

Examinations

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Everyone complains about examinations. The extreme competitiveness. The types of questions. The unfairness. The errors in evaluation. The out-of-syllabus questions. Children ask why they have to take examinations at all?

But the complainers are generally despondent and fatalistic. No one has any power to improve the situation. Or perhaps all these examinations are necessary evils?

Children have no time to play - their entire lives are governed by unit exams, final exams, and of course the spectre of board exams and all the myriad competitive exams. In extreme cases, children end up measuring their entire self-worth based on examination results, and parents love their children in proportion to their examination results. The results can be tragic.

The system is entrenched. Schools cannot change their curriculum or teaching methods because they have to train students for the exams. Parents have to send their children for tuitions so that they will score well in the exams. Students cannot even think along lines that are contrary to the kind of thinking that is required for the examinations.

And what kind of thinking is required? Mostly it's just memorisation. The students have to memorise the answers, word for word, that they copied from blackboards and textbooks. If you ask them what they are doing they will say that they are 'learning' or 'revising'. But this is just Indian English for memorising.

Memorising is not the same thing as learning. Certainly, it is part of learning - but there is so much more - so many aspects of learning that are practically ignored. Besides remembering, students need to understand. Students need to think and to do things in creative, new ways. They need to be able to apply knowledge to new problems, to evaluate different points of view and make decisions, and to analyse problems and come up with creative, new ways of thinking.

But these things are not evaluated in most examinations. We are stuck with the present examination system that actually discourages students from going further than mere memorisation. And memorisation is applied across the board, without stopping to think whether it may be appropriate for some areas (like multiplication tables) and inappropriate for other areas (like finding out what science is all about).

It's rare that you hear any in-depth analysis of the basis for the examination problem. Some might just blame it all on the population explosion, or the British legacy and leave it at that. The system is so competitive because there are too many applicants for too few positions. Nothing we can do about that. A student who is not good in English will be penalised since English is important in today's world. Nothing we can do about that.

Actually, the examination system is the way it is because it does serve a purpose, and it serves it well. It 'weeds out' a few 'qualified' students to become the new generation of the small elite that will lead the society - that will occupy the positions at the top of the ladder.

Breaking down the examination system could threaten the very existence of the hierarchal structure of society. For that reason, it will not change until the people who are suffering the most demand it.

For example, we would like to have the medical entrance examination less competitive. That means we would have to increase the number of medical students, and increase the number of doctors. But it is not in the interest of doctors to increase their numbers in a world where doctors want to maintain a high standard of living. It would decrease their position in the hierarchy.

Thus, the real debate should be at the level of what kind of society do we want - one where there is a small elite who monopolise the power, wealth and health, or a society that takes responsibility for providing good health services to all people?

Do we really want a society that encourages such things as creative writing, scientific temper, equitable food distribution, and adequate sanitation facilities? Then we should have an education system that encourages creative thinking, experimentation, problem solving, and universal, non-hierarchal education.

Changing the examination system to make it focus on evaluating students at the level of understanding, applying knowledge to new problems, critical thinking, and analysis, rather than just

memorising, is a threat to the system. After all, isn't it in the interests of those in power to stunt the abilities of the masses to think and be creative?

However, probably the examination system will change when those in power realise that it might even help their own ranks to become more powerful if they try to teach students how to think and be creative, rather than just memorise, and follow in someone else's footsteps. Perhaps they'll invent a double standard examination system, whereby the ordinary people can continue with rote memorisation, while the English-speaking elite can be taught to think at higher levels. We can already see some signs that this is happening. Compare the private sector English medium schools to the neglected government schools. [Is a complete ban on private schools the only way to improve government schools, and stop the increasing polarisation?]

But still today, some of the most creative people are those who have not passed through the 'education' system- those who have not passed the examinations. Of course, most of them also have little if any opportunity to express themselves and communicate to the rest of the world. What we really need is a system that will allow each person to develop, express themselves, and pursue both their individual and social interests.

How could examinations be different?

- What if there were no examinations? In some cases, perhaps examinations are not necessary. Some other type of evaluation and feedback could be preferable (e.g. to evaluate creative writing or painting).
- In other cases, examinations do serve useful functions: they let students and others get a perspective on their own accomplishments and degrees of understanding, which can be helpful in planning further studies and in making career decisions. But there are many possible types of evaluation.
- How about using teacher's comments and recommendations? If a teacher were to write a critical, thoughtful paragraph summarising the achievements and characteristics of each student, wouldn't it be more meaningful than just writing 87%, 55%, or whatever?
- What if there were open-book examinations? Students would be able to use books and notes in the examination. The questions would be framed in such a way that they would not be merely copying sentences from these books - the answers would require the students to use the information in their books for solving new problems (see below for examples).
- How about oral exams, discussions, and interviews? In certain cases, these are more useful. For example, after a five minute conversation with a young student, a teacher can easily tell whether the student has a good grasp on grammar and sentence construction in a given language.

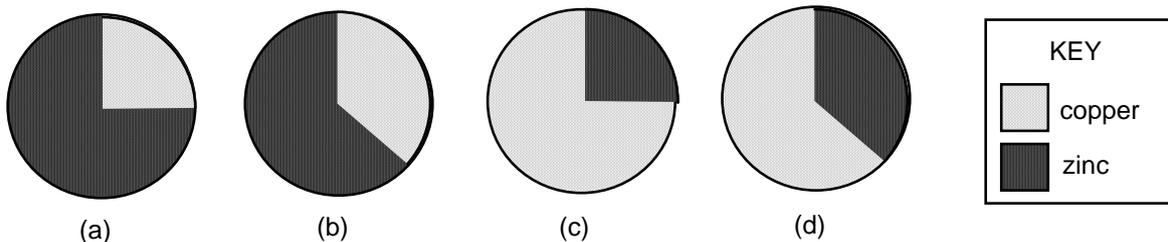
- Can examinations be used to evaluate more than just memorisation? How can higher level, critical thinking skills be evaluated?
Take a look at the following sample examination questions. First each question is stated in the usual, old-fashioned way. Then the same subject is evaluated with a question that requires a higher level of thinking.

CHEMISTRY & MATHEMATICS

(1.) Brass is a mixture of:

- 70 % copper and 30% zinc
- 35 % zinc and 65% copper
- 65% copper and 35% lead
- 38% zinc and 62% copper

(2.) Brass is an alloy. An alloy is a mixture of metals. Brass is a mixture of 65% copper and 35% zinc. Which graph represents brass?



Question (1) is merely testing memory. Question (2) gives some information and asks the students to comprehend the information, and use previously acquired skills to interpret the given graphs. It tests the comprehension of the given information, the map reading skills needed to interpret the Key, an understanding of percentages and fractions, the ability to estimate relative sizes, the concept that 25% means one quarter, and 35% is slightly more than one third, etc. So question (2) is actually testing much more, and most important, it is testing the ability of students to think.

This is not to say that memorisation is not also important. Many things have to be memorised. But we should ask ourselves whether it is really important to memorise, for example, exactly how much copper and zinc go into brass. Perhaps it would be more important to spend time learning how to use a library to find out this information, and how to read and understand the graphs once we find them in a library book.

GEOGRAPHY

(1.) What is a map? [Answer: A map is a conventional delineation of the earth's surface in miniature, on a flat sheet.]

(2.) Use the maps in your Atlas to find out which states the Ganga passes through on its way to the sea.

It's possible for students to memorise the correct answer for (1), without any spelling errors, without understanding what a map is. But if students are able to answer (2), it will demonstrate that they understand what maps are - because they know how to use maps. They may also have had to do some memorisation (e.g. to memorise the names of the states, if they are not labelled), but they will also need to go beyond memorisation to answer the question - they may need to know how to use an index, they need to understand that by looking at a map you can tell which way a river flows, etc.

ENGLISH

(1.) Tom Sawyer liked _____ in his class at school. His best friend was _____.

(2.) Suppose Tom Sawyer was an Indian living today in your town, rather than in the 19th century by the Mississippi River. How would his life be different? Let's say his name was Ram Sawyer and he went to your school. Rewrite the chapter about Tom's troubles at school in the Indian context.

Obviously, the second question is asking a lot more from the students than the first one. The students just need to have remembered the names of the characters in the chapter to answer (1). They need not have understood very much. In answering Question (2) they have an opportunity to display their creativity and their analytical skills, in addition to their memory. Some might say that this is too difficult. But is it really? Have they ever tried it? Perhaps, some teachers have tried asking students to formulate their own sentences rather than memorise sentences, and they found that the students are not good at spelling, grammar and sentence construction. Still, why not evaluate the creative and analytic aspects separately? If the spelling and grammar can be ignored, I'm sure we will find that students are capable of thinking for themselves. And this needs to be encouraged from the beginning or it will be lost forever. Besides, memorising sentences will not teach students correct sentence construction - the only way they will learn is by writing, making mistakes, correcting themselves, and actual practice.

SCIENCE

(1.) Milk can be preserved by a process called _____.

(2.) Get eight containers and label them 1, 2, 3, 4, 5, 6, 7, & 8. Pour 100 ml of fresh, unboiled milk into each of containers 1, 2, 3, & 4. Pour 100 ml of hot, boiled milk into containers 5, 6, 7, & 8. Cover all the containers. Keep containers 1 & 2 in a freezer, 2 & 6 in a fridge, 3 & 7 in a cupboard, and 4 & 8 in a sunny place. What do you think will happen? After 24 hours, open each container and smell it. Is it sour? If not, put it back for another 24 hours and then smell it again. Continue until it smells sour. Write down your observations each day in a Table. Make a bar graph to show the number of days it took for each milk sample to get sour. Based on your results, tell what you think are the best ways to preserve milk. Can think of a better way to do the experiment?

In order to answer Question (1), the student only has to memorise the definition of one word, without necessarily understanding anything. Question (2) involves spending about half an hour a day for at least 2 days to actually do science. But it will give the students an experience they are unlikely to forget. They will learn many things besides the meaning of milk preservation. They will learn what science is - that it is not just a list of facts to memorise. The students will learn to follow the scientific method: questioning, hypothesising, testing, observing, and drawing conclusions. The teacher will be able to evaluate whether they are careful observers, whether they know how to make graphs, and whether they can analyse data to come to their own conclusions.