

good afternoon

morgan benton

isat prof
web developer
computer programmer
resident raiser of doubt and confusion

grades

why do we have grades?

three purposes



measurement

three obvious problems

one not-so-obvious problem

one

grades hide difficulty

two

grades mask history

three

grades obfuscate variation

ABFAFB = CBCCBC

the not-so-obvious problem

grades abuse statistics

the arithmetic mean

aka the average

the mean is a statistic

statistics follow rules

rule for calculating means

data must be *interval* or
ratio level

mean
requires
these

ratio
interval

ordinal ← grades are this

categorical

don't believe me?

i dare you to check it out

so what?

no
reliably
meaningful
interpretation

in other words...

rakeem → 3.38
noriko → 3.12

what can you tell me
about them?

not much

context matters

context is *never* provided

how does this hurt you?

let me tell you a story

this is andrew



andrew is a jmu alum

andrew is an isat grad
undergrad gpa \approx 3.4

andrew is now a nurse

he went to vcu for nursing

not jmu

why?

gpa in bridge courses
missed the cutoff

is this fair?

is this right?

how could it be better?

feedback

“grades let me know how
i’m doing...”

they suck at it

three reasons

one

don't show you
what you did wrong

two

seldom
explained
or
justified

three

they don't provide
guidance on
how to get better

are you permitted to try
again until you get it?

why not?

what is the point of
telling a student that they
didn't do well and then
not providing them an
opportunity to do better?

“yeah, but my prof writes
comments...”

do you read them?

are they helpful?

research says “no”

Butler, R. (1998) Enhancing and undermining intrinsic motivation; the effects of task-involving and ego-involving evaluation on interest and performance, *British Journal of Educational Psychology*, 58, p1-14

grade only
grade + comments

poorer performance

comments only → better performance

should effort count?

AERA, APA, NCME
guidelines say “no”

Standards for Educational and Psychological Testing, AERA 1999

should you get A for
following instructions?

should A be reserved for
“exceptional”
performance?

who knows?

how do you interpret a
grade?

does C mean
you are stupid or
that you can't do it?

i am...

ability is...

	fixed	dynamic
in control		
<i>not</i> in control		

intelligence is dynamic
and
you are in control

SO . . .

what would optimal
feedback look like?

do you have a right to
demand it?

motivation

“grades motivate me to
study!”

that's true

*not if
but how*

there are two kinds of
motivation

extrinsic vs. intrinsic

extrinsic

do this → get that

rewards and punishments

intrinsic

do this → do this

i do this because...

it's fun

i can

it's interesting

it's challenging

it's frustrating

i dunno...i just do it

grades are
extrinsic motivation

five problems with grades as extrinsic motivation

Kohn, A. (1999) *Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise, and Other Bribes*, Houghton Mifflin, NY

one

grades punish

two

grades rupture
relationships

three

grades ignore reasons

four

grades discourage
risk-taking

five

grades undermine
intrinsic motivation

grades are significantly correlated with a *decrease* in intrinsic motivation

Deci, E. L., Koestner, R., and Ryan, R. M. (2001) Extrinsic Rewards and Intrinsic Motivation in Education: Reconsidered Once Again, *Review of Educational Research*, 71(1), p1-27

< maximum grade → -0.88
maximum grade → -0.15

*even getting A's decreases
your motivation to study*

but not only that

grades cause stress

shirtwoot!



stress impairs cognition

test anxiety anyone?

take home message...

if you need grades to
motivate you to study,
should you really be here?

seriously.

to summarize...

measurement
feedback
motivation

grades suck
at doing these things

are grades good for
anything?

getting a job?

maybe not

“the most common data plots found in 42% of the decision sets suggest that recruiters do not use GPA in screening decisions.”

McKinney, A., Carlson, K. D., Mecham III, R. L., D'Angelo, N. C., Connerley, M. L. (2003) Recruiters' use of GPA in Initial Screening Decisions: Higher GPA's Don't Always Make the Cut, *Personnel Psychology*, 56, p823-845

*“a surprising 81 of 548
decision sets (14.7%)
indicated recruiters selected
against applicants with high
GPAs.”*

there are other things to
put on a resume than
your GPA

what are YOU *doing* to
get the most out of your
college experience?

how will you keep a
record of that and
communicate it to
potential employers?

grad school?

yeah, probably

i'm working on that

so what can you do?

inoculate yourself against
the harmful effects of
grades

educate yourself

set your own goals

don't live up to anyone's
standard but your own

(and have a high standard for yourself ☺)

propose your own
projects in your classes
doing things that *you* care
about in lieu of those
assigned by the prof

engage in polite, civil
conversation about the
assessment strategies
being employed in your
classes

that's it.

how's that for critical
thinking?

didn't expect to hear that
from a prof, did you?

questions?

thank you