties provide a foundation for finding patterns in garden composition, and might perform the same function for finding patterns of language learning.

Identify. Characteristics of an object.
Locate. Absolute or relative position.
Distinguish. Recognize as the same or different.
Categorize. Classify according to some property (e.g., color, position, or shape).
Cluster. Group same or related objects together.
Distribution. Describe the overall pattern.
Rank. Order objects of like types.
Compare. Evaluate different objects with each other.
Associate. Join in a relationship.
Correlate. A direct connection.

You can apply the above properties/criteria to language: vocabulary and syntax. Our basic rational for doing so is as follows. The 8 language books have many lessons some of which are the same and some are not. We tried to identify the same 8 phrases and find the correct grammar and syntax to distinguish them as the same or different.

Coupling this pattern with the Imagine That pattern suggests a set of ideas grounded in the organization of vocabulary and grammar to create tools – sharing a common pattern of structure and intent – like a customer service card in multiple languages, an on-line tool for translations among languages, and an interview "script" that would assure commonality across interviews instead of idiosyncratic variation based on the interviewer's command of languages.

We used the Garden Patterns to illustrate a visual learning with patterns and languages. When we say a Spanish garden, we immediately have an idea of the model of a Spanish garden as opposed to a Chinese garden, which is based on the 14 essential garden patterns previously listed; the use of water is very different in the two different gardens:

Figure 3 Spanish and Chinese gardens

English/Latin	Italian	French	Spanish
Eight/Octo	o**tt**o	hu**it**	o**ch**o

This is from the Latin cluster sound ct pronounced /kt/. In Italian tt, French it, and Spanish ch.

Figure 4 Italian and French gardens

The figure above shows the Italian garden and the French garden examples.

This is part of the technique for comparative analysis allowed us to determine two things at once. We are looking at the phonetic sounds and visual garden elements. Theoretical linguists build language models or theories to describe languages or to explain the nature of their structures. Applied linguists, apply the findings of linguistics to language teaching, dictionary preparation, speech therapy, computerized machine translation and automatic speech recognition. There are related fields of study, sociolinguistics, psycholinguists, and neurolinguistics. The scientific study of languages have a standard set of repository of procedures which include: phonetics and phonology, morphology, syntax, semantics (meaning patterns), and variation according to which the contexts in which a language is used or applied (pragmatics or discourse analysis).

5. DISCUSSION

Italian, French, Spanish, Portuguese and a few others are modern day descendants of the same parent language, Latin. They are all dialects of Latin spoken in places that became their own countries after the demise of the Roman Empire.

French, Italian and Spanish are phonetically related to one another. They are assimilated phonetically. This assimilation is called vocalization. The sounds one makes when the mouth is closed with certain vowels. The process is known as palatalization. Comparisons among the three languages in other areas of pronunciation, grammar and vocabulary, show just how precisely they are related historically.

The Time for Reflection pattern, from *Fearless Change Patterns* helped me to formulate my ideas to increase productivity in an environment that is multilingual. We envision a software system that provides the script for the interview in all 8 languages with entry tags to the subsections as needed.

A mixed language, or creole, is a language that arises through the fusion of two source languages, normally in situations of thorough bilingualism. This is another topic for future work.

The model we applied is a considerable simplification over what actually occurs. Nevertheless, the results are compelling and there are advantages in having a relatively simple model. We have plans to add some of these more complex functions in future versions of the model.

Seeing comes before words. A child looks and recognizes before it can speak. But there is also another sense in which seeing comes before words, there is a relationship between what we see and what we know. The way we see things is affected by what we know or what we believe. We believe that a software system could be developed to model the necessary interview script for the dialogue in each of the chosen eight languages.

Another area of confusion with translations is dates even in our structured interview. If the text is in English, it is most likely, but not absolutely certain, that 05/06/2017 will mean May 6. However, the same sequence in another language refers to June 5.

6. CONCLUSION

Pattern recognition is generally categorized by the type of learning procedure used to generate the output value. Initially, this experiment started as an unsupervised learning. And it evolved into a supervised and then semi-supervised learning. The data created in the unsupervised learning is the training data. We tried to learn 8 languages from content known. This study was only a primitive cursory look at the problem.

Current translation tools, such as Google translate are not adequate because they do not understand the grammar and culture of all the languages. Translators need to know the grammar and the habits of the people who speak it. A simple English sentence has a subject verb and object – in that order. Not every language shares this structure.

Idioms and expressions cannot be predicted by the literal definitions of the words themselves. Compound words may or may not reflect true meaning. For example, airport, crosswalk, and seashore are familiar examples. A "bookworm" is not really a reader who becomes an invertebrate species. The English word, deadline doesn't have anything to do with dead or line. And a "butterfly", is neither a butter or fly, also, "hotdog".

Missing names, where a language does not have an exact match for a name or object. Two word verbs, in English we say, "look up", for example, in Italian it is one word, "cercare". Multiple meanings are where the same word has more than one meaning. We have homonyms, and heteronyms. In English we say, "scale the fish before weighing on the scale". "I drove down the windy road on a windy day". Other examples: live, live, polish, Polish, long and short vowel.

Sarcasm when translated frequently loses its meaning in word for word translation into another language and can cause unfortunate misunderstanding. Inflection and tone can also cause misunderstanding. To use a translator the different problematic areas include: lexical-semantic , grammar, syntax, rhetoric, pragmatic, cultural, and there can be computer related problems, as well. However, the context subset of the structured interview is written using all case scenarios as the patterns; this could be translated into the various languages and stored in a data base.

Learning one language takes time. For this effort to be successful, memory, attention, and retention are required.   Focus on language content that is relevant to you. Use your new language as a tool to communicate from day 1, as a kid does. When you first understand the message, you will unconsciously acquire the language. That is comprehension input.   Patterns can be used in many ways, such as, listen a lot, brain soaking patterns, use body language, patterns that you know and start mixing, focus on core 1000 to 3000 words, get a language parent, copy the face of a native speaker, direct connect memory same box different path. For future work, a speech act profile could be created using speech act theory modeling and the patterns shown.

APPENDIX

Speech Act Pattern

Problem: Almost any speech act is the performance of several acts at once, distinguished by different aspects of the speaker's intention. The act of saying something, what one does in saying it, such as requesting or promising, and how one is trying to affect one's audience.
Solution: This is a general pattern. It is an addresser who initiates a communication.
Context: A context that permits the addressee to recognize that the message is referring to something other than itself.
Forces: A message that he or she must refer to, A mode of contact by which a message is delivered (the physical channel) and primary social and psychological connections that are established between the addresser and the addressee
Discussion: A code providing the signs and structural patterns for constructing and deciphering messages.
Conative – the intended effect – the physical, psychological, social effect that the message is to have on the addressee
Consequences: Emotive – emotions, attitudes and social status
Example: Speech acts are commonly taken to include such acts as promising, ordering, greeting, warning, inviting and congratulating.

Consular Interview Pattern

Problem: People need their travel document
Solution: Imagine that you had a machine that could think and provide you with the words for a conversation in a language that you needed like Google translate only better. The task is to conduct a consular interview. What is that? Try to learn languages quickly; develop a script in each language.
A mother, father, and their infant are trying to travel on vacation. They need a travel document for their child. A simple enough scenario provided that they have all the required documents. It becomes complex when items are missing or if they cannot communicate what they want because English is not their primary language.
Context: The interview is conducted in a very short period of time (6-10) minutes. With a delay they may miss the occasion of their travel.
Forces: Time limit and language barriers, verify documents and identity of individuals.
Discussion: This can become complicated by several factors. Do we suspect criminal intent? Do you suspect child abduction or human trafficking?
Consequences: We do not want to issue in error.
Example: The mother does not know where the father is. This is a more complex version of the problem. And the mother does not speak English. How do we help her? Do we send her away to bring a translation of all her documents and an interpreter?

Application for U.S. Passport Pattern

Problem: All 21 questions are required to be answered and there may be language barriers.
The form may contain blanks because the interviewee does not understand the question.

Solution: Create a model of the 21 questions in all eight languages.
Context: The information includes: Name, Date of birth, Sex, Place of birth, Social security number, email, primary contact phone number, mailing address, list all other names you have used, parental information, have you ever been married, additional contact information, occupation, employer or school, height, hair color, eye color, travel plans, permanent address, emergency contact, have you ever applied for or been issued a U.S. Passport Book or card?
Forces: Time limit and language barriers, verify documents and identity of individuals.
Discussion: Collection of the information is estimated to average 85 minutes per response, including time required for searching existing data sources.
Consequences: This may not cover all dialects and what about the other languages. Incomplete application.
Example: French Sample: Completing the application – Remplir la Demande
You need to fill out the entire application, please.
Il vous faut remplir la demande toute entire, s'il vous plait.
You can return to me when you are finished.
Vous pouvez retourner a moi lorsque vous avec termine.

Stock Phrases Pattern

Problem: Standard problem of inquiry
Solution: Set of stock phrases, switch to alternate language
Context: English comprehension insufficient for completion of the interview not just the form. What are the setting, goals and target?
Forces: Time constraint, the production, they may understand but cannot speak, detection of language, spend years learning every language, signals
Discussion: Asking for completion of empty fields
Consequences: nuances and side bar conversations
Example: Applicants believe some fields are optional.

Confirmatory Rephrasing Pattern

Problem: Fake it, may not be easily detectable, silence nod, repeat, rephrase, confirm understanding
Solution: Do a rephrase or ask a confirmatory question
Context: complete the interview need to comprehend
Forces: Tine constraints
Discussion: We may create a script to help with language barriers
Consequences: Lack of understanding even though asking
Example: In the course of performing speech acts we ordinarily communicate with each other. The context of communication may be identical, or almost identical, with the content intended to be communicated, as when asked, "What is your name?"

Parent Conversation Pattern One

Problem: We have two parents and a child. People need their travel document
Solution: Try to learn languages quickly; develop a script in each language.
Context: A mother, father, and their infant are trying to travel on vacation. They need a travel document for their child. A simple enough scenario provided that they have all the required documents. It becomes complex when items are missing or if they cannot communicate what they want because English is not their primary language. The interview is conducted in a very short period of time (6-10) minutes. With a delay they may miss the occasion of their travel.
Forces: Time limit and language barriers, verify documents and identity of individuals.
Discussion: This can become complicated by several factors. Do we suspect criminal intent? Do we suspect child abduction or human trafficking?
Consequences:
  • We do not want to issue in error
  • Most of the complexity in managing dependencies
  • Dependency logic

Example: Small children cannot speak for themselves, so we rely on the parents to identify the child.

Parent Conversation Pattern Two

Problem: We have one parent and a child, with a need for urgent travel.

Solution: We need to provide the same timely response.

Context: The mother does not know where the father is. This is a more complex version of the problem. And the mother does not speak English. How do we help her? Do we send her away to bring a translation of all her documents and an interpreter?

Forces: Access to all the information needed at the time of interview.

Discussion: Do we suspect a problem? Has the mother been abandoned?

Consequences: We do not want to issue in error

Example: Small children cannot speak for themselves, so we rely on the one parent for information.

REFERENCES

Gianrenzo P. Clivio, and Marcel Danesi, The Sounds, Forms, and Uses of Italian: An Introduction to Italian Linguistics, 2000, University of Toronto Press

C. M. Purin, John L. Kind, F. H. Reinsch, Conversational Approach to German, 1947, D.C Heath and Company

Kristine Kershul, German in 10 minutes a day, 2015, Bilingual Books, Inc.

Kristine K. Kershul, Italian in 10 minutes a day. 2008. Bilingual Books, Inc.

Kristine K. Kershul. Hebrew in 10 minutes a day. 2010. Bilingual Books, Inc.

Kristine Kershul, Japanese in 10 minutes a day. 2008. Bilingual Books, Inc.

Kristine K. Kershul. Chinese in 10 minutes a day. January 2014 Bilingual Books, Inc.

Kristine K Kershul. French in 10 minutes a day. 2015. Bilingual Books, Inc.

Kristine K. Kershul. Portuguese in 10 minutes a day, July 2011. Bilingual Books, Inc.

Kristine K. Kershul, Spanish in 10 minutes a day. 2015. Bilingual Books, Inc.

Christian Koppe and Marielle Nijsten, A Pattern Language for Teaching in a Foreign Language – Part 1, http://www.hu.nl

Mary Lynn Manns and Linda Rising More Fearless Change 2015 Addison Wesley Pearson Education.

Takashi Iba, Toko Miyake, Miyuko Naruse, and Natsumi Yotsumoto, Learning Patterns: A Pattern Language for Active Learnings, PLoP 2009.

Valerie Easton, A Pattern Garden, 2007, Timber Press.

https://wikisource.org/wiki/Baba_yetu

https%3A%2F%2Fwww.gardenvisit.com%2Fgardens%2Fsun_yat-sen_classical_chinese_garden&psig=AFQjCNHz0z-64qpx2kz3jiLAhQguLgHOcg&ust=1506516180103922

https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwijq4X-8MLWAhWKQyYKHQanDPoQjRwIBw&url=https%3A%2F%2Fwww.pinterest.com%2Fexplore%2Fspanish-garden%2F&psig=AFQjCNHBvpOz-zh1AFVmNc5gjbX-Zxzk0w&ust=1506516049848811

https://www.google.com/search?hl=en&tbm=isch&source=hp&biw=1157&bih=819&q=Italiangarden&oq=Italiangarden&gs_l=img.3..0i10i24k1.3472.8515.0.11246.15.15.0.0.0.0.727.2250.0j6j0j2j6-1.9.0....0...1.1.64.img..6.9.2241.0..0j0i10k1j0i24k1.0.Nc4wp46600Y#imgrc=eMuRzHI7LjK0DM:&spf=1506434708783

https://www.google.com/search?hl=en&tbm=isch&source=hp&biw=1157&bih=819&q=french+garden&oq=french+g&gs_l=img.1.0.35i39k1j0l9.2453.7262.0.9527.14.12.2.0.0.0.417.1560.0j1j4j0j1.6.0....0...1.1.64.img..6.7.1367.0..0i24k1.0.ooHkwqQZ-9k#imgrc=B8XbIGUPatnSMM:&spf=1506434905350