

**Feedback on exams: are specimen answers from previous cohorts useful?**

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# Feedback on exams

On QE agenda.

Rated “unsatisfactory” by our students.

# Problems with conventional exam questions for some students

On entry not used to hour-long, essay-type questions.

Not used to questions demanding other than description (*e.g.* “compare and contrast”).

No time to give exams as formative assessment.

# Problems with giving students feedback on their exams

Not enough time.

Difficult to track student down.

Feedback may be too late for students who really need it.

## My particular problem

Direct entrants at Degree stage (SCQF Level 10) into distance learning course in Hong Kong.

Little or no exposure to hour-long, essay-type questions prior to entry.

Previous exposure to only one exam on this course, and giving individual feedback is not feasible.

No time for formative assessment of this type.

## The obvious solution?

Give “formative feedback” by providing specimen exam answers from previous cohorts.

Use WebCT as delivery platform (students already familiar with this).

# The process

After study period, I provide a range of answers (excellent to poor/fail, perhaps with editing) from a previous cohort on particular topics.

Students are invited to rank these, award marks if possible, and write justifications for ranking/marking.

Subsequently I provide marks awarded and my comments on answers.

# An example of my feedback

## Q4 Comments on answer from Student A

4. "Although all foods are widely contaminated by a wide range of microorganisms, microbial spoilage of any given food will be brought about by only a particular organism or group of organisms. This statement states that different organisms will spoil different foods due to the properties of the food that microbes can use or not. Spoilage of food is a state that growth of microbial organisms and make the food unfit for eating. There are many factors that affect spoilage, they are pH, water activity ( $A_w$ ), oxidation-reduction potential (O-R potential), availability of oxygen  $O_2$ , availability of nutrients, availability of antagonists and its biological structure. (This is a reasonably good introduction)

pH.

pH measures the concentration of hydrogen ions and hydroxide ions. Different bacteria and microbes have their suitable pH to grow. Fungi can grow (It would have been better to have stated here that "Fungi can grow best...") at low pH as low as pH 2. While bacteria can grow (It would have been better to have stated here that "While bacteria generally can grow best...") at pH range 6.5 – 7.5, slightly alkaline. Therefore, if the food is acidic, only fungi and yeasts can grow (It would have been better to have stated here that "fungi generally can grow best...") and bacteria cannot (It would have been better to have stated here that "bacteria generally cannot...") tolerant low pH except lactic acid bacteria e.g. Lactobacillus spp.

(It should have been stated here which foods have low pH or high pH. Examples should have been given about how the pH can influence organisms that may grow. For example, generally fungi will grow best on citrus fruit because only they can tolerate the low pH).

$A_w$ .

$A_w$ , water activity is measure

$$A_w = \frac{\text{vapour pressure of water available in the food}}{\text{vapour pressure of pure water}}$$

$A_w$  is measured of the water available in the food for microbial cells take up and use. Most bacteria like water and require higher  $A_w$  i.e.  $A_w = 0.6 - 0.95$  (The figure of 0.6 is too low. 0.95-0.99 would have been better here) for bacteria, and for filamentous fungi and yeasts  $A_w \sim 0.4 - 0.6$  (Again, these figures are rather low. 0.8 -0.99 would have been better here. If  $A_w$  is too low, no microbial growth can be found (It should have been stated here that this level is about 0.6). Sometimes water in the microbial cells will move out from the cells and enter the food.  $A_w$  depends on the concentration of solutes, the higher the concentration of solutes, the lower the  $A_w$ . Adding salt and sugar can reduce  $A_w$  and prevent microbial growth.

(It is not stated here which foods have low or high  $A_w$ . Examples should have been given about how the  $A_w$  can influence organisms that may grow. For



## Evaluation – students' performance

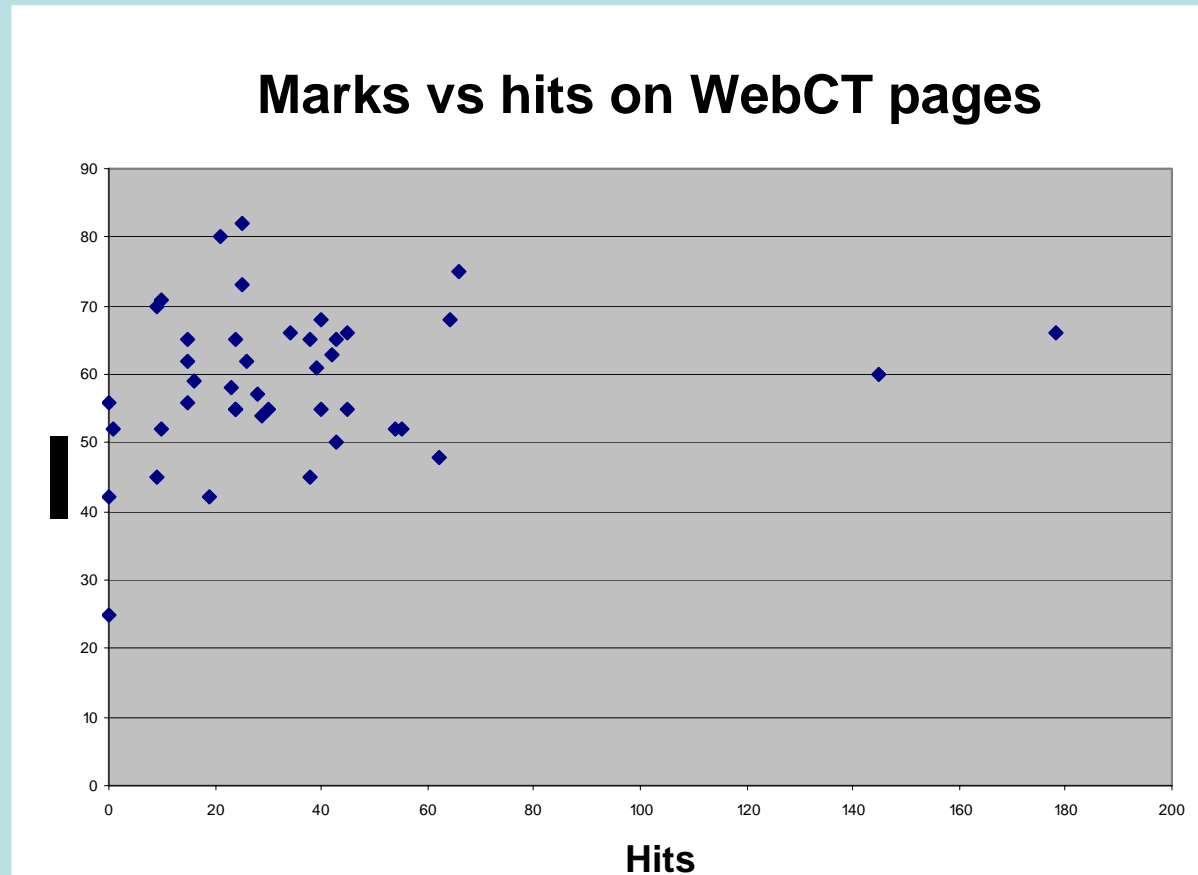
Compared to previous cohorts, no obvious difference in exam on mean mark and range of marks.

Pass rates in exams approached 100% in all cases.

# Evaluation – marks vs. hits on WebCT pages

No obvious correlation

Correlation coefficient  
= 0.249



# Evaluation - feedback from students

Online questionnaire, answered after exam but before results were known.

*Ca.* 25% return rate from two cohorts – 22 students.

# Evaluation - feedback from students

All respondents agreed that studying specimen answers and my comments on them:

was worthwhile;

helped them judge the quality of their own answers in the exam;

helped them improve their performance in the exam;

made them more confident in taking the exam;

showed them how to avoid making mistakes when answering questions;

helped them work out what they needed to do to produce a good answer;

helped them learn about the subjects.

# Evaluation - feedback from students

All respondents agreed that the exercise should be repeated with the following year's cohort.

## Evaluation - feedback from students

The majority (>70%) of respondents agreed that studying specimen answers and my comments on them:

did not take up too much time;

contributed to their revision.

# Evaluation - feedback from students

Whether studying specimen answers and my comments on them was as useful as feedback on their previous exam would have been:

41% agreed;

45% were undecided;

14% disagreed.



## My conclusions on the exercise

Useful for at least a significant proportion of students, and will be continued.

Potentially useful with any group unfamiliar with a given exam format (*e.g.* direct entrants, first year students).

Potentially useful with other unfamiliar forms of assessment for which there is no time for formative assessment (*e.g.* reports, posters, dissertations, projects).