

Motivating and Teaching the Psychological **Science**

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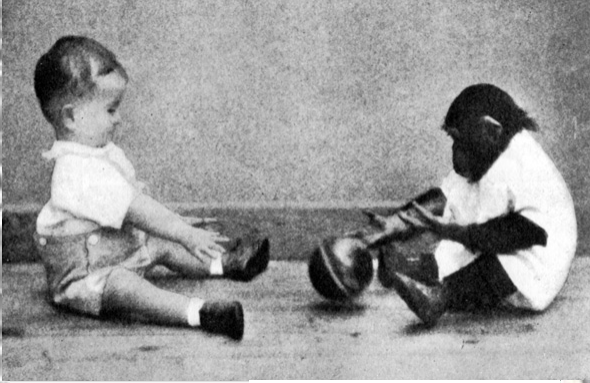


psychology
is **a science**

...and I'm here to
show you **why**
and **how**



Psychology at **Indiana University**
circa **1895**



A BLANK FOR INDIVIDUAL TESTING BY PSYCHOLOGICAL CLINICS
INDIANA PSYCHODIAGNOSTIC BLANK
 Designed by C. M. Lester, Director, Psychological Clinics, Indiana University, and Alfred S. Welford, University of Kentucky
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Name _____ Sex _____ Race _____ CA _____
 Address _____
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 Present or guardian _____ Grade _____
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 Problem _____
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 Diagnosis _____
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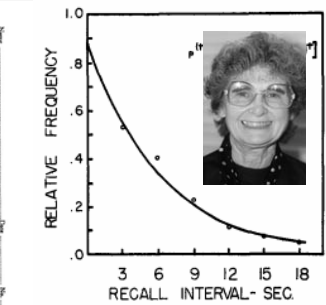


FIG. 3. Correct recalls with latencies below 2.83 sec. as a function of recall interval.



Hard Core

experimental psychology @





Office of **Science Outreach**

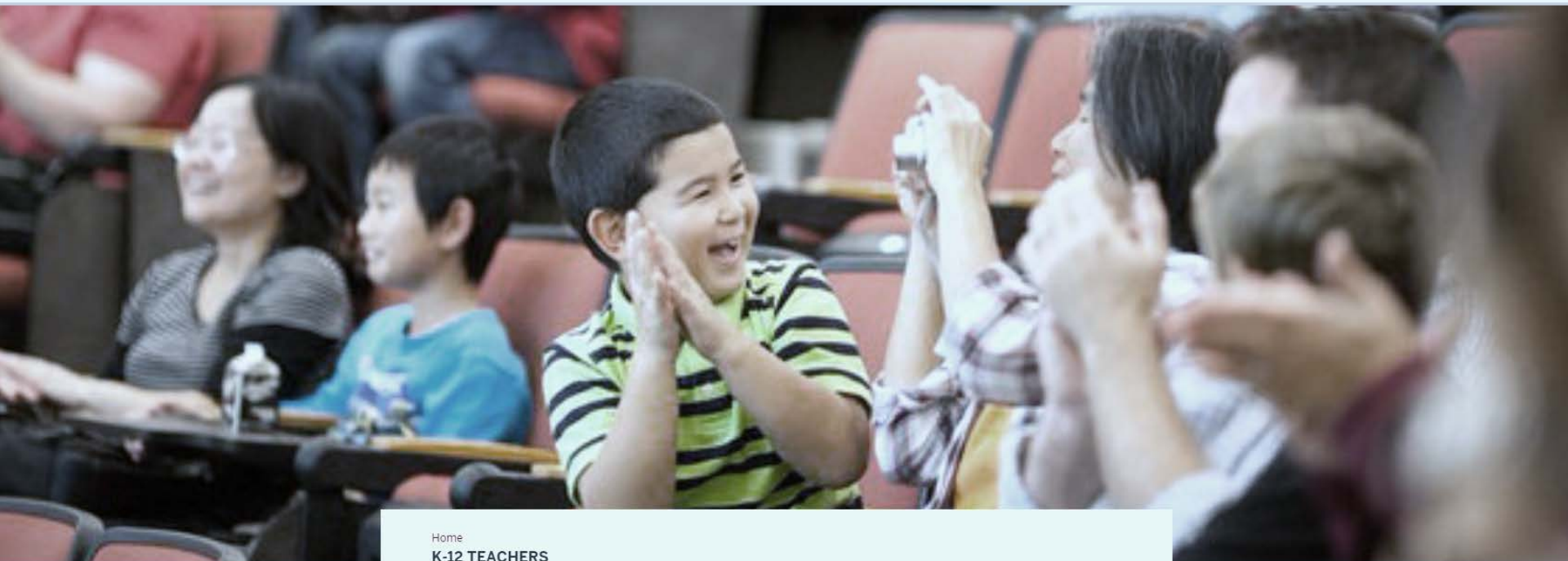
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[STUDENT OPPORTUNITIES](#)

[K-12 TEACHERS](#)

[NEWS + EVENTS](#)




[Home](#)

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Engagement with K-12 educators and schools





**Psychology
is a science!**



what is **psychology?**

it's a science...

...in post-secondary education, in the American Psychological Association (including its accreditation wing), in textbooks, in the National Science Foundation, in the dictionary, in the College Board AP exam...

it's kinda not exactly quite **a science...**

...in high school.

historical disconnect

between high school & college psychology

“Students reported little positive effect of their high school psychology experience, and it may even have driven some away from the field.

(Coles, 1960)

“The student who has had high school psychology does not enter the introductory course knowing any more about the field than his counterpart without such a background.

(Federici & Schuerger, 1976)

“There was no significant difference in the final [Introductory Psychology] grades between students with high school psychology experience and those with no previous experience.”

(Hedges & Thomas, 1980)

“Completing a high school psychology class was not related to performance in a college introductory psychology course.

(Griggs & Jackson, 1988)

a serious proposal:

If you're doing (teaching/studying) **psychology**,
you are a **scientist**, and you're doing **science**

- It doesn't matter what department you're in, or what your degree says
- Science is a process
 - Not a credential
 - Not a body of knowledge



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richard mcfall

“Scientific clinical psychology is the only legitimate and acceptable form of clinical psychology. This first principle seems clear and straightforward to me - at least as an ideal to be pursued without compromise. After all, what is the alternative? Unscientific clinical psychology? Would anyone openly argue that unscientific clinical psychology is a desirable goal that should be considered seriously as an alternative to scientific clinical psychology?...”

in **Indiana**...

Suicide

Highest rate in the country of teens who've considered suicide and the 2nd-highest rate of those who've attempted it

Addiction

8th highest per capita health care costs from opioid abuse
521.2% increase in reported patients admitted to rehab clinics for heroin use from 2002 to 2012
21% of Hoosier adults are current smokers (11th in the country)

Mental Health

10% less than national average report positive outcomes from mental health treatment
Penetration rates of mental health programming for adults is 20-50% lower than national average

in Indiana...

We **desperately** need public trust in psychology.

- Hoosiers should **want** therapy when they **need** therapy.
- When someone sees a therapist, they should be able to trust...
 - They won't get worse
 - There's evidence to support what they're doing

but...

“Today, **patients cannot tell** if the clinical psychologist they see will be guided by science, or instead by personal experience and nonscientific training.” - Richard McFall

- A **minority** of psychotherapists practice evidence-based therapy
- Even among therapists who claim they're evidence-based, only **half** are



psychotherapy is not art, not intuition
psychology is science

a **false** dichotomy



clinical psychology



research psychology



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What is **urgently** needed is an educational program in which students become **interested** in **actively knowing**, rather than passively believing.

Volpe, 1984



psychological science

a three-part **formula** for active teaching and learning

1. Participate (as a subject) in research
2. Read about and analyze research
3. Conduct research

1. Participate

- More satisfying than learning on your own
- Higher levels of understanding of research, and interest in research
- Shown to improve students' understanding of psychology concepts more than lecture
- No research where you are? **Come visit!**
(or point 3, conduct research, upcoming)

Bowman, L. L., & Waite, B. M. (2003). Volunteering in research: Student satisfaction and educational benefits. *Teaching of Psychology, 30*(2), 102-106.

VanWormer, L. A., Jordan, E. F., & Blalock, L. D. (2014). Assessing the perceived value of research participation. *Teaching of Psychology, 41*(3), 233-236.

Elliott, L.J., Rice, S., Trafimow, D., Madson, L., Hipshur, M.F. (2010). Research participation versus classroom lecture: a comparison of student learning. *Teaching of Psychology, 37*, 129-131.

2. Read & Analyze

textbooks can be great, but they...

- present findings as facts
- aren't actually *that* easy

Hoefl, M. E. (2012). Why university students don't read: What professors can do to increase compliance. *International Journal for the Scholarship of Teaching and Learning*, 6(2), 12.

whereas **research articles...**

- highlight *process* (remember: **science is a process**)
- (when chosen carefully) are more interesting, enjoyable, and memorable
- augment critical thinking skills

Carkenord, D. M. (1994). Motivating students to read journal articles. *Teaching of Psychology*, 21(3), 162-164.

Dutt-Doner, K. M., Cook-Cottone, C., & Allen, S. (2007). Improving classroom instruction: Understanding the developmental nature of analyzing primary sources. *RMLE Online*, 30(6), 1-20.

fake news

“psychology classrooms seem **ideal** for teaching students to critique scientific sources” - Susan Nolan

A researcher tested a new drug designed to decrease depression. She gave it to 100 clinically depressed patients and discovered that their average level of depression, as measured by a standardized depression inventory, declined after 4 months of taking the drug. She concluded that the drug reduces depression.

Lawson, T. J., Jordan-Fleming, M. K., & Bodle, J. H. (2015). Measuring psychological critical thinking: An update. *Teaching of Psychology*, 42(3), 248-253.

3. Conduct Research

why research?

- that's what it means to **do** psychology
- research builds generalizable academic skills and **highly** marketable professional skills
- it's an ideal way to learn content

Michael, J. (2006). Where's the evidence that active learning works? *Advances in Physiology Education*, 30(4), 159-167.

“When a kid comes home from school and mom asks what he did that day, he can respond, “We had a **psych lab** and a physics lab.” - Charlie Blair-Broeker

for the **researcher**...

- Communication skills (85)
- Critical thinking skills (78)
- Collaboration skills (74)
- Adaptability skills (53)
- Organization skills (24)
- Technical skills (18)
- Ethical skills (9)

Meta-analysis of 31 sources
Listing 341 **skills**
sought by employers
in new college hires

Appleby, D. C. (2009, August). *The skills we believe psychology majors possess and the skills employers value in potential employees*. In R. E. Landrum (Chair), *Essential work skills for psychology majors: Do our students actually acquire them?* Symposium conducted at annual meeting of the American Psychological Association convention, Toronto, Canada.



but beyond...

Building public trust in psychology's **rigor**
value
validity
findings
concerns...

psychology

is

a science

...and hopefully I've
shown you

why

and

how

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thank you

