



# Foreword

***“Give a man a fish – and you feed him for a day; teach him to fish – and you feed him for a lifetime.”***

— author unknown

Every one of the **guide** series is a *fisherman* book – *i.e.*, they teach *concepts*. Each step in the *concept* is thoroughly explained and illustrated further by *worked examples* or *problems*.

The **critical guide** fundamental series ❶ is best suited for beginners. Although these *guides* are complete on their own, but we do encourage students who become more familiar with the subject matter, to progress to more *extensive guides*. It is not unusual for certain schools wanting to broaden their students’ minds to teach beyond the actual examination (exam) syllabus *per se*. For this, students are best advised to immediately use the **complete guide** extensive series ❶.

For students with *extreme intelligence*, they will find the *guides* a little too cumbersome to refer. They should then use the *fisherman fast-learner* books, *i.e.*, books that are to help prepare students taking the actual exams (quickly). These books provide the **critical study notes** ❷ to all exam concepts.

Knowing how to use the fishing rod, line, sinker, hook and bait to fish is not enough; one still needs the *encyclopedia of fish*, *i.e.*, the **challenging learn-by-example** (LBE) fundamental series ❸. Out there, there will be many kinds of fish; each requires slightly different method to catch – for example, capturing a shark definitely demands a different technique from that of catching a salmon. In the same way, one must get familiar with the various exam question-types so that one can confidently score. The *challenging LBE* series provides training up to ordinary exam-standard. Again, for students going beyond, the **demanding LBE** extensive series ❸ is a must-have.

Lastly, you should not neglect fundamental *work-out* with our ever-popular **challenging drill questions** (with answer keys only) ❹ and **solutions** ❺. Again for students with *extreme intelligence*, do complement learning with our **oh-my-god (omg) drill questions** (with solutions) ❻, an all-embracing extensive *work-out* series.

For teachers, please use our trade book, the **teacher’s reference** ❷.

Each year, popular “past-years exam questions” books are usually printed without accompanying accurate solutions, mark schemes and appropriate examiners’ requirements; for this lack, please use our fully compatible **complete yearly solutions** series (there are no questions, only complete solutions; please do purchase your own copy of the questions) ❸. In addition to accurate answer scripts, common errors as highlighted by the exam board are also appended. Due to popular demand, we have reinforced some of these commonly-asked-ordinary-exam-question-types as **challenging practice questions** ❹ and **solutions** ❺. After this, just before taking your actual exams, you can finally attempt our **challenging examinations questions** ❹ and **solutions** (with mark schemes & examiner’s reports) ❻.

**Knowledge is power.** But, there are many publications out there that provide **false information** and it may be difficult for students to separate **accurate education** from this *false information*. The trust in our extremely rigorous publishing control allows us to be confident in the **reliable truth** the student would receive.

Latest and continuous updates and errata are available at <[www.yellowreef.com](http://www.yellowreef.com)> and one may purchase these reliable publications from your nearest major bookstore or online from <[www.headstarts.org](http://www.headstarts.org)> (a conservation program).

All of the above books are created to fulfill the urgent need in mastering the subject matter most efficiently. It will undoubtedly provide a firm platform for the student to score extremely well in his/her exams. But knowledge at its highest form is not a science but an art; to do this, please use our **journey** books ❶ (coming soon) – the ultimate mastery of the art form.

***“Using the right tool at each appropriate stage of exams preparation saves time. No point trying to pretend that a simple screwdriver would suffice at all situations.”***

*“If I have seen yonder, it is by standing on the shoulders of giants.” – Sir Isaac Newton*

*“The actual journey of inspiration only begins when one takes the first step towards learning humbly from the masters.” – paraphrased by the authors*

*“The human form factor remains unchanged, so learn it, love it and master it and you lord over all things.” – Chris Hughes*

*“Look at the examples around you, therefore, never chase after money. If truth be told, it is one’s passion that gets the ultimate prize. Derive first the pleasure of creating things that are untouchable by all principalities.” – Thomas Bond*

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## A token of appreciation

Hard as we tried, no matter how careful our repetitive efforts in seeking out errors in our publications are; some typographical, factual or calculation oversights still elude us. For that, we hope you could accept our sincere apologies here and would greatly appreciate it if you could point them out to us either through email [[sales@yellowreef.com](mailto:sales@yellowreef.com)] or website [<http://www.yellowreef.com>].

In our continuous and relentless pursuit of excellence, we would like to extend a very small token of appreciation to you for these selfless feedbacks (per mistake reported).

- *Critical factual or calculation error found* – \$10
- *Normal factual or calculation error found* – \$5
- *Critical problem sum plus solution suggested / accepted* – \$10
- *Normal problem sum plus solution suggested / accepted* – \$5
- *Critical diagram error found* – \$10
- *Normal diagram error found* – \$5
- *Critical suggestion to improve / accepted* – \$10
- *Normal suggestion to improve / accepted* – \$5
- *Typographical or grammatical error found* – \$2

*Please provide, together with your errata and/or suggestion(s), your bank account number through email or private message, so that we can electronically transfer directly the small token into your bank account.*

By this partnership of collective wisdom, we truly hope to provide **accurate education** to users of our excellent publications.

We also would like to take this opportunity to thank the numerous well-wishing contributors and wish all of you many happy returns. Without your support, we wouldn’t be able to improve so quickly and accurately. Once again, a big thank you.

version 1.09



# Levelling the playing field

A **level playing field** is a concept about fairness, not that each player has an equal chance to succeed, but that they all play by the same set of rules.

Not every person is born with a silver spoon in his mouth, *i.e.*, born into a wealthy family. There is, therefore, no such thing as a *level playing field* to begin with. Even so, it is not a peccadillo to be born poor.

Although wealth is not an absolute measure of one's happiness and self-worth, it nevertheless provides one with a sense of well-being.

If one is unskilled, one has no choice but to take on only lowly paying jobs which require little or no job-specific knowledge, such as a street-cleaner or a dish-washer (no pun intended).

In order to improve one's standing in the society, one has to be schooled in both knowledge and skill. In its broad sense, **education** refers to any act or experience that has a formative effect on the mind, character, or physical ability of an individual. It is usually transmitted through schools, colleges and universities.

With *education*, one can choose to be a chef, a dancer, an artiste, a lawyer, an engineer, a doctor, an accountant or even a banker. Even though one might have come from a lowly background, one can still advance comfortably to higher rungs of the society and improves one's life.

Save for, if one still has the passion to be the best street-cleaner or dish-washer in town, why not? One can still choose his or her own path.

Hence, *education* is about having one's own choice and definitely one's ultimate field leveller.

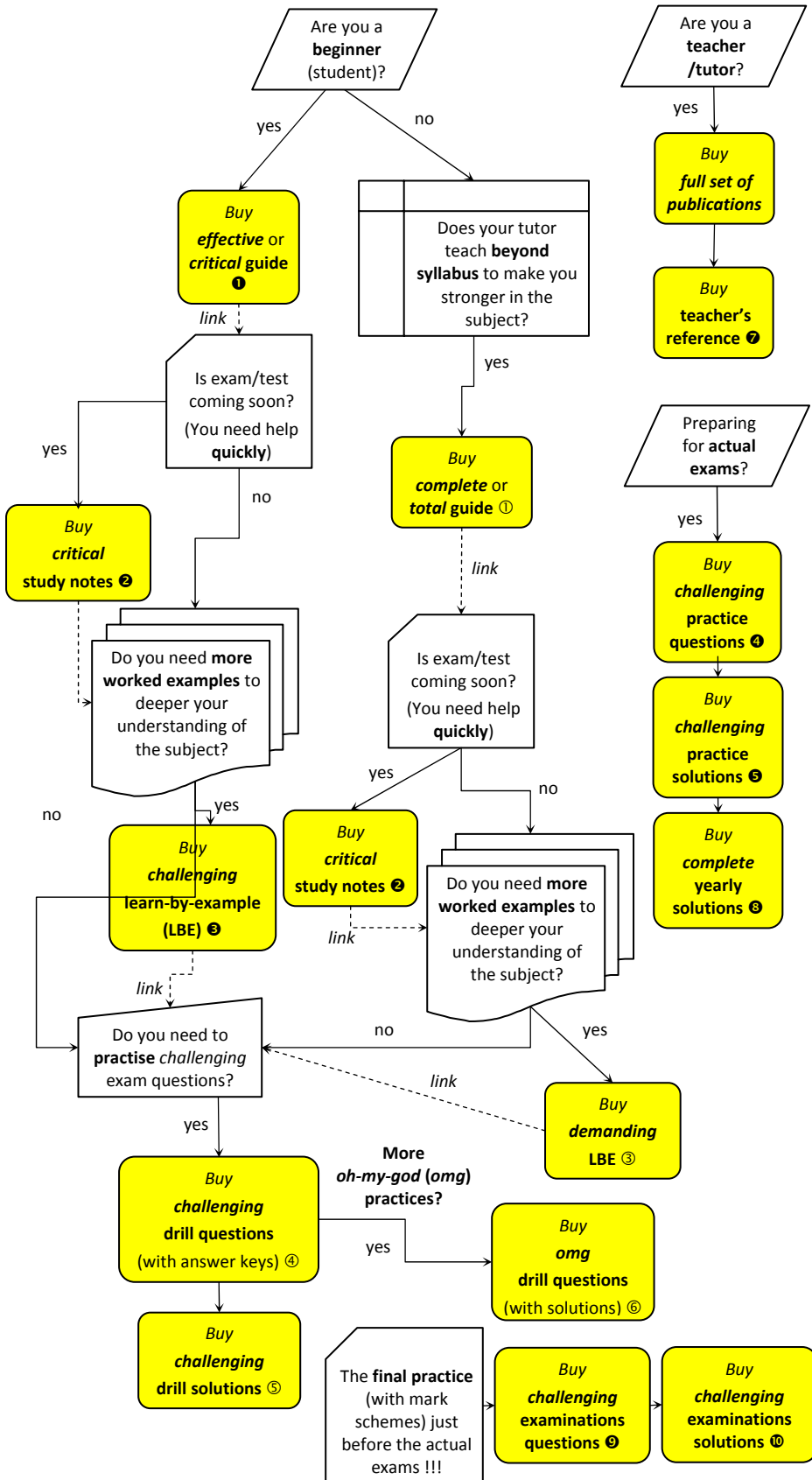
But, the process of *education* is **not cheap**.

We are prepared to assist in whatever ways we can to provide this field leveller. Any students that are currently under any *financial assistance schemes* or deem unable to procure any of our publications to improve their grades or if you are a compassionate teacher or concerned parent involves with these students, please do get in touch with us at <[sales@yellowreef.com](mailto:sales@yellowreef.com)> on the number of **free copies** you need.

For those of you who are not eligible for this help, but still wanted some form of help, please visit <[www.yellowreef.com](http://www.yellowreef.com)> and look under the <*books*> or <*solutions*> sections for some free goodies.

Here, may we wish all talents, big and small, be allowed to blossom to their fullest extent.

# ROAD MAP



version 2.03



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## MARK SCHEME LEGENDS

Marks are of the following four types:

- M** Method mark, awarded for a valid method applied to the problem. Method marks are not lost for numerical errors, algebraic slips or errors in units. However, it is not usually sufficient for a candidate just to indicate an intention of using some method or just to quote a formula; the formula or idea must be applied to the specific problem in hand, e.g. by substituting the relevant quantities into the formula.
- Correct application of a formula without the formula being quoted obviously earns the M mark and in some cases an M mark can be implied from a correct answer.
- C** Calculation/Compensation marks are interchangeable with Method marks, but are more specific to marks awarded to calculations
- A** Accuracy mark, awarded for a correct answer or intermediate step correctly obtained.
- Accuracy marks cannot be given unless the associated method mark is earned (or implied).
- B** Accuracy mark for a correct result or statement independent of method marks.





*ordinary level*

*advanced level*

<b>critical guide</b> ①	An ample <i>effective</i> guide for students starting out at Sec 3 and <i>critical</i> at Sec. 4 or 5.	An ample <i>effective</i> guide for students starting out at lower Form 6 or JC year 1 and <i>critical</i> at upper Form 6 or JC year 2.
<b>critical study notes</b> ②	An intense and sharp delivery of concepts. The structure and organization are direct verbatim imports from top schools.	An intense and sharp delivery of concepts. The structure and organization are direct verbatim imports from top colleges.
<b>challenging learn-by-example (LBE)</b> ③	The MCQs / structured question-types were taken from actual exams. The deliberations were from easy to hard. (topical)	The MCQs / structured question-types were taken from actual exams. The deliberations were from easy to hard. (topical)
<b>challenging drill questions</b> ④ (with answer keys) <b>/ solutions</b> ⑤	For practice. The MCQs / structured question-types were taken from actual preliminary exams of <i>top schools</i> . (topical)  Its <i>comprehensive</i> solutions.	For practice. The MCQs / structured question-types were taken from actual preliminary exams of <i>top colleges</i> . (topical)  Its <i>comprehensive</i> solutions.
<b>complete guide</b> ①	A total deliberation of extensive concepts taught in <i>top schools</i> .	A total deliberation of extensive concepts taught in <i>top JCs</i> .
<b>demanding LBE</b> ③	The MCQs / structured question-types were taken from actual exams worldwide. The deliberations were from easy to hard. (topical)	The MCQs / structured question-types were taken from actual exams worldwide. The deliberations were from easy to hard. (topical)
<b>oh-my-god drill questions / solutions</b> ⑥	For practice. The MCQs / structured question-types with solutions were taken from actual exams of <i>top schools</i> worldwide. (topical)	For practice. The MCQs / structured question-types with solutions were taken from actual exams of top prep-schools worldwide. (topical)
<b>challenging practice questions</b> ⑦ (with answer keys) <b>/ solutions</b> ⑧	Mock exam questions arranged in a topical order.  Its <i>comprehensive</i> solutions, with mark schemes.	Mock exam questions arranged in a topical order.  Its <i>comprehensive</i> solutions, with mark schemes.
<b>challenging examinations questions</b> ⑨ (with answer keys) <b>/ solutions</b> ⑩	Accurate exam questions arranged in paper order.  Its <i>comprehensive</i> solutions, with mark schemes.	Accurate exam questions arranged in paper order.  Its <i>comprehensive</i> solutions, with mark schemes.
<b>complete yearly solutions</b> ③	The solutions to actual exams arranged in a yearly format. (only solutions, no questions; please purchase your own copy of the questions)	The solutions to actual exams arranged in a yearly format. (only solutions, no questions; please purchase your own copy of the questions)
<b>teacher's reference</b> ⑦	A complete and comprehensive guide for teachers.	A complete and comprehensive guide for teachers.

version 1.81

- **Compile school notes /Write novels**
- **Draw /Design comics/art books**
- **Compose popular tunes /lyrics /Sing**
- **Act**

We are looking for talented person(s) who could help us to:

- prepare school education books for *advanced, ordinary or primary* levels.
- write *short stories or novel* according to our requirements.
- write simple *English readers*.
- draw *comics* and design *cartoon guides/art books*.
- compose popular *tunes, lyrics* and perform the *compositions*.
- write, produce, direct or act in a *short skit, movie or talk-shows*.
- compose, write, conduct or sing a *song* and its *mtv*.

The person(s) must possess the following:

1. creative and genuine.
2. familiar with Microsoft Word 2007 or later, mathtype 6.6 (or Equation editor 2007 or later) and drawing tools. Adobe Acrobat Professional CS3 or later installed.
3. owns a fast Microsoft Windows PC (with proper internet connection), and skilled in working with clip arts and text. ability to produce quality work fast and on-time (only a short time would be allowed). must have distinction grade for the assignment subject-type (e.g. distinction for additional math for assignment in additional mathematics notes; other subjects may be english (AL), geography (AL), biology (AL), mathematics and so on).
4. must be an undergraduate / graduate / nafa / lesalle / music school or higher.
5. must be committed to the job assigned (you cannot quit half-way, otherwise we will withhold payment).
6. Graphics, music or movie guys, please be familiar with your own skills and softwares.

This is not a pure typist job. Prospective candidate will work from home and be paid on a per-job basis. Further details and contract will be disclosed to successful candidates.

Interested applicant please email us at <[sales@yellowreef.com](mailto:sales@yellowreef.com)> with your name, recent photo, full CV (include all o-level, a-level, uni results), contact numbers, email address, subject(s) that scored distinction(s), scans of your identity card or identification papers (we don't wish to employ illegals).

Payment is by direct-bank-in to personal bank account.

*As you must learn and know more about us before your interview, you are required to go to any established popular bookstores and ask for the text/assessment department. In that section, look for the labels under the publisher.*

*Questions will be asked about these books/DVDs or music CDs.*

*If you are successful, you will serve under an appropriate supervisor.*

Lastly you must be a **fun guy** to work with ...

Go to [www.yellowreef.com](http://www.yellowreef.com) and register as a member of the forums and get the latest updates. Full job scope and complete details are provided.

version 1.73



# headstarts.org 🐼



headstarts.org is a young organization created for the protection of endangered species, promotion of scientific investigation and to contribute to environmental education in our communities.

## why sea turtles?

headstarts.org 🐢 has chosen **sea turtles** 🐢 as the initial focus of its conservation efforts in part because these ancient creatures are among the most important indicators of the health of the world's marine and coastal ecosystems.

headstarts.org 🐢 believes that whether **sea turtles** 🐢 ultimately vanish from the planet or whether they remain a wild and thriving part of the natural world, will speak volumes about both the general health of the planet and the ability of humans to sustainably coexist with the diversity of life on Earth.

## what's next?

Nearly all captive **elephant** 🐘 were captured in the wild, and even though wild populations are dwindling, zoos are still capturing more. Taken from their families and homeland, **elephant** 🐘 in zoos suffer a life of chronic physical ailments, social deprivation, emotional starvation, and premature death.

## What can you do to help?

We hope to spread the conservation message to the local community through talks, events and sale of special message t-shirts and other specific items.

To do that, we need the support of volunteers to assist in organizing these events. All sale proceeds, after deducting all basic administrative, manufacturing and logistics costs, will be accumulated to send these very same volunteers to international volunteer programs.

We not only believe in contributing merely cash to conservation efforts, we also believe that by having volunteers participating physically too, the conservation message is stronger and more effective.

## How to register as a volunteer?

You have to fill up accurately the volunteer form attached and pay an administrative fee. This administrative fee is waived if you have purchased 2 volunteer t-shirts (please enclose original receipts as proof of purchase).

## Fruition of the teacher's reference

知彼知己，百戰不殆；不知彼而知己，一勝一負；  
不知彼，不知己，每戰必殆。

Producing a reference for teachers is never easy, it took the better of 10 years to fruit. Originally we wanted the book to give a more in-depth treatment to the subject matter. We wanted the teachers to be well-equipped. But, wouldn't that duplicate the efforts by varsity books? We stopped. Then we considered giving harder and more creative examples. Again we stopped. It was no difference to our other established books.

Meantime, we were bombarded with queries from students and teachers alike. Many users have followed the recommendations in our books and repeated some of the answers. But, more often than not, the schools marked them wrong as they don't usually conform to what they were taught. For example, although some of our best guides were accepted by top schools, there are still some other top schools, due to pride or reasons only known to themselves, will still mark these answers wrong as they didn't conform to their own style. Some top school A may accept definition as in "per unit time" but some other top school B may not accept it and only accept "with respect to time". B may insist that "per unit time" points to a mathematical equation and not a statement of fact, while "with respect to time" is a proper statement of fact. All these minute but important judderings will kill the zeal of our best students. What is then the correct and accurate answer?

Therefore, in order to score perfectly. We must find a way to find out what the examiners see as the correct and accurate answer. Indeed, there are currently no reference as to what the examiners want, *i.e.*, from the other side of the fence. We needed books viewed from the examiners' point of view. Whether Cambridge or any renowned exam boards will take a certain class of answers and not take certain other class of answers, never mind what the local teachers say. With these goggles, the eye-sight of the student is made perfect. The student can now confidently write his exams and assertively claim that it is correct and accurately presented.

Thus, the teacher's reference intends to fulfill this role. Each book (per subject matter), not only equipped with the mark scheme of the subject matter, will also collate at least 100 sets of examiner reports in a topical format for the teacher. The aim is to present a consistent view from the examiners' goggles as to the correct and accurate answers and way of presentation. If "with respect to time" is indeed the only correct way of presenting a statement of fact, so be it. Let the students and teachers alike note this important differentiation.

## Conversation with a foreign national

Some time back, I chanced upon a customer at a very prominent bookstore. She literally bought every single conceivable assessment book within a certain level. Out of curiosity, I asked her why does she buy every single copy from one publisher and not spread her risk by buying a range of books from various publishers. Further, those publications that she chose were more expensive compared to similar publications from other publishers.

She explained that she was from a foreign land and her child is currently studying in a local school. It has not been easy for her as a foreigner to pay for the expensive monthly school fees and yet at the same time, still have enough to engage tutors. She was left with no choice but to provide as much assessment books for the child to do self-improvement. To avoid confusion from incompatible and duplicated learning, she focused only on one single comprehensive renowned supplier.

She felt that investing in these books is only but a one-time payment, if these publications would then help the child to secure a future that will last a lifetime, why not? By saving in other areas of expenditure, a little pain and sacrifice now would have well worth it.

As for gauging the quality of books from various publishers, she opined that she is not in a position to judge, she can only hope that the pricier books would give an accurate collateral proxy to better quality.

*Such is the dilemma of many concerned parents.*

## A whiz kid



**Muhammad Haikal Abdullah Zain**, only 13 and ready for university

*Sun, Feb 07 The Straits Times*

For today's Talented Thursday, we'll look into this guy. A whiz kid to be exact who is only 13 years old, but is ready to go for university.

A SINGAPOREAN boy sat for the British equivalent of the **GCE A-level examinations last year and aced all his papers** - and he was not even 13 yet.

Muhammad Haikal Abdullah Zain, a former student of Rosyth School, scored straight As in Biology, Physics and Chemistry, which he took last November.

He turned 13 a month later and plans to apply to study medicine at the National University of Singapore (NUS).

The A-level exams Haikal sat last year carry the same weight as the GCE A levels taken by junior college students here, said the British Council, which administers the exam. NUS confirmed it would accept students with those qualifications.

Said its office of admissions director R. Rajaram: 'We recently learnt of his interest in applying to NUS. We will be pleased to assess his application when we receive it.'

Read the full story in Friday's edition of The Straits Times.

*An able master craftsman will know he needs very able tools to help him achieve his goals. He has chosen our extreme publications as his tools of conquest.*

## Conversation with a local parent

The supervisor of a large bookstore approached me one day during one of my store visits asking whether I could answer an urgent query from a potential customer of our publications.

Her question was why is it that our assessment books are at least 3 to 6 times more expensive than our nearest competitor?

This is not the first time I received such feedbacks. I have always wanted to answer this interesting question in earnest.

To clarify, I told her unlike recommended school textbooks, she does have a choice in whether to buy our books or choose books from other publishers.

Our books have gone through very stringent planning and checks by very qualified professionals. Thus, our costs of production were extremely high compared to other publishers. As such, we were left with little choice but to price these books right. Even so, we still need to contend with the general affordability of the public. Overall, the price quoted is still at the lower end of the price-cost spectrum. Nevertheless, it is still the choice of the purchaser whether to buy or not to buy. There was never a compulsion.

She added that she has evaluated the various assessment books and keenly concluded our publications remain the best yet. She asked for that reason if we could sell them to her at a lower rate, as the cost of these purchases might prove a great financial burden to her.

I explained that quality education is never cheap. As a responsible corporate member of the civil society, we do provide on compassionate grounds free copies to students who might be left behind (by levelling their playing field).

She replied she wouldn't need such assistance at the moment.

As a suggestion to break the impasse, I held that she should just gather all the books she need and go straight to the cashier to pay. After the payment, I shall just refund her every cent to the dollar her purchases.

She will then bring these books home and asked her student to use them and study for the coming exams. When the exam results are finally announced, she would feedback to me the results. For every distinction the student achieved, she will pay the publisher every year henceforth the total cost of the books bought.

She said this is totally unfair. The multiples would be too high.

I highlighted that this is precisely the issue. We have absolute faith in our books and confident about our investment. But, we can charge the fees only once. Bar the good grades achieved are going to stay for a lifetime with the student. Given a choice, we would rather don't charge upfront the price of the book, but to bill only on success. That way we could easily and accurately be remunerated.

She summed up that she has a better understanding of the issues involved. She proceeded to procure what's necessary as she felt the value of these assessment books way surpasses the price quoted on the covers.

I smiled. She has answered her own question.