Using gamification techniques for online tutoring
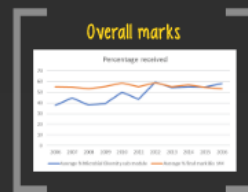
Who am I?

- Kayla Lawson
- MSc final year research student
  - Department of Microbiology
  - Stellenbosch University
- Teaching Assistant 04/16 – 04/17

What is gamification?

gamification

But isn't gaming childish?

Octalysis

The e-TUTOR programme

Written
Mixed
Listening

Feedback and improvements

Overall marks

Percentage received

The e-TUTOR programme

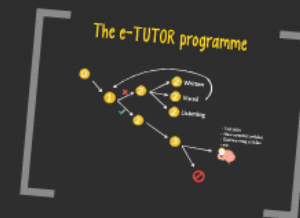# Using gamification techniques for online tutoring

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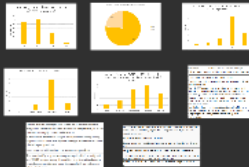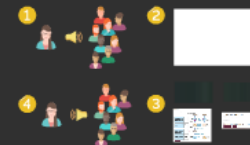- Teaching Assistant 04/16 – 04/17
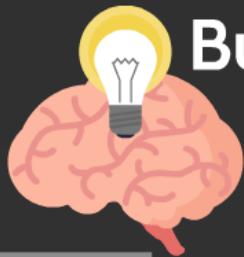
What is gamification?

gamification
/ˌɡeɪmɪfɪˈkeɪʃ(ə)n/

noun

the application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service.
"gamification is exciting because it promises to make the hard stuff in life fun"

Translations, word origin, and more definitions

But isn't gaming childish?

Meaning

White hat

Accomplishment   Empowerment

Extrinsic   Octalysis   Intrinsic
Ownership   – Yu-kai Chou   Social influence

Scarcity   Unpredictability
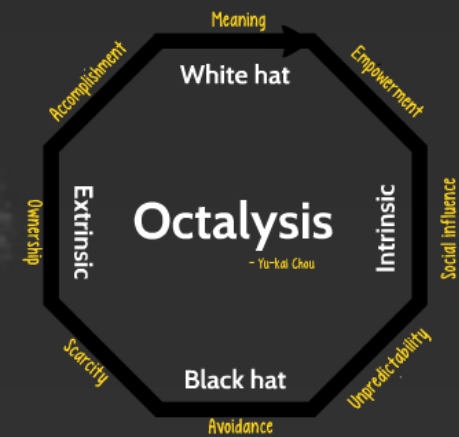
Black hat

Avoidance

amification

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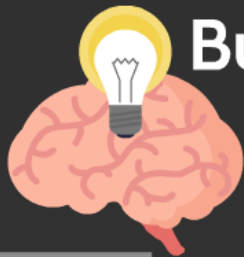
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Who Is The Average Gamer?

36+ Years Old

39%

Under 18 Years Old

29%

18-35 Years Old

32%

52% Male

48% Female

Adult Gamers have been playing an average of 16 years.

AGE GENDER EXPERIENCE

What is gamification?
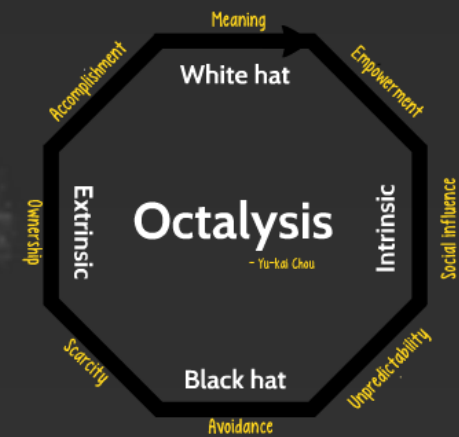
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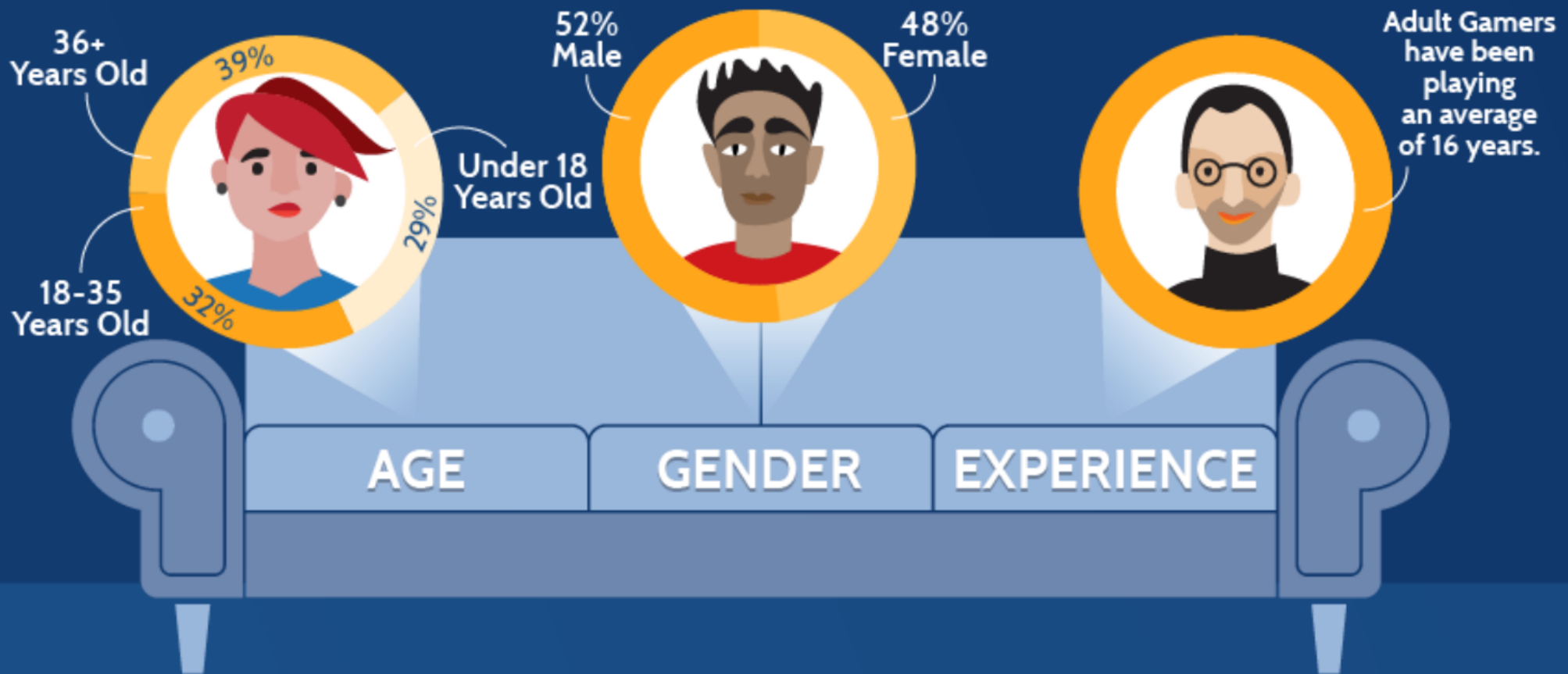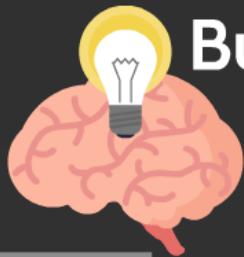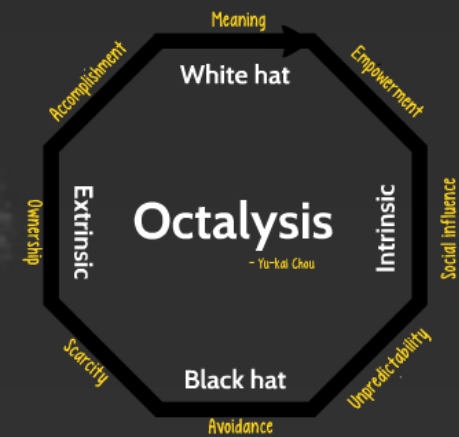
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Rank: -   Score: 10563.052
Soloist   460: Quest to the S...nkey Virus Protein
                          Puzzle expired
          ▶ No bonuses or conditions
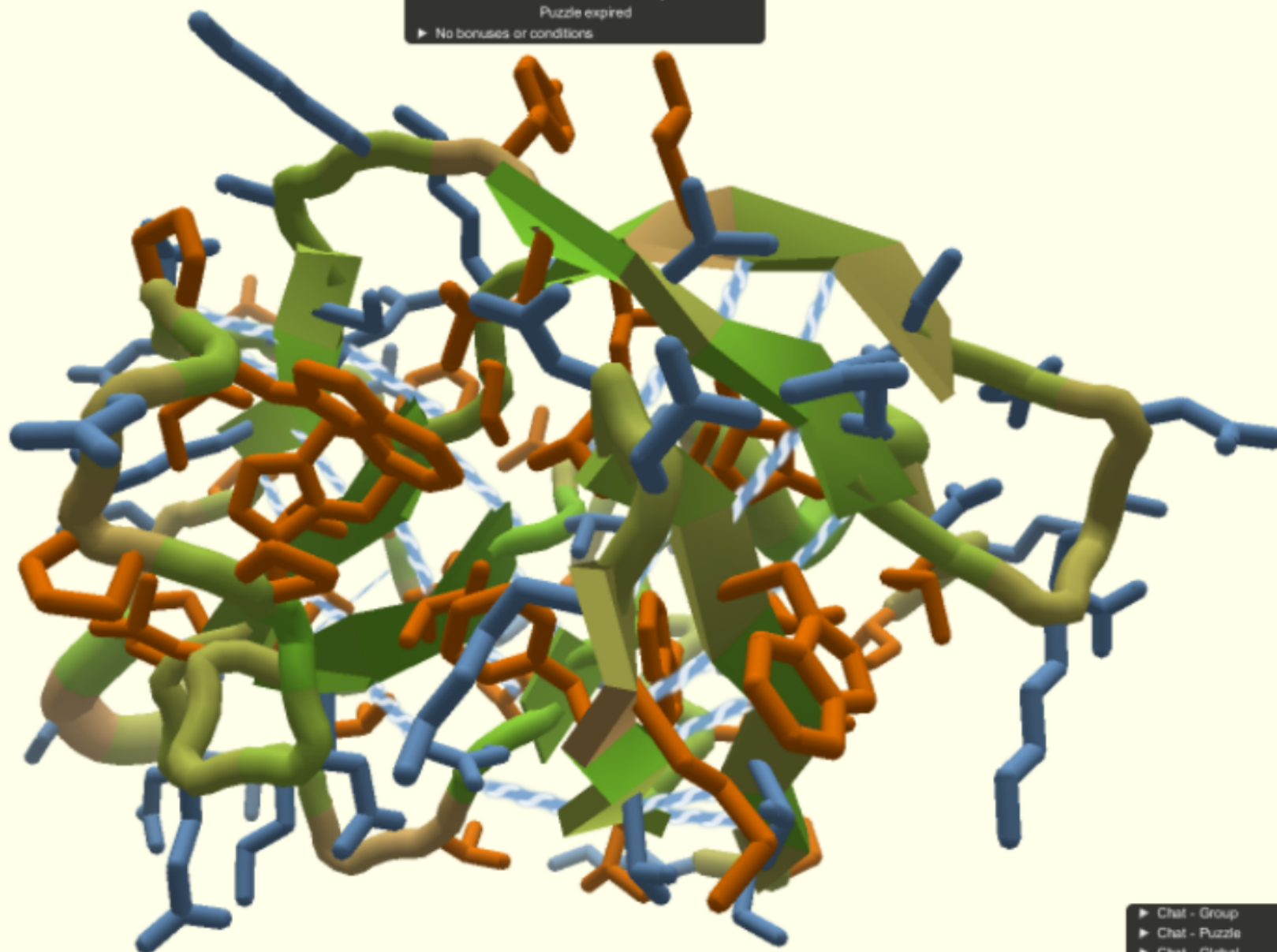
▶ Chat - Group   ⊙ ✕ auto show
▶ Chat - Puzzle   ⊙ ✕ auto show
▶ Chat - Global   ⊙ ✕ auto show
▶ Notifications   ⊙ ⌃ auto show

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≡   ✔+   🏃 Run

764.4 mi

🏃 **233** RUNS   🔥 **731k** CALORIES   ⏱ **7'42"** AVG PACE

YOUR LAST RUN
2 DAYS AGO   **3.71** mi

You ran **.22 mi farther** and **0'30"/mi faster** than the average of your past 7 runs.

RUN 30 MILES IN 30 DAYS   🏃 17mi /30mi with 6 days left

≡   ıIıI   🏃 Run

June   ◆ **31.08 mi**   ⊙ **7'42"**   ⏱ **2:32:3**

Today
9.01 mi   😄   ⟫   ☀️   ⊙ **7'55"**   ⏱ **45:20**   ❯

Yesterday
8.71 mi   😄   ⟫   ☀️   ⊙ **7'50"**   ⏱ **40:20**   ❯

6/23/12
7.40 mi   ⚡   🛣   🌤   ⊙ **8'03"**   ⏱ **38:31**   ❯

6/22/12
5.96 mi   😐   🏝   🌙   ⊙ **8'15"**   ⏱ **28:13**   ❯

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The e-TUTOR programme

0 → 1 → 2 → Written 2 / Visual 2 / Listening 2

1 → 2 (✓) → 3 → Ted talks, New scientist articles, Science mag articles, etc.

moodle

The review programme

0 → 1

1 → 2 ✗

1 → 2 ✓

2 → Written
2 → Visual
2 → Listening

2 → 3

3 →
- Ted talks
- New scientist articles
- Science mag articles
- etc.

moodle

The e-TUTOR programme

Milestones in history

Classification of organisms

Types of microscopes

Growing microbial cells

Environmental [influence micro]

Nutrient require[ments]

Microbial Diversity

Concept 1

Concept 2

Concept 1

Concept 2

Concept 3

Concept 4

Microbial growth in the laboratory and the environment

Microbiology to the benefit of man

Metabolism [S. cerevisae)]

Concept 3

Lecture 1

Lecture 8

Lecture 2

Cellular structur[e] and arrangemen[t]

Yeast

Lecture 7

Bio 144 Microbiology

Lecture 3

Bacterial Diversity

Concept 1

Concept 2

[Fermentation [vae)]

Concept 2

Bacterial m[...]

Concept 3

Growth and reproduction

Concept 1

Concept 4

Morphology

Horizontal gene transfer

Lecture 5 & 6

Lecture 4

Fungi

Classification

Concept 4

Viruses

Concept 1

General characteristics

Concept 3

Metabolism

Concept 2

Concept 4

Concept 3

Concept 2

Asexual & sexual reproduction

Morphology

HIV

Reproduction and replication

Types of viruses

Edit   Reports   Grade essays

coch's postulates in the order in which they occur

1   Respective microorganism must be present in every sick individual, but absent from healthy indi

2   The microorganism causing the disease must be isolated and grown in a pure culture

3   The same disease must result when the isolated microorganism is inoculated into a healthy host

4   The same microorganism must be re-isolated from the disease host

Submit

Lecture 1: Microbial Diversity ?

Arrange Koch's postulates in the order in which they occur

Your answer :

1

= Respective microorganism must be present in every sick individual, but absent from healthy individuals

2

= The microorganism causing the disease must be isolated and grown in a pure culture

3

= The same disease must result when the isolated microorganism is inoculated into a healthy host

4

= The same microorganism must be re-isolated from the disease host

That is correct

Continue

Lecture 1: Microbial Diversity ?

Getting stuck?

If you need some help please click the "I need some help" button

Otherwise, please proceed to the following concept by clicking the "I've got it" button

I need some help   **I've got it**

Koch's postulates (2)

Work through the image below on Koch's postulates to better understand them.

KOCH'S POSTULATES

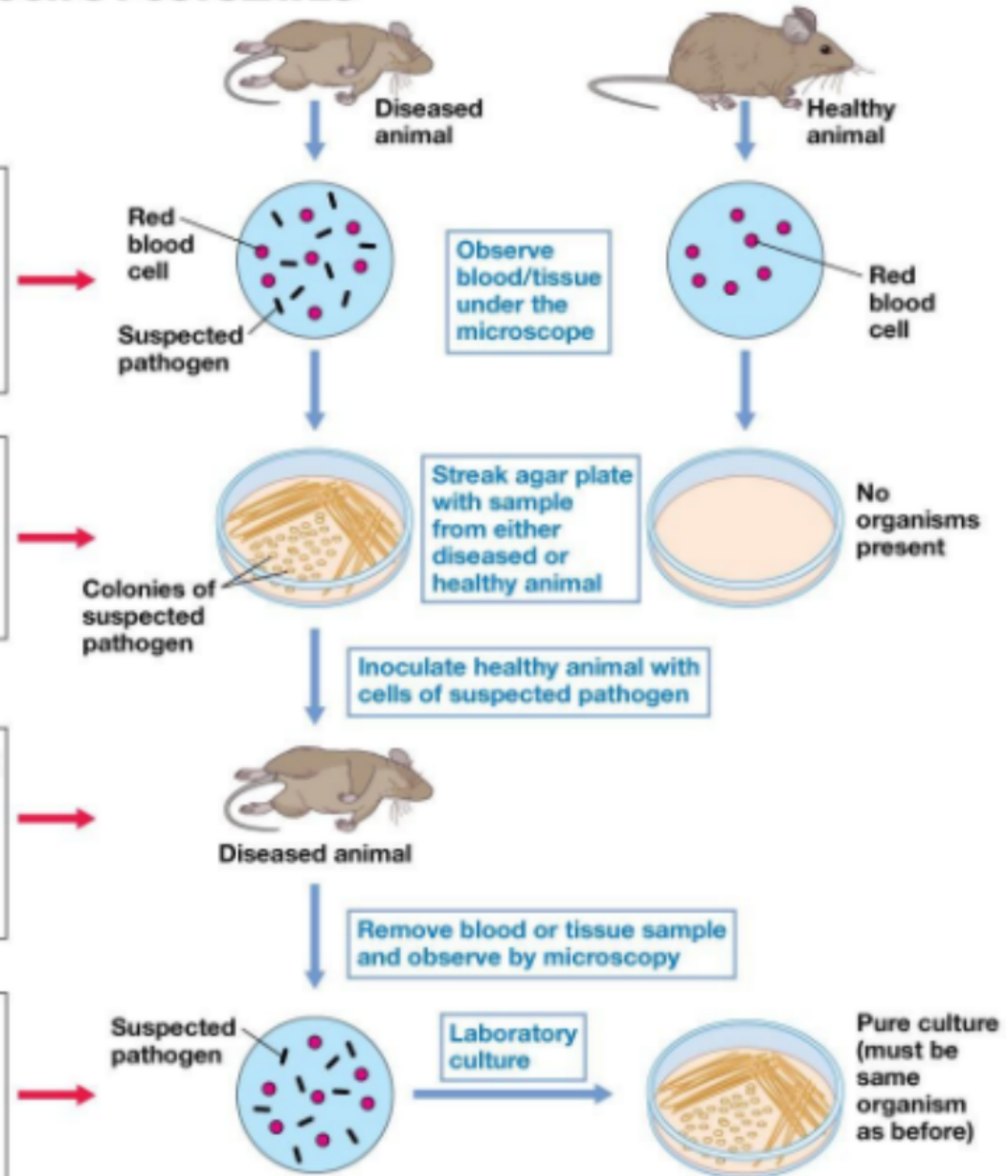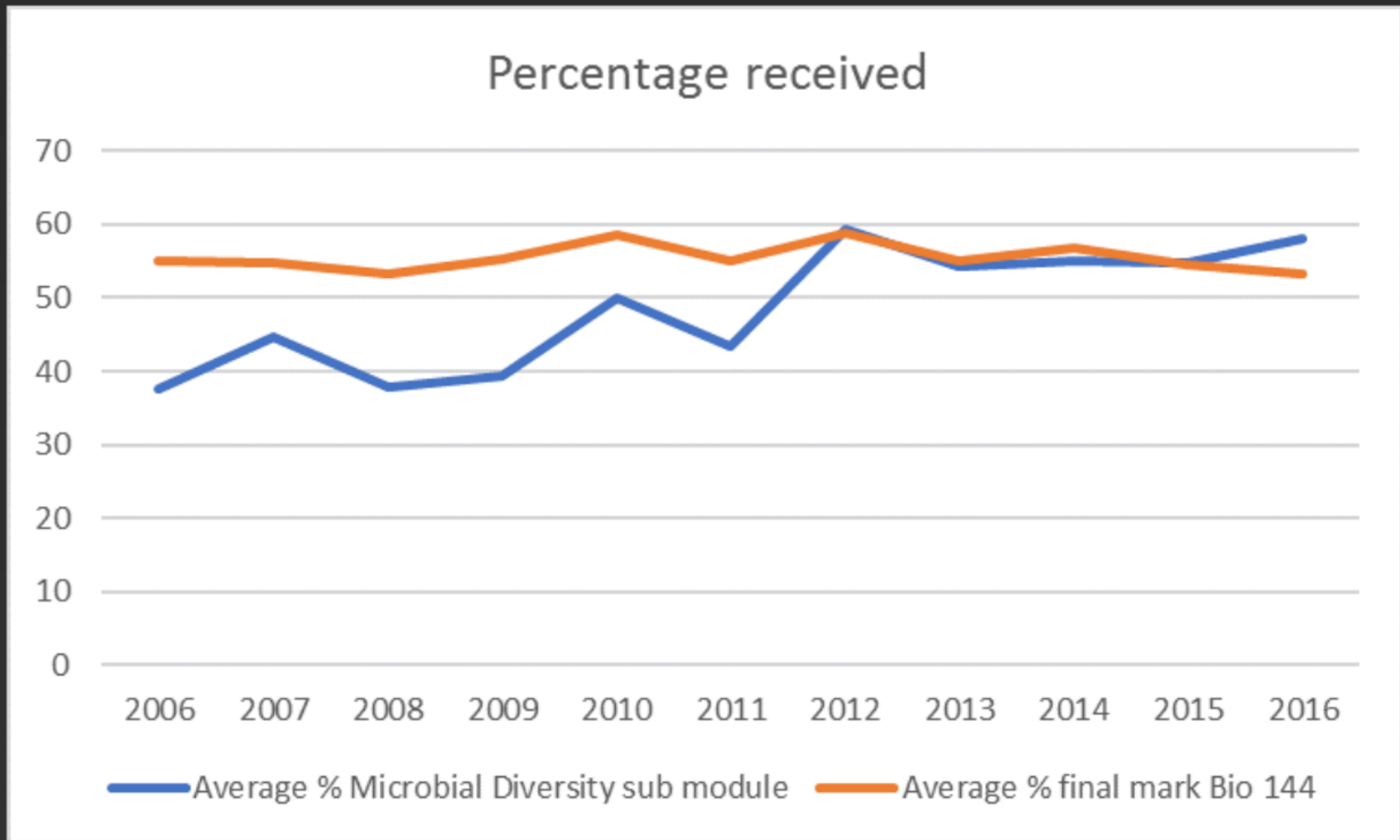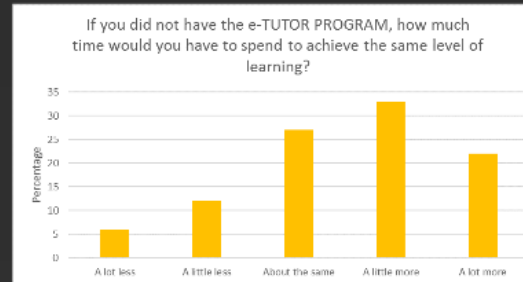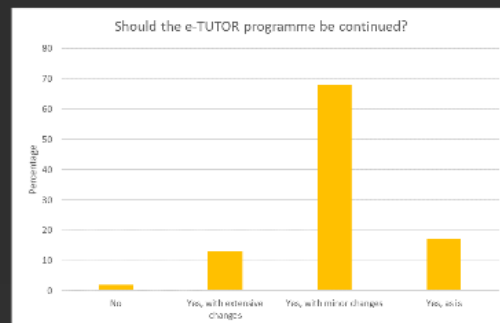| The Postulates:	Tools:
1. The suspected pathogen must be present in *all* cases of the disease and absent from healthy animals.	Microscopy, staining
2. The suspected pathogen must be grown in pure culture.	Laboratory culture
3. Cells from a pure culture of the suspected pathogen must cause disease in a healthy animal.	Experimental animals
4. The suspected pathogen must be reisolated and shown to be the same as the original.	Laboratory reisolation and culture

Diseased animal

Healthy animal

Red blood cell

Suspected pathogen

Observe blood/tissue under the microscope

Red blood cell

Streak agar plate with sample from either diseased or healthy animal

Colonies of suspected pathogen

No organisms present

Inoculate healthy animal with cells of suspected pathogen

Diseased animal

Remove blood or tissue sample and observe by microscopy

Suspected pathogen

Laboratory culture

Pure culture (must be same organism as before)

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Test yourself again

Overall marks

Feedback and improvements

How many hours did you spend on the e-TUTOR programme?

Did the e-TUTOR program affect the way you learn?
- Yes 77%
- No 23%

On a level of 1 - 5, how useful would you rate the e-TUTOR programme?

Should the e-TUTOR programme be continued?

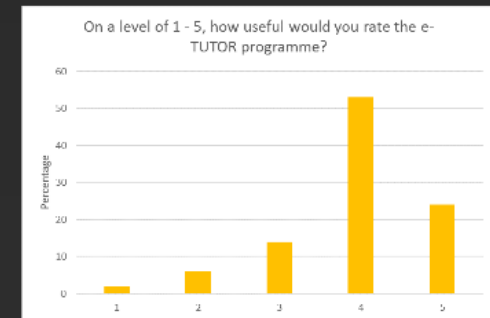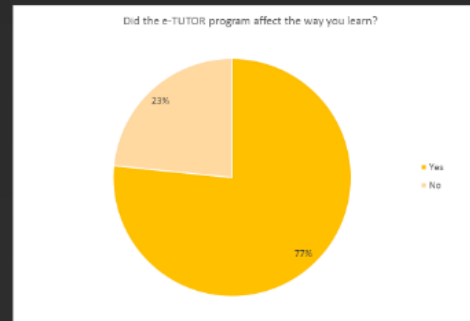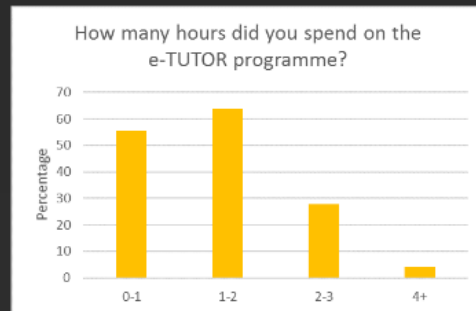If you did not have the e-TUTOR PROGRAM, how much time would you have to spend to achieve the same level of learning?

It made you go and study the lectures and then attempted quizzes straight after, which I find as an effective learning scheme.

It helped me grasp topics that I misunderstood

It assisted me to check how much how much knowledge I had actually obtained.

The e-TUTOR program has been helpful in putting the work in context. Its a good way to test whether you understand concepts and if not get extra help and also identify areas of concern.

allowed me to see weak spots in my knowledge, and go over them in ways besides just using the class notes, e.g. google searches and videos

I studied the theory from the text book but had no idea how everything fit together and what the structure of the work is. This program gave me the sight and understanding to/of microbiology!

I found that the concepts were tested on a very shallow level. They could perhaps have been asked on a deeper level, to make sure we thoroughly understand the work.

It didn't have a memo or tell you what you were doing wrong, so you couldn't know exactly what the right answer was to some of the longer questions

need more helpful feedback on answers to questions

The fact that if you got something wrong, it didn't actually tell you WHAT you got wrong. I found this very frustrating because I retried some questions so many times and still am not sure of what I don't know.

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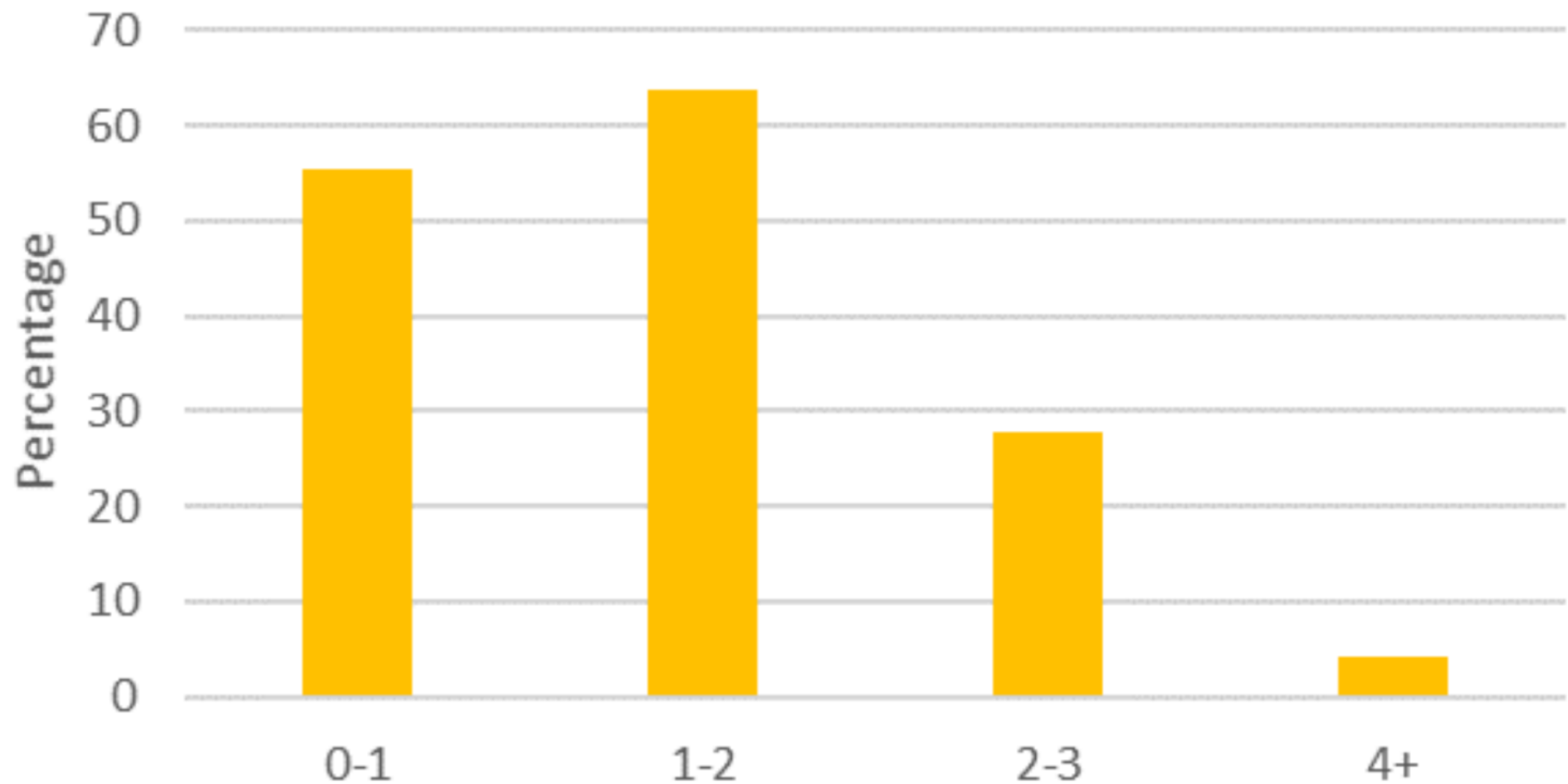
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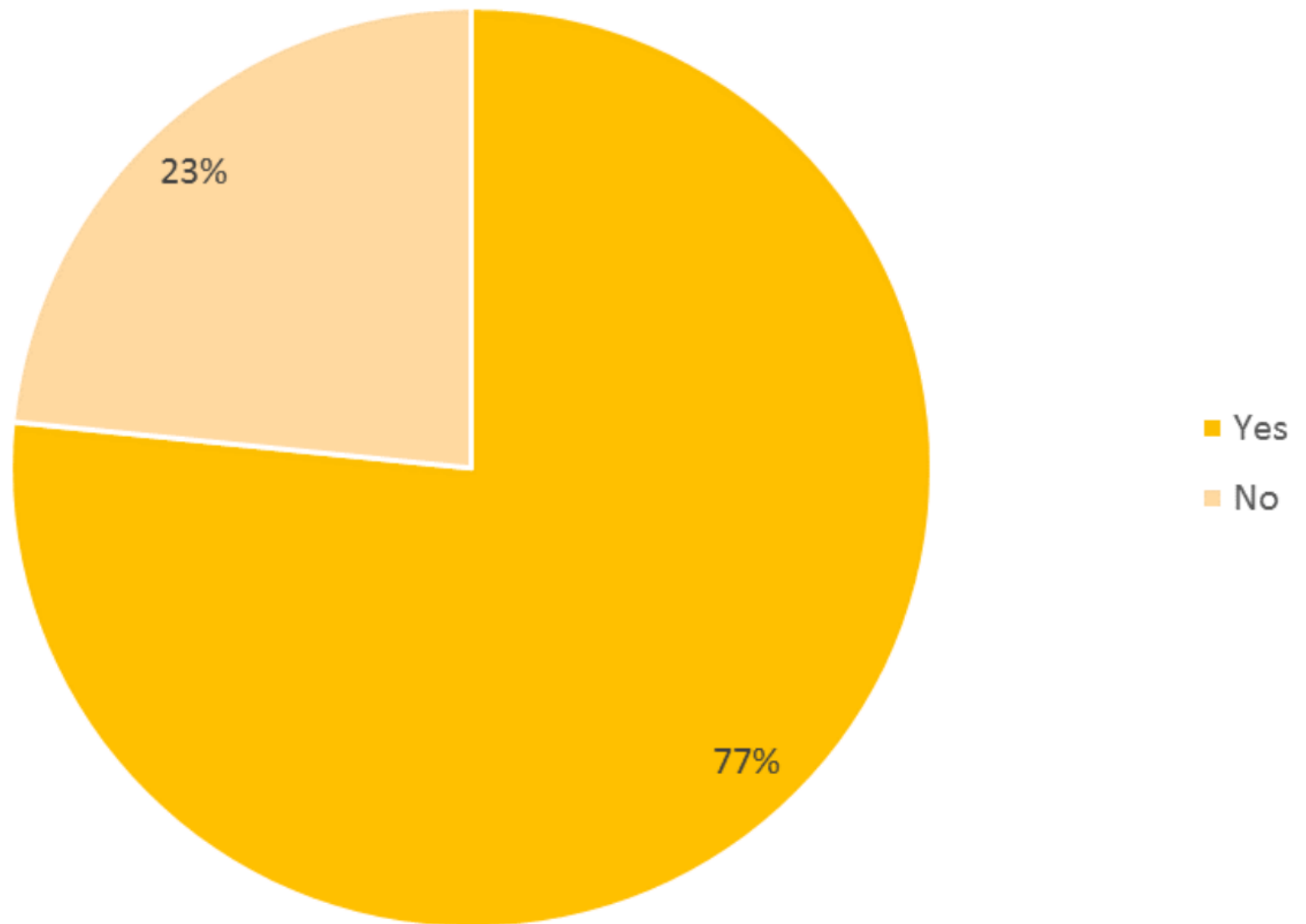
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Make like an example test or "exam" that you can do after everything(the whole program).

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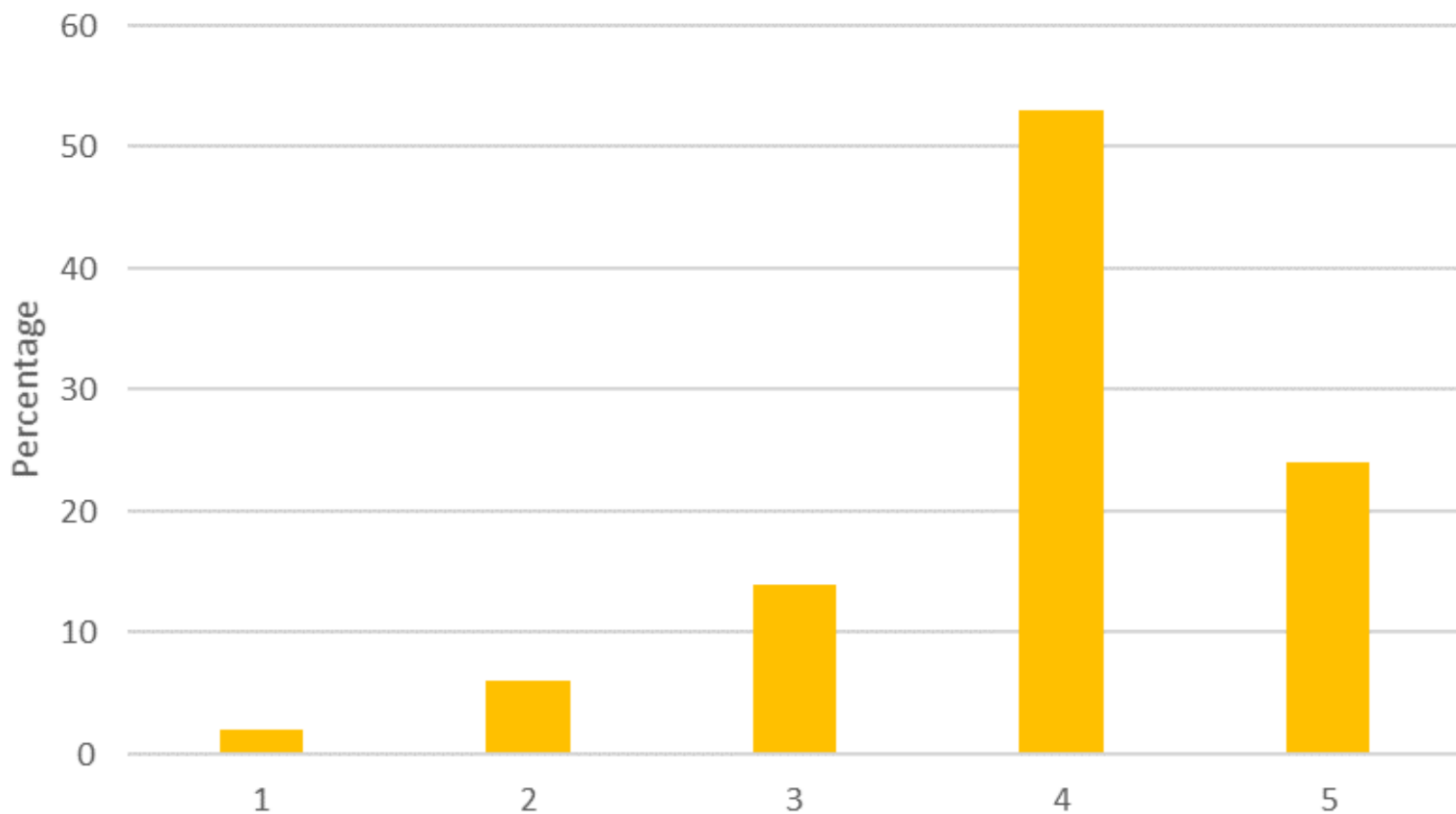

23%

77%

- Yes
- No

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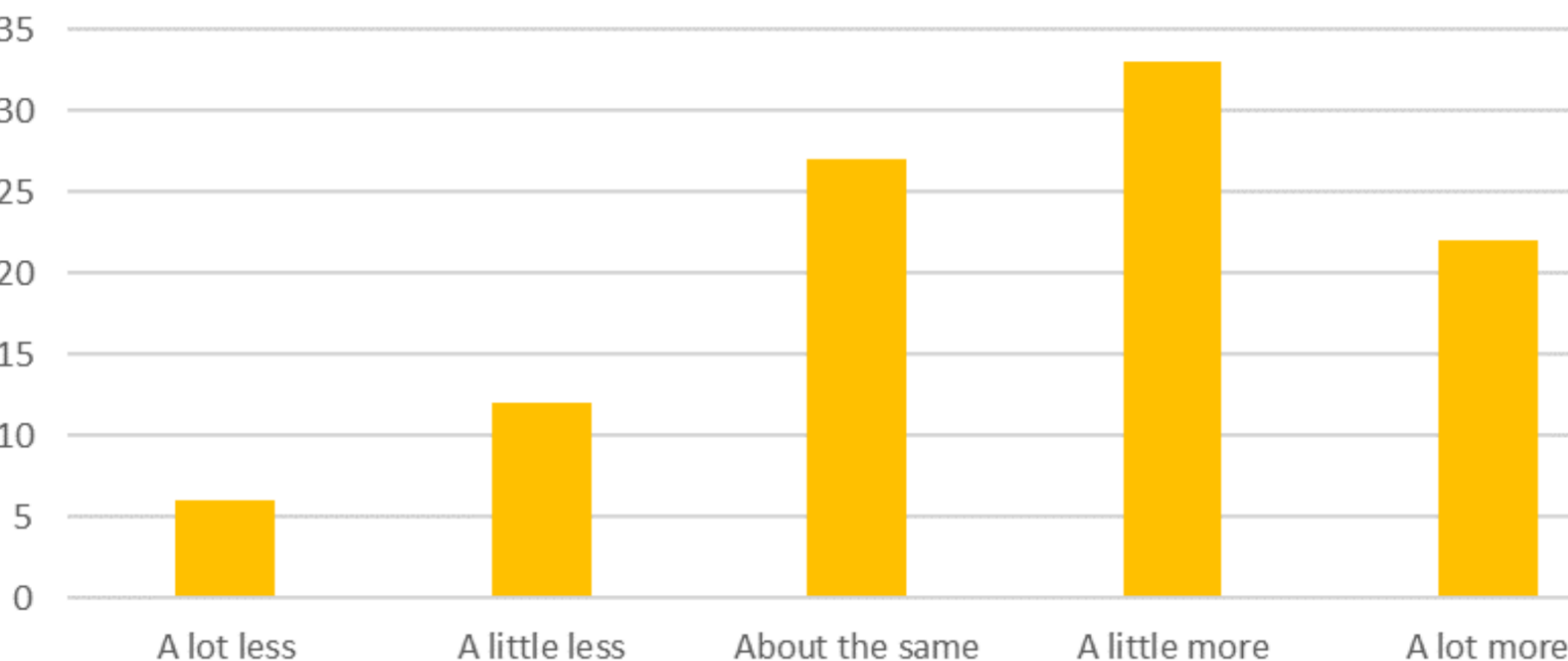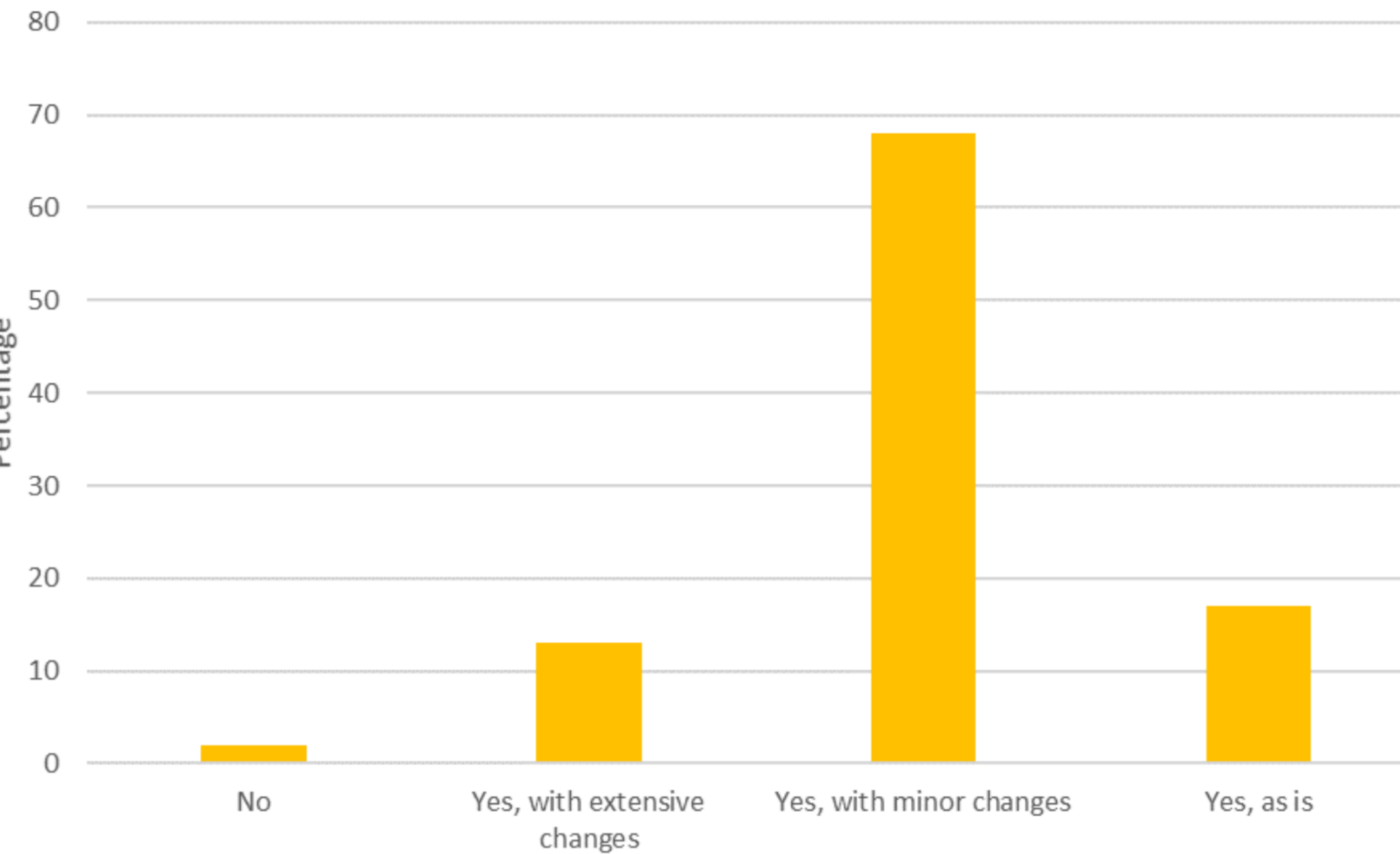| |
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