It's isn't what we say but what we do: How behavioural psychology can help young people learn Dr Rebecca Sharp, BCBA-D

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Top 10 in the UK for student satisfaction (NSS

Founded in 1884 11,000 students (15% overseas)

Top 15 for Psychology Top 15 for Psychology Research – Complete Research – Guide 2018 University Guide 2018

Overview

- Behavioural psychology and teaching challenges
- Helping young people to learn using what they are learning
 - Making non-preferred activities fun
 - Assessments that involve application
 - Gamification (it's all about application!)

POP PSYCHOLOGY

LEARNING

Discriminating science from Perplay of the fail opinion Is a set of skills. We cannot assume all students possess Othere skills (Arte dation) example) and teaching challenges

MOTIVATION FOR STUDYING PSYCHOLOGY Often to gain clinical skills (but don't in college or undergraduate) (Gaither & Butler, 2005)

BEHAVIOURAL PSYCHOLOGY

Inductive rather than hypothetico-deductive Taught as historical Can be difficult material

Behavioural psychology and teaching challenges

- Pop psychology discriminating science from rumour / old wives' tales / opinion
- Learning is a skill that needs teaching
- Motivation for studying psychology often to gain clinical skills (but don't in college or undergraduate)

Helping young people to learn using what they are learning

How?

Set class challenges

- Have students choose, define, measure, collect data, graph, analyse, interpret data on theirs (or someone else's behaviour)
- Seeing behaviour change is powerful particularly when you can spend time explaining the underpinning concepts
- E.g., change the school's recycling behaviour, reduce soft drinks consumed, reduce printing

Your environment – use antecedents

1. What in your environment does or does not occasion behaviour?

Example: drinking fewer soft drinks

- Keep water bottle on desk
- Fill water bottle up every morning as part of routine
- Remove soft drinks from fridge
- Take coins out of purse
- Put alternative drinks on shopping list

Your environment – use antecedents

- 2. Change your motivation
- Example: avoiding buying an unhealthy lunch
- Pack a lunch so that you aren't hungry
- Pack snacks so you can eat regularly
- Pack a big lunch so you're not hungry later on
- Pack foods that fill you up

Your environment – use antecedents

3. Decrease effort for behaviour you do want / increase effort for behaviour you don't

Example: getting to class on time (decrease effort)

- Have clothing out ready the night before
- Set breakfast items out the night before
- Get a lift rather than walk

Example: buying fewer soft drinks (increase effort)

- Leave cash in your locker
- Leave bike further away from the can machine

Make less-preferred tasks more preferred

It can be hard to be motivated to study and do your work (even for us adults)!

Task Enjoyment Motivation Protocol (TEMP)

Participative process (in class or at home):

- Share rankings of task preferences
- Which aspects of task not preferred?
- Ask what might make them more preferred?
- Remove stimuli associated with disliked
- Add stimuli associated with liked

Green, Reid, Passante, & Canipe (2008) 11

Have students change their own behaviour using their learning

 Although these examples use behavioural principles, you could apply this to any element of psychology you teach

Principles:

- Reinforcers
- Stimulus control / antecedents
- Measurable and objective measures of behaviour
- Measurable change (IV and DV)

Premack's principle



Assessments that involve application

Watch Jurassic World. Critique the clicker training using the principle of conditioned reinforcement

Play a video game. Describe the schedules of reinforcement used to maintain player behaviour.

<begin transmission>

NOTICE TO ALL CIVILIANS: THIS SEMESTER, THIS MODULE WILL BE RUN A LITTLE DIFFERENTLY. THE RISK OF INFECTION IS HIGH, PLEASE REPORT TO THE SAFE QUARANTINE ZONE IN PONTIO BASE FIVE (PONTIO PL5) AT 1200 HOURS ON FRIDAY 30TH SEPTEMBER. STAY SAFE, STAY ALERT, AND AVOID THE INFECTED.

...<end transmission>

GAMIFICATION

Non-game activities are designed to be like a game

Distinct from 'pointification'

Used in many fields (e.g., Zombie, Run!, teaching surgeons; Scklickum et al. 2009, clinical skills in nursing; soldiers; Pasquier et al. 2016)

Little systematic application in education

GAMIFICATION

Could be helpful for students to:

Study little but often = predicts achievement (You, 2016)

Learn material that is cumulative

Help with maintenance of learning (address differences in exam and assignment grades - no `fluency')

GAMIFICATION COMPONENTS

Game mechanics (e.g., schedules, contingencies)

Game elements(e.g., narrative, characters)

Little evidence how these interact / which components are vital

Storytelling argued to be vital for meaning and context (Kapp, 2012)

Research tends to be theoretical or data collected are self-report / qualitative (little data on effectiveness) BUT...........

GAMIFICATION

Conceptualised as a multicomponent intervention:

-Rules Points -Levels Group contingencies Rewards Public posting

Why a dystopian future theme? It is salient, modern, popular, and engaging. The literature argues that a strong theme can be key to the success of gamification (Morford et al., 2014)

EXAMPLE - THE 'ZOMBIE' MODULE All module materials themed Actors in lectures scanning, language used -Events to advance the narrative (e.g., choice lecture)

Themed correspondence

LEVEL:0 HEALTH:50% CIVILIAN

LEVEL O You are here when you come to a lecture. You must open the module outline in Blackboard to receive your

badge in Blackboard.



LEVEL 1: 50 points

LEVEL:2 HEALTH:100%

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LEVEL:2

HEALTH:100%

OR

UNDEAD ELIMINATION ADVISOR

KKKK

UNDEAD REHABILITATION SPECIALIST

KKKK

LEVEL 2: 100 points

LEVEL:3 HEALTH:100%



RESURRECTION PREVENTION LEADER



HEALTH:100%

OR

LEVEL:3

LEVEL 3: 200 points

HOW WERE POINTS EARNED?



HOW WERE POINTS EARNED?



IN CLASS: Test your knowledge so far Why?

0% to 50% correct = 5
points
60% to 70% = 10 points
80% ≥ = 15 points

BONUS MISSIONS

Extra 10 points in Week 6 to all students who attended 100% of the first five lectures

Extra 10 points to all students who checked their assignment feedback on Blackboard before the lecture in Week 11

OUTCOMES

- Effective and liked by most students(qualitative data collected), although not all
- Improvements in exam performance and attendance
- Engaged students be likely to be engaged anyway?
- Well-suited to the material, does it suit other topics as easily?
- Novelty could you have multiple classes gamified?
- Response effort materials, actors etc.
- Manual data collection computerised?

POSSIBLE IMPROVEMENTS

Short answer practices rather than MCQs

- Missions and quizzes worth % of final grade
- Negative reinforcement contingencies (avoiding a loss of something) appear to be more powerful than +ve reinforcement contingencies
- Individualised analyses time-consuming but allow a resolution in the data lost in group design (target students or identify what benefits the majority)
- Personalised systems of instruction students could progress through the game at their own pace (link to levels)

-Reward menu

REWARD MENUS

What would be valuable for your students? Have them choose (either as a class or individually when trade points) Rewards must be deliverable, clearly defined, fair for the work required Behaviours must be clearly defined (e.g., "being good" is too vague) Contingencies - post them, review them Group contingencies:

dependent (on one or a few students)

interdependent (all in class must do beh., depend on each other)

independent (each person gets reward if they do beh., others don't matter)

Remember: Clearly defined beh. and rewards

Remember: Contingencies (group? / ind.)

In groups of 3 or 4, identify realistic rewards for game play (reinforcers) and behaviours in which students must engage to earn them:

| BEHAVIOUR (WHEN, WHAT, WHO, QUALITY) | REINFORCER (SIZE, POINTS?) | DELIVERED WHEN? |
|---|--|--|
| <i>Example:</i> Students hand in their assignment early (at least 24 hours early) | 10 points (30 points can be traded for 15 min extra computer time) | 10 points awarded / posted immediately, trade happens last period on a Friday |

GAMIFICATION CHECKLIST

- To consider when designing gamification:
- Aesthetic
- Rules
- Rewards `intrinsic' reinforcers unlikely to change student behaviour, probably need contrived ones
 Competition, cooperation, and conflict
 Feedback
- 'Do-overs'
- -Time
- -Levels
- Storytelling

Digital platforms for gamification



Conclusions

- Innovative teaching can be hard work, but worth it
- Students learn when they can 'see' what they are learning
- It isn't what we say but what we do that defines us' Jane Austen
- Have students 'do'!

Thank you

Please don't hesitate to contact me with any questions.



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