

# Exam Questions Setting and Chess Grandmasters

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Exam questions setting has always been my forte. I spend many hours devising questions that are, objectively, meant to replicate common accounting practices, incite analytical and critical thinking and test topical and other broader concepts. Questions setting has been my passion and my source of happiness. I derive great satisfaction when, based on my own evaluation, I realised that I had written a good question. My website ([www.kvk-accounting.com](http://www.kvk-accounting.com)), actually, is the epitome of my pre-occupation with questions setting.

Questions must be set in such a manner that test a specific concept or many concepts directly or indirectly. Testing many concepts in one question, for example a case study question, requires the question setter and the respondent to have a large knowledge database on diverse range of academic and practical disciplines. It entails the respondent to comb through his knowledge database for relevant concepts and find relationships in order to offer solutions to problems. As such, notwithstanding the type of question faced, a respondent must first build his knowledge database. Many would have heard about CEOs spending a lot of their time reading and suggesting others to do the same. CEOs are very much involved in complex problem solving situations on a regular basis, so they must ensure that their knowledge database is well-equipped to tackle critical problems so that their companies can move forward against stiff competitions. They embark on extensive reading to explore and understand latest discovery and new concepts. Steadfastly, they relate

what they have learned to practical situations. In this way, their cognitive thinking skills are consistently nurtured and honed, and manifested in the form of initiating changes and constructive impacts in their environment.

Now, you are getting impatient and wondering how question setting and chess grandmasters are connected. In your opinion, it can be deemed as superficial and illogical nexus, included in the title to attract readability. I am going to keep you waiting on this for a while.

Let us revert to cognitive thinking skills. To cultivate a high level of cognitive thinking skills, it has to be developed from the early stages of one's life. Schools should provide the platform to proliferate these skills. Hence, questions setting will become a fundamental requirement among teachers to pursue the objectives of creating individuals capable of problem solving by applying their knowledge database.

Now, let us come to chess. Are you a chess player? How far ahead can you work out the chessmen moves? As per my source from reading certain articles, an ordinary chess player can only think four moves ahead. It means that his opponent would be able to figure out his intentions after the fourth move. How about a chess grandmaster? Unlike the ordinary player, the chess grandmaster is capable of thinking twenty-four (24) moves ahead. In my case, I will never know his intentions as I would be checkmated, probably, by the sixth move of the grandmaster. Just imagine the level of cognitive thinking underlying in his act of winning games.

How this assumption of chess grandmaster's high level of cognitive thinking skills helps me in questions setting? It has prompted me to build a conceptual framework for questions setting in view of the level of difficulty and the development of cognitive thinking skills. Based on the visibility of the level of leads between the

ordinary player (four moves ahead) and the grandmasters (twenty-four moves ahead), I demarcated the levels of questions setting. Reducing complexity, I simply divided the type of questions into two levels, termed as “Obvious Lead (OL)” and “Remote Lead (RL)”. OL-type questions are straight-forward where students are able to solve by simply applying directly the concepts that they have learnt. Similar to the chess analogy, they can derive at the solution with just one or two moves as the lead is obvious and clearly apparent like the moves from the ordinary chess player. In accounting context, the OL-type questions require one to recall the topical concept or formula, select the right data from the question and apply to solve. Theoretically, it relates to the 1<sup>st</sup> three levels – remember, understand and apply – of Bloom’s taxonomy.

On the other hand, the RL-type questions are indirect and can be set at various levels of difficulty by moderating the lead visibility just like the chess grandmaster. My teaching experience shows that RL-type questions are well-liked by clever students. It challenges them and when solved, it gives them a sense of satisfaction necessary to boost their egoistic intelligence. I also use RL-type questions to specifically separate the top 5% students from the masses. Thus, the RL-type questions designed at varying level of difficulty can help to cultivate high cognitive thinking skills among students and simultaneously ensures the good students are correctly identified, supported and given proper recognition to encourage better self-development. In relation to Bloom’s taxonomy, the RL-type questions can be equated to the next three levels – analyze, evaluate and create.

Having described my framework of question setting, it is only appropriate to provide some examples for better understanding. I deliberated to use basic accounting examples relating to ratio analysis topic for simplification and discernability. Here are the examples:

### Example 1: OL-type question

The following information has been extracted from the books of Rahman Enterprise:

Statement of Income for the year ended 31 December 2018 (extract)		
	RM	RM
Sales		50,000
Less: Sales return		5,000
		45,000
Less: Cost of goods sold		
Opening inventory	2,500	
(+) Purchases	30,000	
	32,500	
(-) Closing inventory	3,500	29,000
Gross profit		16,000

Calculate the gross profit margin for Rahman Enterprise.

Answer:

Step 1: Recall the formula

$$\text{Gross profit margin} = (\text{Gross profit} / \text{Net sales}) \times 100\%$$

Step 2: Select the data - Gross profit RM16,000 and Net sales RM45,000

Step 3: Apply

$$\text{Gross profit margin} = (16,000 / 45,000) \times 100\% = 35.6\%$$

### Example 2: RL-type question (low difficulty)

The following information has been obtained from the books of Bayu Trading:

	RM
Inventory turnover ratio	18
Opening inventory	3,250
Cost of goods sold	74,160

Calculate the closing inventory for Bayu Trading.

**Answer:**

**Step 1:** Analyse the question and determine the concepts / formula for solving the problem.

In this case, the inventory turnover ratio and average inventory formula.

**Step 2:** Select the steps and how the formula are manipulated to solve the problem. First, the inventory turnover ratio formula is manipulated to find average inventory.

$$\begin{aligned}\text{Average inventory} &= \text{COGS} / \text{Inventory turnover ratio} \\ &= 74,160 / 18 = \text{RM}4,120\end{aligned}$$

Then, average inventory formula is manipulated to find closing inventory

$$\begin{aligned}\text{Closing inventory} &= (\text{Average Inventory} \times 2) - \text{Opening inventory} \\ &= (4,120 \times 2) - 3,250 = \text{RM}4,990\end{aligned}$$

### Example 3: RL-type question (high difficulty)

The following information has been obtained from the books of Sayuka Trading:

	RM
Inventory turnover ratio	16
Opening inventory	2,800
Purchases	48,400

Calculate the closing inventory for Sayuka Trading.

**Answer:**

**Step 1:** Analyse the question and determine the concepts / formula for solving the problem.

In this case, the inventory turnover ratio, average inventory and the cost of goods sold formula.

**Step 2:** Select the steps and how the the formula are manipulated to solve the problem. This requires to create a suitable method to solve the problem.

In this case, the method created will call upon students' mathematical knowledge.

Let closing inventory = x

$[(\text{Opening Inventory} + \text{Purchases} - \text{Closing Inventory}) / \text{Inventory turnover ratio}] = \text{Average Inventory}$

$$[(2,800 + 48,400 - x) / 16] = (2,800 + x) / 2$$

$$5,600 + 96,800 - 2x = 44,800 + 16x$$

$$18x = 57,600$$

$$X = \text{RM}3,200$$

The closing inventory is RM3,200.

From the examples given, it can be noted that the level of difficulty ascends and, inevitably, will assist in the process of streamlining students based on their cognitive thinking skills. Though, to certain extent, we do need to streamline for activities-ability matching purposes, our objective is for everyone to achieve a high level of cognitive thinking skills. I take pride in saying that my website, [www.kvk-accounting.com](http://www.kvk-accounting.com), provides questions of this nature and sincerely hope that my subscribers will gain by improving their cognitive thinking skills from the exercises.

After reading the article, many may have the opinion that this is merely an exercise of reinventing the wheel to which I have acceded by relating my framework to Bloom's taxonomy in the explanation. If you have concluded this, I am happy that your cognitive thinking skills faculties are alive and kicking. In the same vein of this article, I can also take the concept of *zero-defect management* and articulate it as *bull's eye management* and claim it to be more positive-oriented strategy. If I am extremely articulate, market-oriented and predominantly entrepreneurial like our common perceptions towards Americans, a communicative platform could have been designed where people may start to listen about this management strategy. Likewise, many have provided alternatives of these kinds with more similarities than differences. This is not the point that I would like to make. It is personalization. The whole business industry is geared towards customization aiming to deliver personalized experiences to its customers. From the sellers' perspective, it is expected to increase their sales, and from the individuals' (customers) perspective, it boost their performance. I am inclined towards the process of personalization and performance. A scrutiny of this article will show that a certain level of cognitive thinking skills is required to develop a personalised framework that serves as a guideline for executing a specific task. In this process, your understanding of the

concepts improves tremendously and that leads to effective application and completion of tasks. Can we consider this as improving performance?

*The writer is the founder and content manager of [www.kvk-accounting.com](http://www.kvk-accounting.com) who advocates strongly on building cognitive thinking skills via better understanding of accounting concepts and simulating artificial intelligence process of learning from experiences. He views his exercises as a form of providing these learning experiences.*