

Smart Thinking for Students

– by Bryan Greetham – author of Smart Thinking

As you near the end of your degree course and start to apply for jobs you will have to assess whether or not you have developed the skills that employers are looking for. Thousands of employers around the world are reporting that they are being inundated with applications from graduates who have good degrees, but who cannot think. So there are two questions you need to answer:

1. How do employers decide whether to invite you for interview?
2. What are the skills they are looking for?

1. How do employers decide whether to invite you for interview?

Most employers say they are struggling to deal with the quantity of applications they are receiving, so they are having to adopt an effective, economical and, above all, a fair system for deciding which applicants to invite for interview.

For instance ...

In 2012 the international law firm Herbert Smith revealed that they had had a 50 per cent increase in the number of applications over the previous year for their training contracts. To cope with this they announced that all applicants would now be tested on their reasoning skills. Those who succeeded would then be trained how to think. Yet the increase in applications was only part of the story. They had also found that too many students with a 'good degree' were unable to 'think like a lawyer'. That is, they couldn't think 'critically, analytically and conceptually'.

To solve these two problems employers have had to devise a method that will allow them to assess whether applicants have the necessary skills. The simplest way of doing this is to ask applicants to take tests, usually online, which will measure different forms of reasoning that require different thinking skills. The most commonly used tests assess the following forms of reasoning:

1. Verbal reasoning
2. Abstract reasoning
3. Numerical or quantitative reasoning
4. Inductive reasoning
5. Decision analysis.

Smart Thinking has been written to develop the skills employers are looking for and to help you do well in these tests. As you work through each chapter you will be shown unique strategies and techniques you can use to develop these thinking skills and you will learn the most effective ways of tackling the tests.

2. What are the skills they are looking for?

But what are these skills? Quite simply they are the skills we can all see in those, like Mark Zuckerberg and Steve Jobs, who can think for themselves, rather than simply recycle what they have been taught. They can cope with uncertainty and make their own decisions. Unfortunately, for much of the time at universities we are taught certainties, not how to cope with uncertainty. We are taught the theories, principles, assumptions and methods that underpin our subject, and we are tested to see how well we have understood and can recall them, but we are not taught how to think. We are encouraged to believe that there is a single best answer to every problem and

a single best way of solving problems through the application of set techniques and conventional logic, which we must learn and then apply to every similar problem.

Encouragingly, students around the world are now beginning to revolt against this narrow vision of education. In November 2011 over 70 economics students at Harvard walked out of a lecture given by their departmental head. They were objecting to the unerring faith of their teachers in the economic orthodoxy they were being taught, which had brought about the financial crash and left not one of their teachers able to predict the economic meltdown.

In a manifesto signed by 42 university economics associations from 19 countries, students have condemned not just the narrowing of the curriculum to exclude the broader social and moral implications of economic decisions, but also the quality of the teaching they receive.

For instance ...

At the University of Manchester students complained that they were being trained to digest economic theory and regurgitate it in exams, but never to question the assumptions that underpin it: 'Tutorials consist of copying problem sets off the board rather than discussing economic ideas, and 18 out of 48 modules have 50% or more marks given by multiple choice.'

The contrast between this and what employers need could hardly be clearer. They are looking for people who can cope with uncertainty: people who, the moment they are faced by uncertainty, don't go in search of some authority, whose advice they can follow, but can think for themselves. These are the people who can generate new ideas, create new concepts, design solutions to problems, produce new insights,

assess risk and come to their own decisions. As the philosopher Bertrand Russell described them, they can 'live without certainty and yet without being paralysed by hesitation.'¹

Solutions are not *found*; they are *designed*

At the heart of this difference lies a clear distinction between those who expect that solutions can be *found* and those who *design* them. Once we have been taught that the world is composed of certainties, which we must understand, recall and use when we need them, this dictates the way we tackle problems. Whenever we are presented with a problem, we search those things we know and call upon the set techniques and conventional logic that we have been taught to use to find the solution. We work on the assumption that solutions are out there to be found by using these to clear away those things that are obscuring them: all the false reasoning, the unjustified assumptions and the beliefs that have no basis in fact.

However, those who have made important breakthroughs in whatever field, from John Nash to Steve Jobs, from Darwin to Watson and Crick, have *designed* the solutions, not *found* them by simply applying set techniques and conventional logic.

For instance ...

Einstein knew no more than anybody else, when in 1905 he wrote his four ground-breaking papers. He did no experiments of his own and discovered nothing new. All he did was think differently and design radically new solutions. He challenged established concepts, like absolute space and time, created new, revolutionary concepts, like relativity, and forged unexpected connections between ideas, like mass and energy, producing insights that

were to transform our thinking. His ability to think differently brought about the breakthrough, which others had been unable to see.

Thinking differently

Like Einstein, we can all learn to think differently: we can all learn to design new solutions to the most difficult problems. The simple fact is that we all have these abilities, yet we leave universities with this potential largely untapped. This book and this site have been designed to help you to develop the skills you need to unlock these abilities. Overwhelmingly, employers around the world are arguing that these are the abilities that they need: the ability to think conceptually, creatively and make decisions of your own without being overawed by uncertainty.

In chapter 1 of *Smart Thinking* we learn the problems we all have to overcome to become smart thinkers. In chapter 2 we learn what smart thinking is and how it develops the employability skills that all employers are looking for, along with the skills we need to tackle the psychometric questions organisations set in their selection process.

Conceptual thinking

Then, in the next five chapters, we learn how to think conceptually:

- In chapter 3 we will unwrap the mysteries of conceptual thinking. You will see the creative power it brings to our thinking and how you can use this in your own thinking.

- In chapter 4 you will learn how to create new concepts, which will transform our thinking, create new products and services or new ways of promoting a product.
- In chapter 5 you will be shown how to reveal the ideas that control your thinking without you knowing it, so you can recombine them in new and interesting ways. You will develop the skills to analyse concepts to see the ideas at the heart of them.
- In chapter 6 you will learn how the most important breakthroughs in our thinking have occurred, so you too can generate your own insights that will surprise even yourself in their originality.
- In chapter 7 you will learn how conceptual thinking can help you achieve the highest grades in your essays and dissertations and the significance of it as an employability skill. You will also learn how much easier it is to cope with psychometric problems once you have learnt the methods and skills of conceptual thinking.

Creative thinking

In the next six chapters you will learn the skills that will release your untapped creative potential.

- In chapter 8 you will learn the most important characteristics that all creative thinkers share and the extent to which you have them too.
- In chapter 9 you will be shown how you can generate a wealth of original ideas on almost any problem.
- In chapter 10 you will learn how to release yourself from the shackles of conventional ideas. You will learn how to structure your ideas, to

represent them in different ways, so that you reveal new insights and unexpected meaning.

- In chapter 11 you will learn how creative people can always find surprising, unexpected solutions to problems; how they can interpret structures in new ways using analogies that transform the way we think.
- Have you always wanted to be able to solve the most difficult problems that others find impossible to solve? In chapter 12 you will learn four methods of designing the most incisive and surprising solutions to the most intractable problem.
- In chapter 13 you will learn how all of these methods will help you inject your own original ideas into your essays and dissertations, how employers worldwide are eager to employ graduates with these skills and how important these are to tackling the three most common psychometric problems.

Decision-making

Finally, in the last five chapters you will learn how to assess your original ideas and solutions, and come to a decision that is genuinely your own.

- In chapter 14 you will learn what makes a good decision-maker and a good decision. You will also learn how to tackle the most common psychometric problems that test these skills.
- We all find it difficult to choose between competing solutions and make our own decisions. In chapter 15 we learn how to escape our intuitive biases that frequently result in poor decisions.

- Understanding how to make decisions under conditions of uncertainty is one of the most urgent challenges we face, yet most of us are never taught how to calculate risk so that we can make the best decision. In chapter 16 you will learn how to make the best decisions based on an accurate assessment of the risk involved.
- We all struggle to choose between those things that are so different from one another that all we can do is resort to intuitive, impressionistic judgements. In chapter 17 you will learn how to avoid this and instead make rational, objective decisions.
- Finally, in chapter 18, you will learn about the importance of decision-making in making ideas your own. You will see how it results in a depth of conviction that will radiate from your presentations and essays making them far more persuasive. You will learn how important the skills of decision-making are to organisations and professions in the twenty-first century.

Learning to be a smart thinker

This book and the work we can do together through this site will teach you to open up new insights and ways of seeing things nobody else has seen. You will learn how to solve problems you never thought possible and how to make the right decisions, when others are overawed by uncertainty.

¹ Bertrand Russell, *History of Western Philosophy* (London: Allen & Unwin, 1967), p. 14.