

Failing Forward in Local Contexts: Marginal Gains and the Infinite Game of Language Learning

LTRC 2026

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Story Time



MINISTERIO
DEL INTERIOR

DIRECCIÓN GENERAL DE LA POLICIA



POLICIA NACIONAL

Atestado: 23040/24

Instructor: 144944
Secretario:

Atestado nº: 23040/24
Dependencia: MADRID-
CENTRO

DECLARACIÓN PRESTADA POR:

-- Troy Leigh COX

-- En Madrid, siendo las 18 horas 24 minutos del día 17 de mayo de 2024, ante el Instructor y el Secretario mencionados, comparece quien otro documento de nº A03973679, acredita ser Troy Leigh COX, país de nacionalidad Estados Unidos America, el día 12/05/1970, hijo de Madrid Ac Hotel Los Vascos, de Madrid,

dependencias para relatar

Proficiency Matters!

Who is Troy L. Cox?

Professor, Second Language Studies

Associate Director Research and Assessment at Center for Language Studies
(2013-present)

Technology and Assessment Coordinator at the English Language Center
(1996-2013)



Example 1

My name is Troy Cox. I am a professor at Brigham Young University. I have worked here since 1996. I am part of the Center for Language Studies. I am married to Heidi, and we have three children. They are Cameron, Hannah and Millie. We have two dogs: a mother and her son. Her name is JoJo, and his name is Remy. When I don't work, I like to ride my bike, take photos, cook, and practice yoga.

Total word count :	78
Number of different words :	56
Sentence count :	8
Average sentence length (words) :	8.7
Longest sentence (words):	16
Shortest sentence (words):	5

Example 2

My name is Troy Cox, and I've been working full-time at Brigham Young University since 1996. While I am currently in the Center for Language Studies (CLS), the first 17 years of my work at the Y had me at the English Language Center where I worked concurrent with my pursuit of a PhD. After receiving my doctorate, I applied for a faculty position at the CLS as the research and assessment coordinator, was hired, and began working there in 2013. As a scholar, I do research in second language learning, teaching and assessment.

I've been married to the wonderful Heidi Cox for a few months longer than I've been at BYU, and we are the parents of three children: Cameron, Hannah and Millie. We've finally hit empty-nester status and are the owners of a two Boston Terriers, the mother who is named JoJo but has the monicker "the little angel", and her son, Remy who has a striking resemblance to Stitch from the Disney franchise. The byline from my social media account sums my life up fairly well: Disciple; Husband & Father; Amateur Cyclist, Yogi, Cook & Photographer; Professor (Applied Linguistics/Language Testing).

I identify first and foremost as a man of faith and one who loves his family, but when I am not engaged in activities with my church or work, you'll find me road cycling, practicing yoga (power for the most part), cooking or working on my photography skills.

Total word count :	242
Number of different words :	156
Sentence count :	8
Average sentence length (words) :	30.3
Longest sentence (words):	48
Shortest sentence (words):	13

What is the difference between the two introductions?

Example 1

- My name **is** Troy Cox.
- I **am** a professor at Brigham Young University. I **have worked** here since 1996.
- I **am** part of the Center for Language Studies.
- I **am married** to Heidi, **and** we **have** three children. They **are** Cameron, Hannah **and** Millie.
- We **have** two dogs: a mother **and** her son. Her name **is** JoJo, **and** his name **is** Remy.
- **When** I **don't work**, I like to **ride** my bike, **take** photos, **cook**, and **practice** yoga.

Example 2

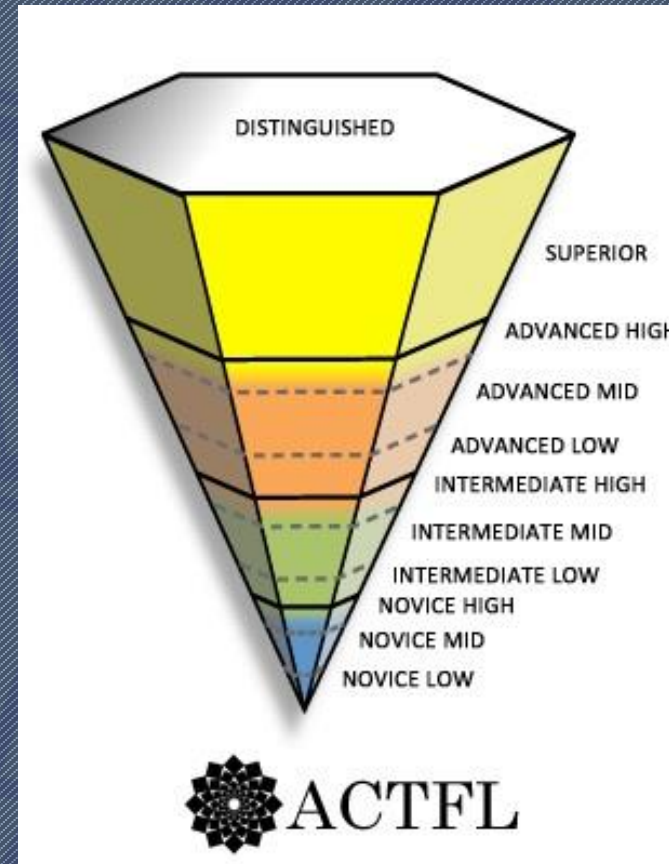
My name **is** Troy Cox, **and I've been working** full-time at Brigham Young University **since** 1996. **While** I **am** currently in the Center for Language Studies (CLS), **the first** 17 years of my work at the Y **had** me at the English Language Center **where** I **worked** concurrent with my pursuit of a PhD. **After receiving** my doctorate, I **applied** for a faculty position at the CLS as the research and assessment coordinator, **was hired**, and **began** working there in 2013. **As** a scholar, I **do** research in second language learning, teaching and assessment.

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The ACTFL Proficiency Guidelines 2012

- Not what you KNOW about the language, but what you can DO SPONTANEOUSLY in real world situations.
- Five major levels (each subsumes all lower levels) that describe a confluence of:
 - **F**unction
 - **A**ccuracy
 - **C**ontent/context
 - **T**ext Type



*Keep your
FACTs straight
and you can
determine the
major level!*



Think “DO” not “KNOW”



THE GREAT BRITISH BAKE OFF®

APPLY FOR
BAKE OFF

AS SEEN ON



NEWS

RECIPES

YOUR BAKES

THE BAKERS

SHOP

AN EXTRA SLICE

ABOUT

CONTACT US



ABOUT THE SHOW

The Great British Bake Off is the ultimate baking battle where passionate amateur baking fans compete to be crowned the UK's Best Amateur Baker. Over the course of 10 hour-long episodes, the series follows the trials and tribulations of the competitors, young and old, from every background and every corner of Britain, as they attempt to prove their baking prowess. Each week the bakers tackle a different baking skill, which become progressively more difficult as the competition unfolds.

Imagine a show in which the bakers sit down and answer the following questions on paper.

What are 3 leavening agents?

What is an enriched dough?

What is the difference between royal icing and buttercream?

THE CHALLENGES

SIGNATURE BAKE



Testing the bakers' personality, creative flair and baking ability, the main challenge here is to produce something cute, rustic and altogether home-made-looking. It's in this test that the Bakers get to show off their tried-and-tested handcooked treats.

TECHNICAL BAKE



This challenge separates the wheat from the chaff. Take one basic recipe, with the same ingredients and instructions, and ask our bakers to produce the finished product... sound easy? Well, any variation on the finished product will be a result of their own technical knowledge and experience – or lack of. Bakers are laid bare in this task and this is where the pressure's really on in the Bake Off.

SHOWSTOPPER BAKE



The oven gloves are off in this final challenge where the bakers are able to showcase their depth of skill and talent. The complexities of this task call for a professional standard in taste and appearance. Are they up to it? The judges will be looking for the most impressive and elaborate creations – that better taste first-class too.

Performance

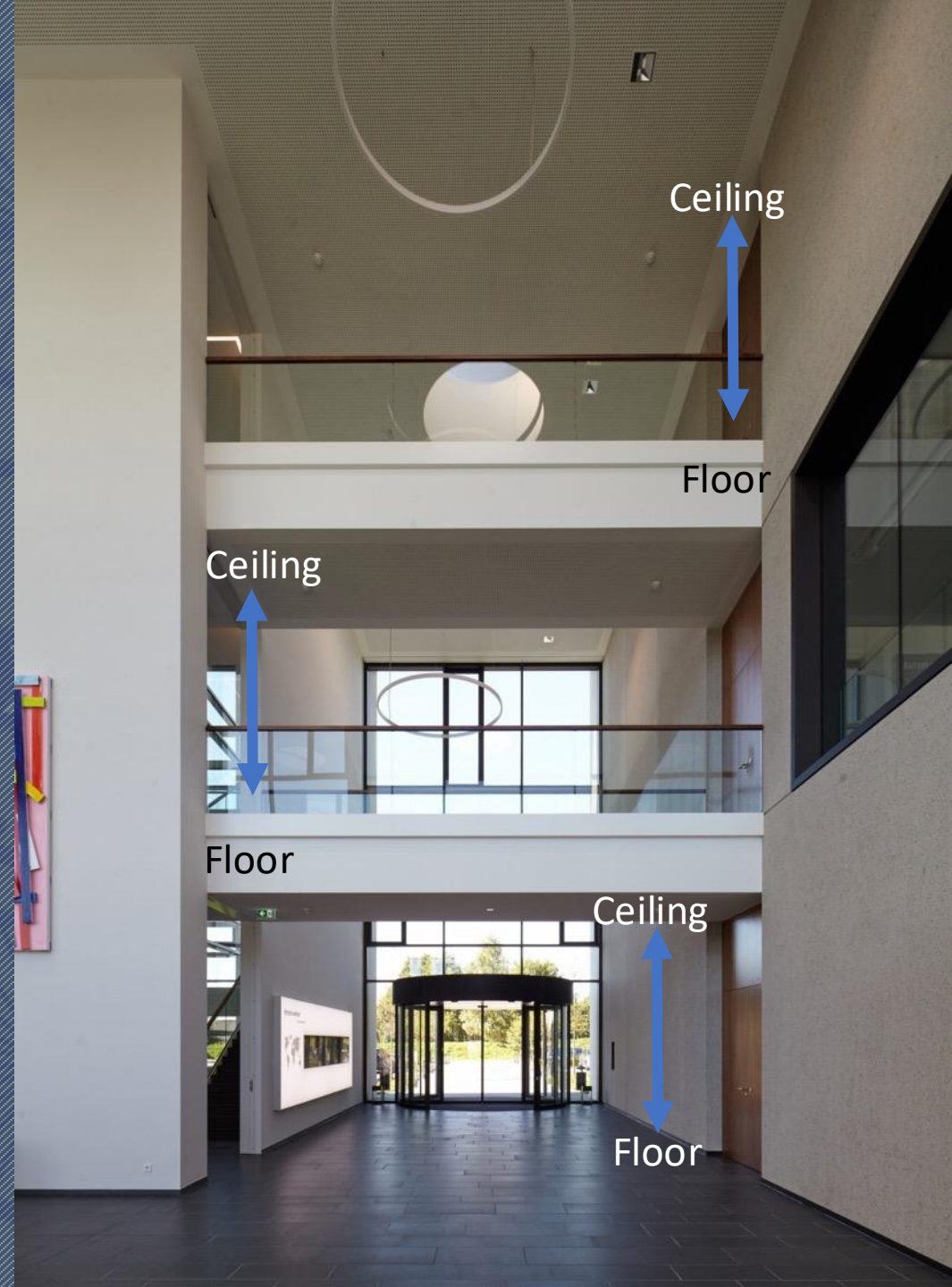
Proficiency

Proficiency Guideline Criteria

Level	Novice/ILR 0	Intermediate/ILR 1	Advanced/ILR 2	Superior/ILR 3
F unctions	- Communicate minimally - Use formulaic utterances - Produce words, lists and phrases	- Create with Language - Participate in Simple Conversations - Ask and Answer Questions - Engage in simple transactions	- Narrate and Describe in All Time Frames - Past - Present - Future - Linguistically negotiate situations with complications	- Discuss Abstract Topics Extensively - Support Opinion with Nuanced Language - Explore hypothetical realities vis-à-vis conjecture
A ccuracy	Only understood by patient, sympathetic listeners accustomed to nonnative speakers	Understood by people accustomed to speaking to nonnative speakers	Can be understood without confusion by monolinguals not accustomed to speaking to nonnative speakers	No patterns of errors in basic structures. Errors virtually never distract or impede communication
C ontent	Self	Self Daily Life	Self Daily Life Non-autobiographical Topics Topics of General Interest	Self Daily Life Non-autobiographical Topics Topics of General Interest Abstract Topics
T ext Type	Words Lists	Sentences Strings of sentences	Paragraphs	Extended Discourse

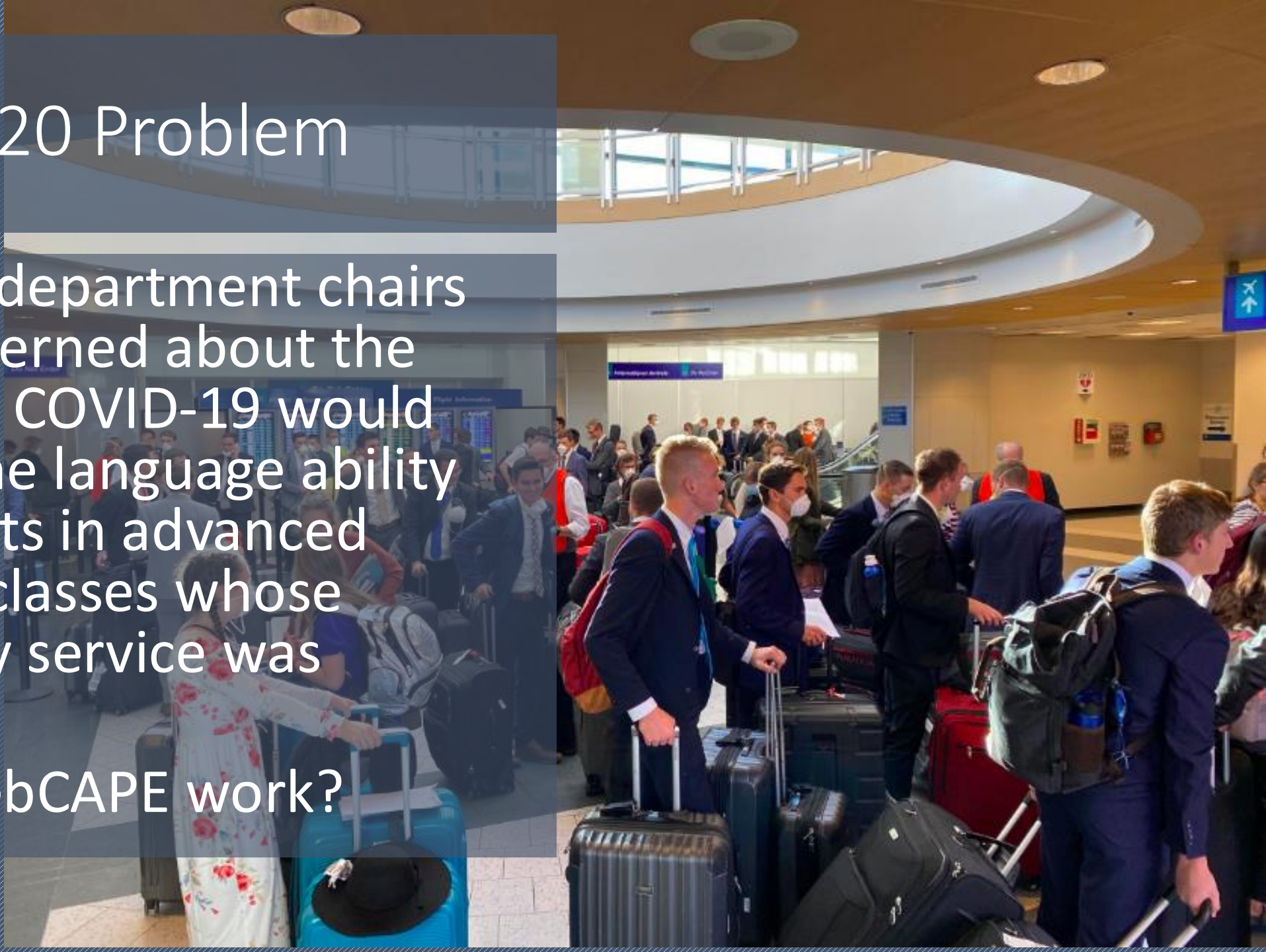
Keep your FACTs straight and you are at a major level.

- Proficiency Guidelines describe major levels of language development.
- **Floor** describes highest level that can be maintained consistently.
- **Ceiling** describes lowest level in which patterns of breakdown appear.



Spring 2020 Problem

- Language department chairs were concerned about the disruption COVID-19 would have on the language ability for students in advanced language classes whose missionary service was disrupted.
- Would WebCAPE work?



WebCAPE (Web-Computer Adaptive Placement Exam)

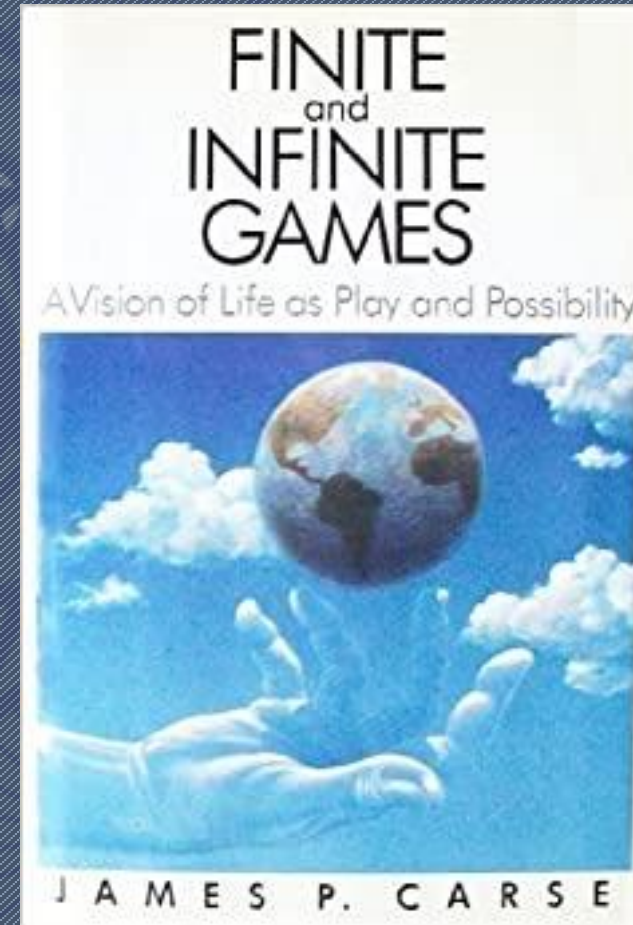
- Tests students with MC questions.
- Adaptive algorithm gives each student a unique set of questions at varied difficulty levels to determine score.
- Results are low stake.



Is language learning a finite or an infinite game?

Carse, J. (2011). *Finite and infinite games*. Simon and Schuster.

Sinek, S. (2019). *The infinite game*. Penguin.



THE INFINITE
GAME
**THE INFINITE
GAME**
SIMON
SINEK
THE INFINITE
GAME
THE INFINITE
GAME

What's the difference between finite and infinite games?

Finite

- Played to win
- Externally defined rules
- Limits are predefined
- Players can compete to win within these limits
- Examples:
 - a football match (win/lose)
 - publishing a paper (accept/reject)
 - job interview (hired/not hired)
 - going to church (present/absent)

Infinite

- Played to keep on playing
- Internally defined rules.
- Limits are not defined
- The goal of players is to stay in the game
- Examples:
 - being an athlete for the joy of the game
 - being a scholar for the joy of discovery
 - Having a career that's fulfilling
 - Being a disciple for the purpose of fulfillment

“To be prepared against surprise is to be trained. To be prepared for surprise is to be educated.”

—James Carse

Is our goal language training or **education through lifelong learning?**

BYU's Student Population

Enrollment Profile (Fall 2025)

- 37,205: total daytime students
- 34,224: undergraduate students
- 2,981: graduate students
- 50% female; 50% male
- 63% single; 17% married; 20% unknown

International Reach

- Number of international students: 1,306
- Countries represented: 103
- Top three nations represented: Canada, Mexico, South Korea

World Languages at BYU

- 60+% of students speak a second language
- 127 languages spoken on campus
- 84 languages taught regularly
- 21 language certifications offered
- 204 study abroad programs in 61 countries
- 258 ambassadors to the United States from 104 countries have spoken on campus since 1996
- 10 languages offered in foreign language student housing

Whatever you
choose to test
becomes the
de facto learning
objectives
for a curriculum.

The way you
choose to assess
it becomes the
de facto teaching
and learning
philosophy.

-Paraphrase of McTighe & Wiggins

What is the LASER?

- The Language Ability Self-Evaluation Resource is a self-assessment diagnostic tool designed to help students evaluate the strengths and weaknesses of their language proficiency through nationally recognized standards.
- As students improve in their ability to self-assess, they will improve in their ability to grow and develop their language proficiency.



laser.byu.edu

Scale Design and Description

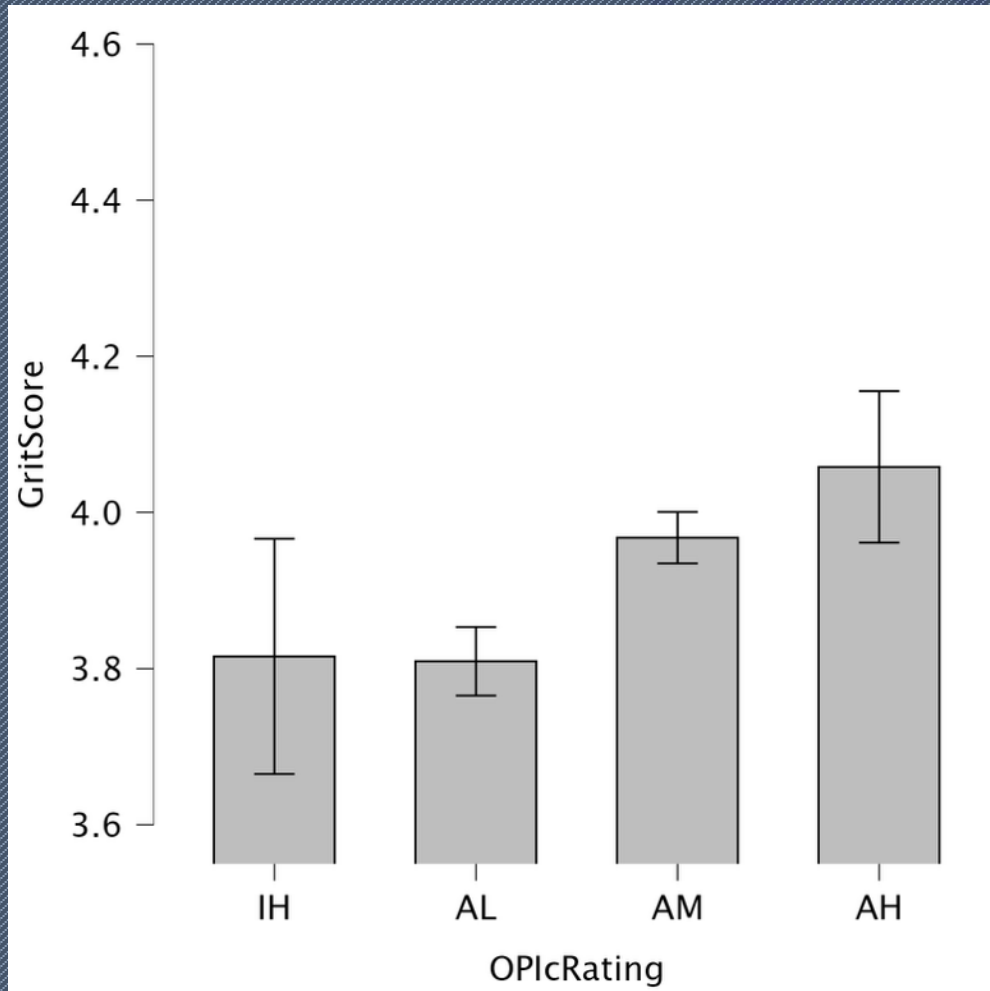
	LASER
Construct	Indirect measure Speaking and Writing proficiency
Format	Section 1 (Fixed form) • Language Learning Background • Willingness to Communicate (26 items (random subset, 100% time scale)) • Language Learning Grit (9 items, 5 pt. scale) • Self-Assessment of Speaking and Writing (24 items, 5 pt. Scale) Section 2 (items targeted at the self assessed level from section 1) • Writing and Speaking
Languages	Can be adapted for most languages
Results	ACTFL scale (10 Point) from NL to S (not official). Self-assess results moderated by language learning background, length of immersion, and distance from English. Sent to both student and instructors who have (hopefully) been trained in the proficiency scale
Delivery	Qualtrics (not proctored) troycox.xyz

A faint, stylized graphic of a bicycle wheel is centered in the background of the slide. The wheel has many spokes and a thick tire, rendered in a light blue color that blends with the dark blue background.

GRIT

Do GRIT scores differ significantly across different OPlc levels?

GRIT and Proficiency



Mean = 3.91, SD .56, $n=1,904$
[$F(3,1900) = 14.51, p < .001$]

Effect size ($\omega^2 = 0.021$) → The effect is small. OPIc proficiency explains about 2.1% of the variance on the GRIT scale.

Tukey Post Hoc

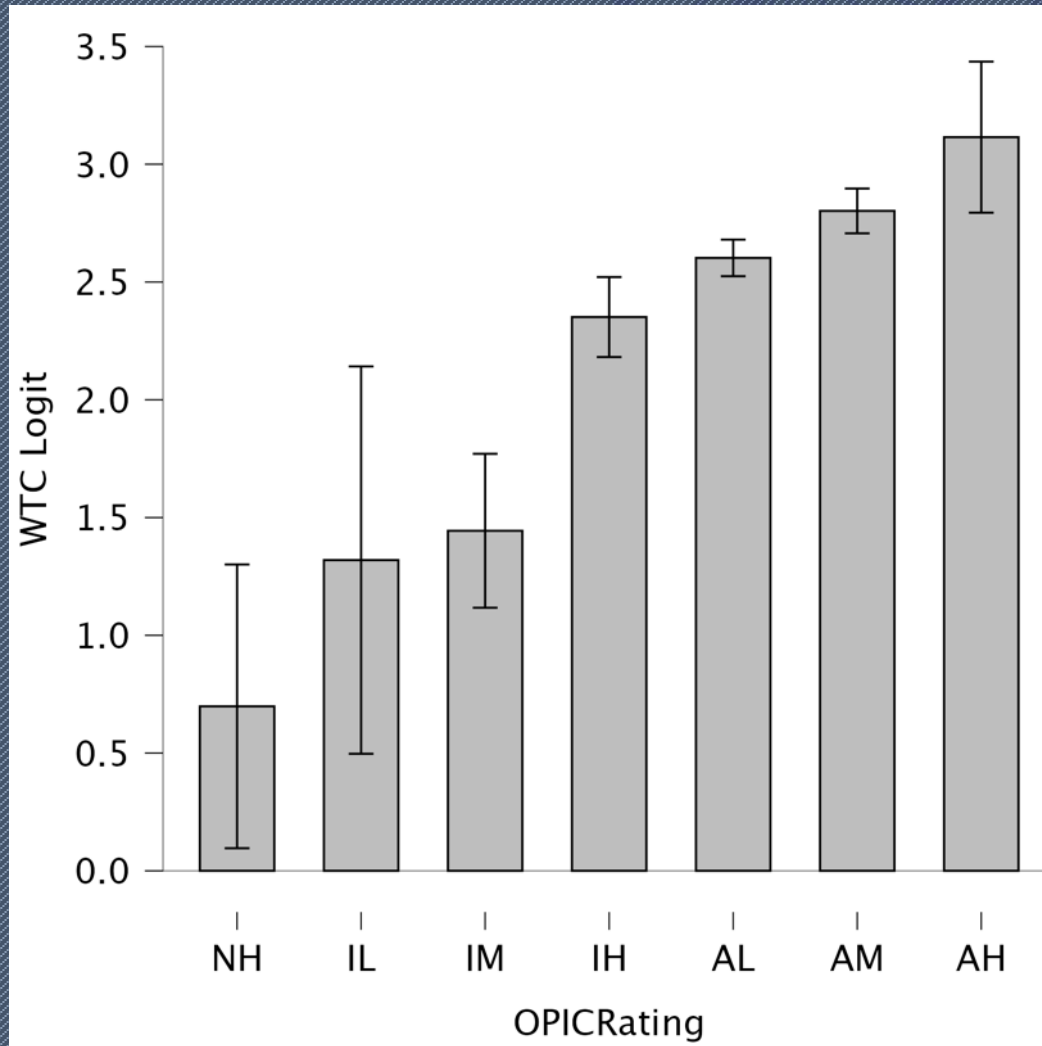
- AL vs AM → Significant ($p = .001$)

Willingness to Communicate (WTC)

Do WTC scores differ significantly across different OPlc levels?



WTC and Proficiency



Mean (logits) = 2.61, SD 4.45, $n=2,594$
[$F(6, 2,599) = 39.99$, $p < .001$]

Effect size ($\omega^2 = 0.041$) → The effect is small to moderate. OPIc proficiency explains about 4% of the variance in WTC logits

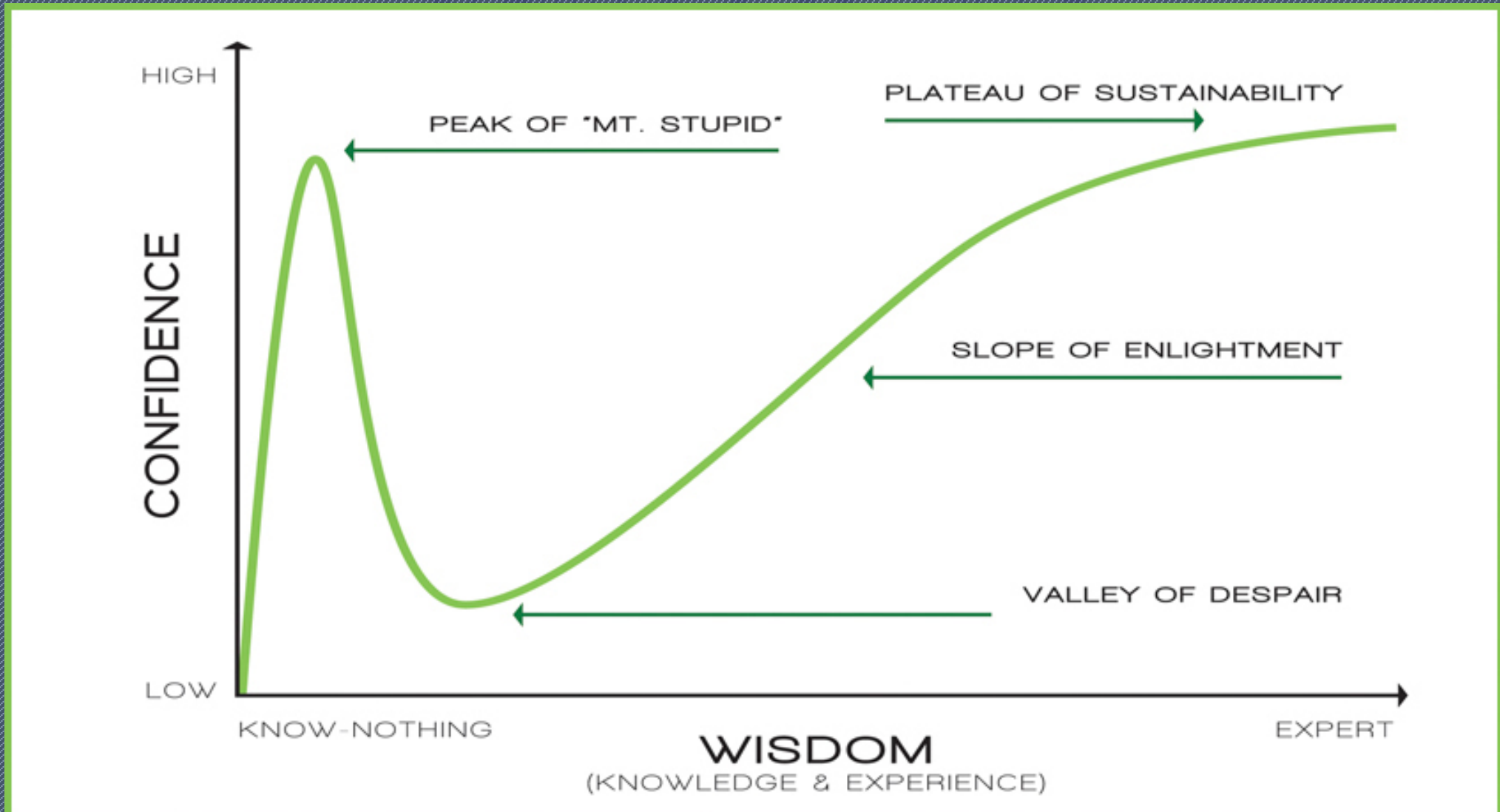
Tukey Post Hoc

- IM vs IH → Significant ($p < .001$)
- IH vs AL → Marginal ($p = .069$)
- AL vs AM → Significant ($p = .027$)

Self Appraisal Accuracy

The Dunning–Kruger effect is a cognitive bias whereby people with low ability, expertise, or experience regarding a certain type of a task or area of knowledge tend to overestimate their ability or knowledge.

Surprising? Not Really...



We are all subject to the
Dunning-Kruger Effect. But are
we aware of it?

Speaking Calibration

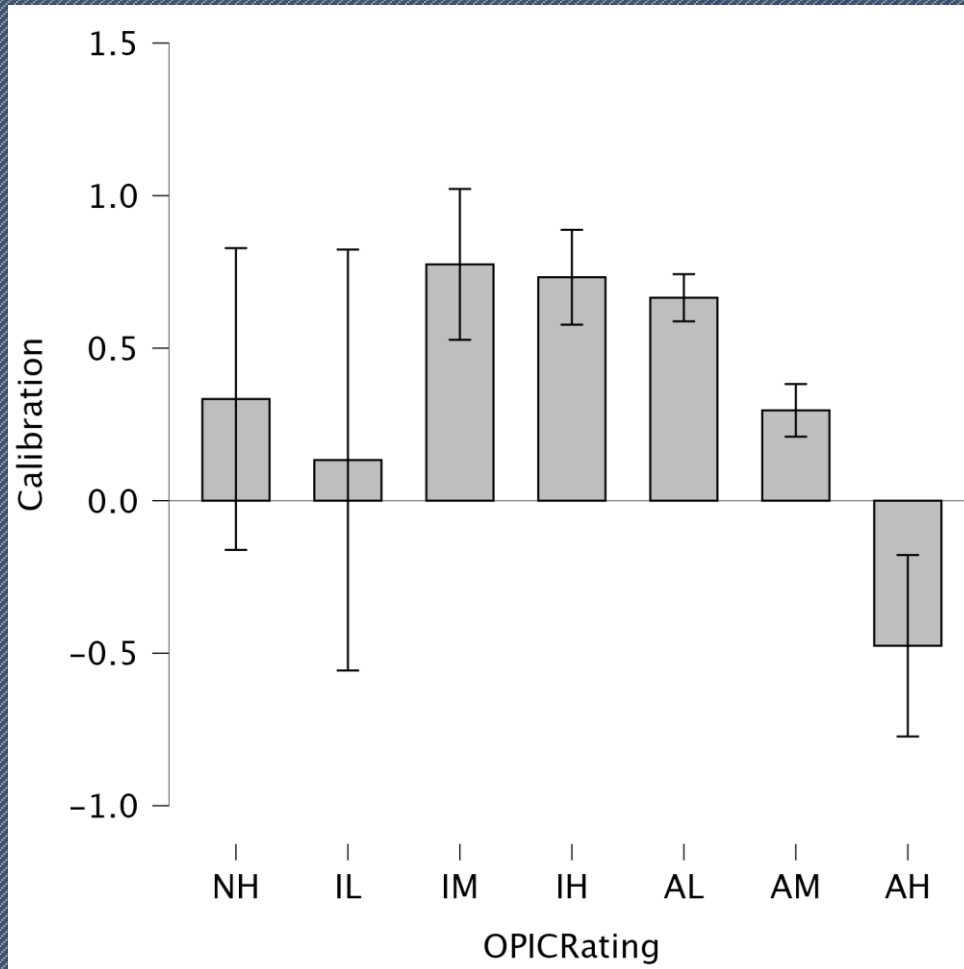
Mean = .52, SD 1.38, n=2,604

$F(6, 2609) = 15.77, p < .001$

Effect size ($\omega^2 = 0.033$) → The effect is small approaching moderate. OPIc proficiency explains about 3.3% of the variance in calibration

Tukey Post Hoc

- AL vs AM → Significant ($p = .027$)
- AM vs. AH → significant ($p < .001$)



So, what do we know about these participants that were self-taught (for the most part)?

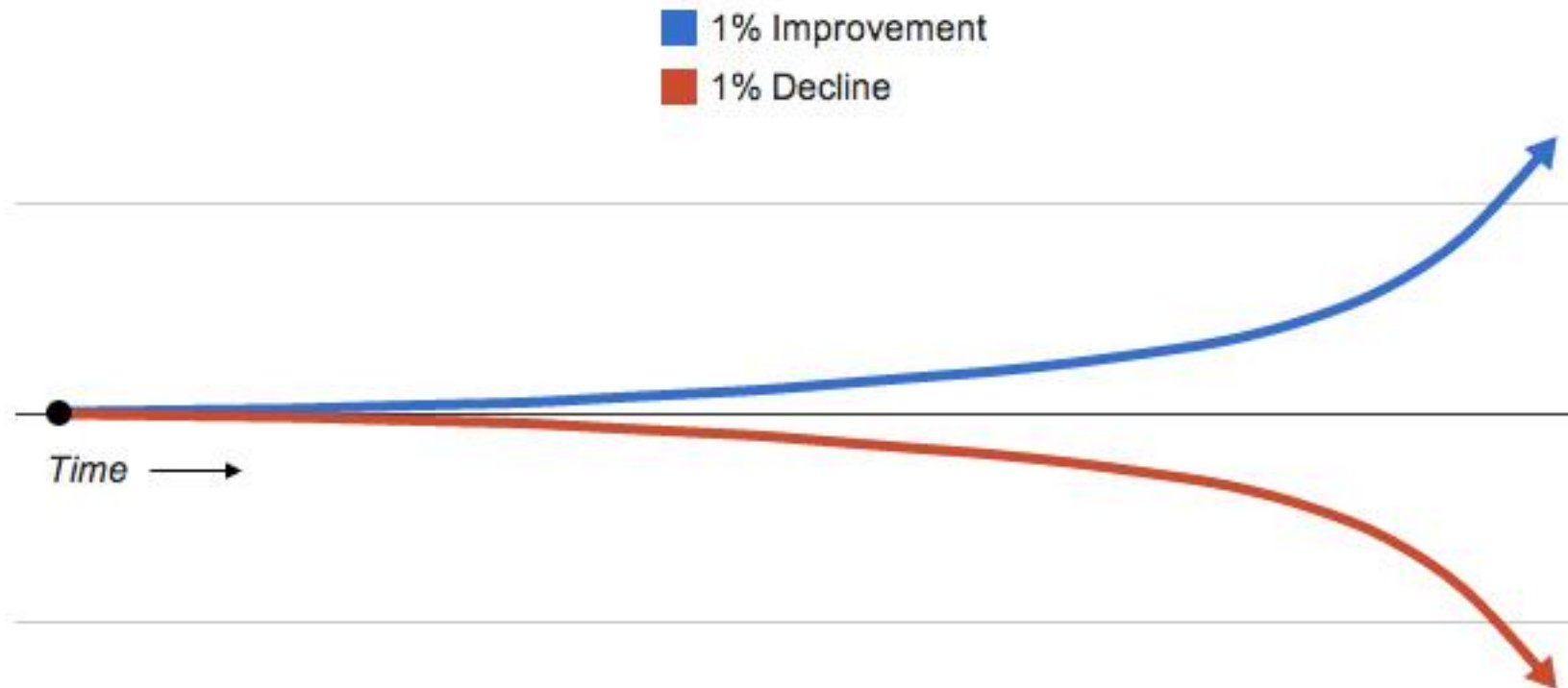
- Temporal Fluency
 - Living abroad you'll typically at least get up to the Intermediate Mid/High level
- GRIT
 - Everyone's pretty gritty (mean 3.6 on 5-point scale), but the best speakers are the grittiest
- WTC
 - Everyone's pretty willing to communicate (mean logit 2.6 on scale from -6 to +6), but the best speakers are the most
- Self-appraisal
 - Nearly everyone overestimates their ability except the beginner beginners and the most proficient

The British Cycling Team and David Brailsford

- Pioneered the "marginal gains" philosophy: Focused on making 1% improvements in every area—nutrition, equipment, sleep, mindset, and more—leading to cumulative performance boosts.
- Developed a high-performance culture: Implemented data-driven training, **personalized** athlete support, and an obsession with excellence in small details (e.g., optimized pillows, handwashing protocols, travel habits).



Aggregation of Marginal Gains



Advanced High & Superior Students' Advice-Categorized

- Input
 - Immerse themselves: use music, media, and real-world input daily
- Willingness to Communicate
 - Take risks: Don't be afraid to make mistakes and push beyond comfort
- GRIT
 - Stay motivated: set clear goals and connect learning to personal purpose
 - Practice consistently: speak often and keep a regular routine
- Self-Appraisal
 - Seek feedback: work with conversation partners or native speakers
 - Reflect & adjust: monitor progress and adapt strategies

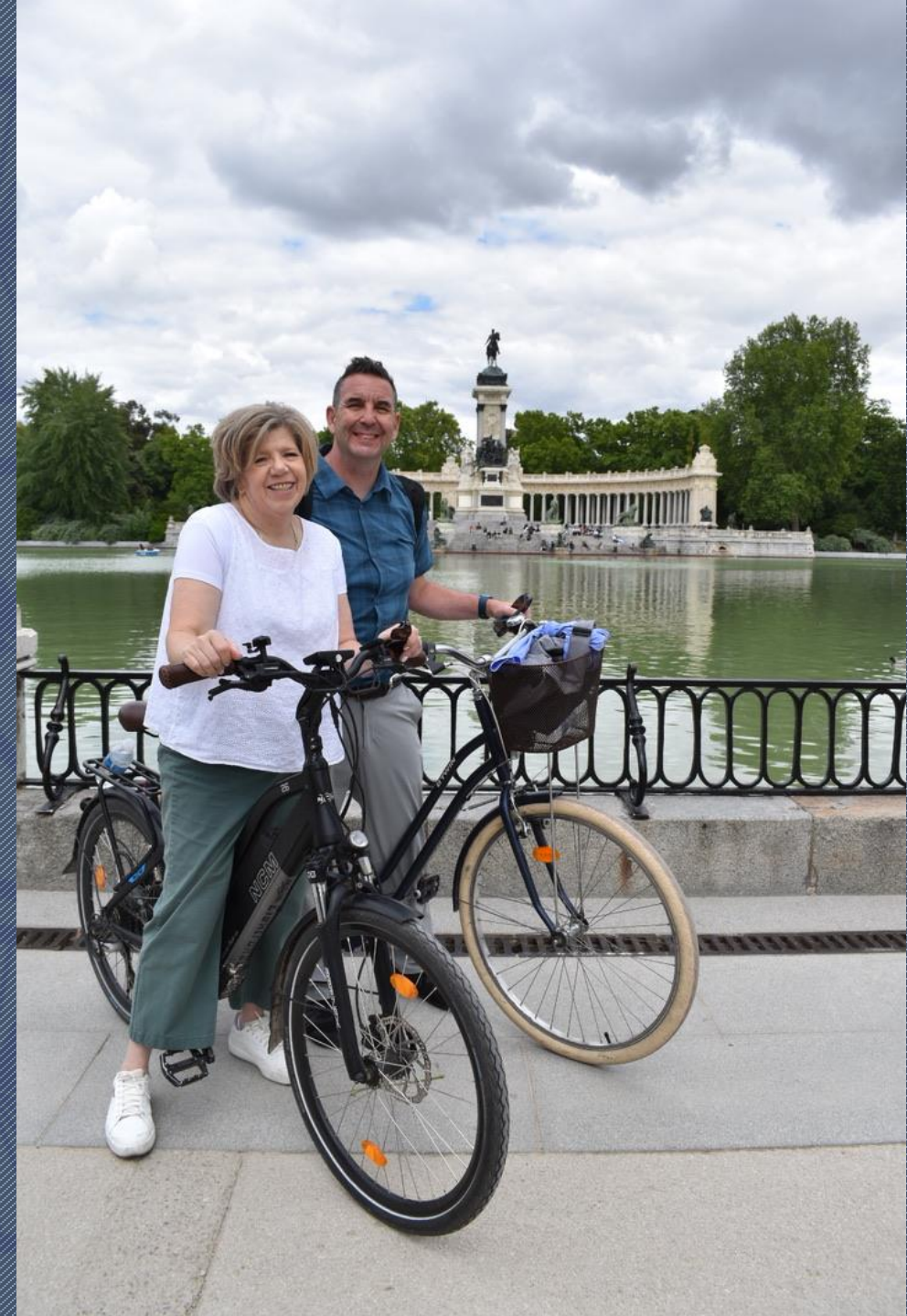
Does the LASER work?

- I hope so
- I hope there is a positive washback that instructors can use so students can take responsibility to become a lifelong learner
- At least, I think it does no harm

Questions?









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