

Learning from Mistakes – “the Natural Way to Learn”: a paper for ILTAC 2000

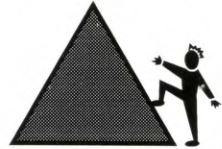
By John Bothams

Introduction of John Bothams

I started work in chemical research for BP and then worked in production and factory management in food, sound insulation and pharmaceutical manufacture. Since joining Higher Education I have been involved in designing and managing management courses such as Certificate in Management and Master of Business and Management (MBA) and I hold an MA in Management Learning. My prime interest is action learning (just in time learning). Currently and for the last 12 years I have been involved in the MBA at the Graduate School of Business at Strathclyde University. I am senior examiner for Young Enterprise Scotland which each year helps 3000-4000 15-18 year olds experience running their own business.

I enjoy hill walking and when walking in Samos last year reached the ultimate triangulation point – Pythagoras’s cave. This reminded me, that Pythagoras said:

“Everything we do is a process”



I believe learning is one of those processes and there is a natural way to learn: Action; reflection; theories; experiment; return to action. Sir Issac Newton is a really good example: Apple strikes head (action); reflection (beyond ouch!); theory of gravitation; experiment.



The experience

A quotation from an assignment from MBA students Roger Goldie, Robert Hendry, Marcelle Johnston, Colin Slevin, and Stephen Verrecchia. I am grateful to them for giving me the spur to finish writing this story up, because of their honest comments.

“And then it happened; we got our assignment mark back. 45%- Wait a minute!! What was John Bothams playing at? OK our submission was not brilliant but we all knew the level of performance would have guaranteed a safe pass. The man must be mad, perverse or simply a bastard.”

I have a rule I use in my sessions on the MBA and elsewhere – it is Rule Six:

Do not take yourself too damned seriously!

I also think that a remark, attributed to an R. Lembke, gets it right:

“One should not always make the same mistakes, there is plenty of choice.”

I try to get people to recognise that the MBA is a “safe place” to make mistakes, and it is better to make them in the programme than at work – the only thing damaged is the ego. However the above comment by students is not that unfamiliar to me and I hope to convince you it was **NOT** the result of a mistake on my part.

Background on the Programme and Course from which the data comes.

What is given here is the necessary information to understand the setting in which the learning takes place, and the rationale of the course and its assessment.

History of Distance Learning MBA at Strathclyde GSB

The MBA was started as a full time programme in 1966. The first distance course started in 1983 and was revised in 1985. There was a new design in 1987 and a 3rd Edition in 1989. In 1995 the 60 credit MBA (the same wherever you are in the world) was launched. Modes of delivery include **Open** (formally Distance); **Full time**; **Part-time**; **International**: (Hong Kong; Singapore; Malaysia; Gulf; Greece; India; Netherlands; Switzerland); and **Mixed Mode**.

International Business Environment (IBE)

This course is designed to help understanding the inter-relationships in the environment between Ethical, Social, Governmental, Legal, Macro Economic, Informational, and Technological issues. It is classed as a four-credit course and therefore is supposed to involve 100 to 140 hours of student effort to complete.

The time-scale of development of this module was as follows:

- 1992 Started the design
- 1992-3 Wrote the first version
- 1994-5 Trial delivery in Full & Part-time classes.
- 1995 - Delivery in all modes and centres

Design Issues

- Too much content for 140 hours of work
- Most students were by then at a distance and world-wide
- "My subject is the most important" was the claim by all the Professors in each subject.

This led to the course team producing the following design principles.

- The students need to know enough to know they do not know, so that they can ask questions –what we called the concept of the critical mass.
- Expect students to make mistakes – the IBE course is a complex and is an uncertain mix - it is natural to make mistakes.
- Ensure assessment recognises mistakes are valuable as long as they are understood.
- A group of students is needed to enable sufficient divergent views required to carry out the task
 - But group work raises a whole bundle of issues to be managed by the students as well as in assessment.
- A support to learning is required and supplied in the form of:
 - Life Line –a text based support;
 - Computer/Internet/Intranet/Email/Fax and any new technology that becomes available to support people at a distance;
 - Feedback from the assessment process to enable progress to be measured by the students.
- A novel environment should be the aim on the basis that:
 - You learn more where things are different – there is more noticing
 - Everyone is more equal "comrades in adversity"
- Provision of a real client or situation to explore as the students will feel "What we do may have some impact."

There were four assignments in the course by the time it was delivered overseas. The rest of the paper concentrates on two of them, the first and fourth. The second assignment was mainly about macroeconomics and data reliability, whilst the third was an individual exploration of ethical issues.

Nature of Assignment One

- For a fictional holiday company
- "Time constrained" Information Search on a country: South Africa; Japan; Vietnam.
- Criteria for assessment: Relevance & sequence of information for the client.
- Requiring a business report format.
- 5% originally, then 10% later of the total marks for the course. The marks are cumulative and each task cannot be failed but the course can.

Nature of Assignment Four

- Report on how things may turn out over the next few years for a particular industry
- Oil in S. Africa for Mobil

Publishing in S. Korea for Heinnemann
Soft Drinks in Brazil; Chile; Argentina for Barr's (of Irn Bru & Tizer fame)
Genetically Modified Food - World-wide and the role of "Terminator" technology for Monsanto
The report must not take more than an hour to "read" but can be multi-media and has to have a summary
Criteria:

- Credibility
- Coverage of environmental factors
- Use of scenario approach
- Clarity of message to the board
- Conciseness with supporting arguments
- Appropriate to the client
- 50% of the total course marks

Changes were made over time from the first design in that we reduced the number of assignments from seven down to four and altered things to include a 30% mark for individual reflections on the whole process. This last is considered necessary to ensure that if mistakes or problems in their group work are encountered, individuals within that group can "regain" the marks lost by showing their personal understanding.

The Outcomes

Marks have been taken from the final examination board records for different modes of delivery over a three-year period. This involves just under 800 individuals results – though most would have been in groups to carry out these two exercises. It would be difficult in the record system to reassemble the groups and it was not felt necessary to do so. The groups sometimes lost members between assignments, due to sickness and work pressure. The same two individuals always moderated the marks even though some of the marking was first carried out by others. The results used were in a relatively stable overall design and delivery period and can be compared.

The data from different centres and modes of delivery shows that people do learn from their mistakes. See appendix 1

There is an increase in marks of up to 30% between assignment one and four. See graph of overall results based on assignment one and also assignment four sorted in to order. All people who scored low in assignment one did better in assignment four. See graphs of all 'failing' marks compared and also those who got 50% or below. Of the 8% who 'failed' assignment one only two individuals also failed assignment four.

What was not expected was that 78% of individuals who got more than 60% in assignment one got less in assignment four. However this on investigation showed some differences in cohort and centre.

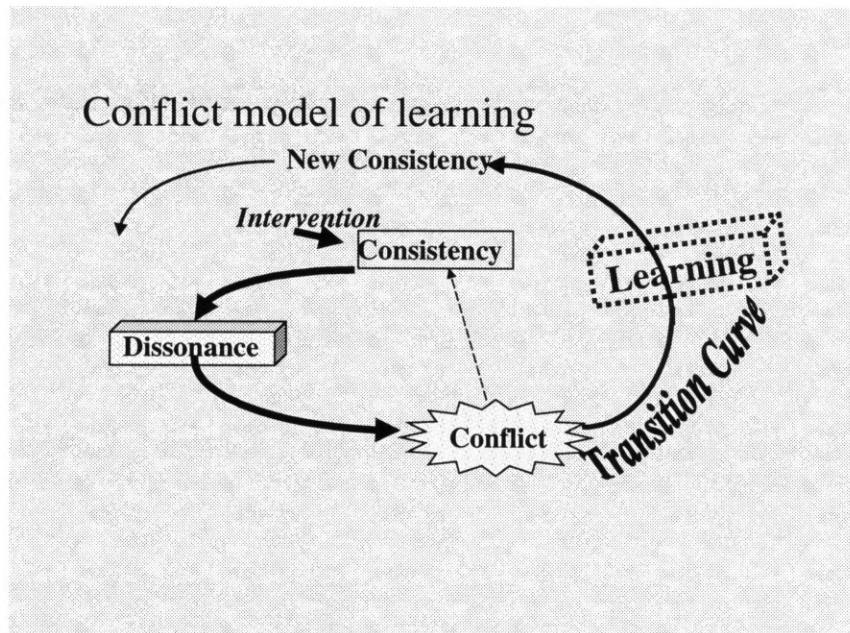
The nature of assignment four is different from that of assignment one so that the arguments about the effects of praise and condemnation affecting performance, which have been shown in for example pilot's flight tests, do not apply.

Differences for different modes, centres and years can be seen. The part-time is the least consistent. This would fit with inconsistent approaches and perhaps is a case of "too many cooks (lecturers) spoiling the broth". This compares interestingly with the Swiss centre which was the only course with one tutor throughout the delivery of the process. It perhaps is a good example of the difficulties that learners' face with attempted volume delivery by an educational institution. This is perhaps similar to the difficulties that any service organisation faces in delivering a consistent and reliable service across the world. What is tackled here is particularly challenging in that it is helping people understand uncertainty!

Learner reaction

This paper is too short to deal with all of the reactions so it concentrates on one group who are taking the mixed mode route. The author was their route academic manager and also their tutor, which means there is rapport between staff and students. This mode has a face to face session similar to the intensive seminars in the international route.

This process was always expected to create issues and this is pointed out in the open learning material. It is perhaps best illustrated with a simple model of conflict in learning that the author developed. Learning only takes place where views of the world are being challenged if there is sufficient support for people to pass through the now well known transition phases described by Robertson (1976). What happens otherwise is that people revert to their original view. It is noted here that Socrates said “one should create tension in the mind, in order for the individual to free himself from myths and half truths”.



J. Bothams 1984

The students’ comment already quoted is part of a report which they have given me permission to share. It makes clearer perhaps more believably what was being attempted in this design for learning it starts off with the following:

“Our study group consists of five people with various backgrounds and educational experiences but when we got together we thought we had at least one thing in common; we all knew how to pass exams. Over the years we have developed the skills that allowed us to absorb information to be regurgitated at a later date during an exam and ensure the successful acquisition of degrees, certificates and diplomas. We thought this must mean we were good at learning.

We assumed an MBA would be no different, we would attend classes, form working groups as and when required, submit assignments and pass the exams. Sure it might be hard work, but as long as we ticked all the boxes we would be able to add a Strathclyde degree to our collection. We gave little thought to how we would be learning, indeed we never even considered the processes required to learn – surely that was obvious. Then came IBE.....”

The report moves on

“But maybe it wasn’t all John’s fault - maybe it was the others in the group who were dragging ‘me’ down with their idleness. We didn’t understand what was going on but we knew that it was not our fault as individuals. Why, we all wondered separately, had we hitched our chances of success to these idiots. After all none of us had ever had problems passing exams on our own.

John Bothams tried to reassure us that a lower mark at the beginning of IBE inevitably meant a greater mark at the end but this was of little comfort. Suddenly this great group that had succeeded in working so well for GSM became a lead weight dragging us as individuals down. None of us could believe that had we been undertaking this task ourselves we could possibly have failed.

What were the options?

- Reject the criticism - John is mad / perverse / a bastard
- Find a scapegoat - John / one of the group / the task / the university
- Just pick ourselves up and try to do the next task 'better' - redesign it to fit what the tutor wants.
- Abandon the group - maybe I'd be better on my own
- Try doing the reflection any way - it was just another task that needed completed.

It had not yet occurred to any of us that there were other options. There followed a period of deceptive quiet when we all retired to think about what had gone 'wrong' and do some more exams. There was only one small task to tidy up - to write our reflections and so it was decided that we might as well do this.....

The act of sitting down and carrying out an intellectual post mortem turned out to be more difficult than any of us had imagined. It had nothing to do with Kwa Zulu Natal. It was all to do with 'us' – the individual and the group. All of our individual reflections detailed the way we had developed in working together. While acknowledging the pleasure of fellowship, we all recognised that if the group was going to succeed we would need to become more efficient. The more we discussed the reasons for our failing the less acceptable the reasons seemed, we all agreed we had become distracted and had merely wanted to complete the tasks given but surely that was what it was all about.

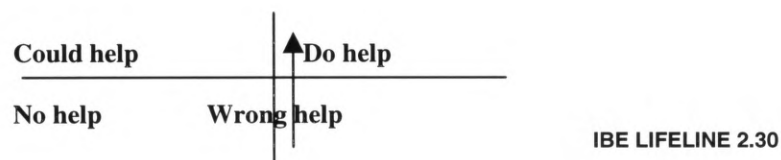
Gradually we began to discuss more profound issues and ask more difficult questions....why had we chosen to do an MBA and what was the point of IBE? Was there any point in simply submitting tasks time after time to the same formula....is that learning? Did John really want another glossy production about South America to add to the collection on his bookshelf?

Without realising it we were becoming animated and enthused. Scepticism and dismissal were replaced by genuine curiosity.”

The students then use one of the models from the IBE workbook

“Right Help – Wrong Help.

We recognised that whilst undertaking task 1 a lot of the characteristics of “Wrong Help” were appropriate for the group. We had no *overall perspective* we were very much driven by individual tasks. In addition we had *inappropriate learning goals* we believed that our goal was to learn about Kwa Zulu Natal. We also overloaded ourselves with data to the extent that we were unable to identify the most significant information.



Moving from the “Wrong Help” quadrant to the “Do Help” quadrant required a new definition of the problem. The goal was not to find out about Kwa Zulu Natal, the goal was to understand how we learn, how we would identify what we did not know and how we could effectively share learning as a group.

Did this not mean that the actual tasks undertaken were of secondary importance and that IBE might in fact not be anything to do with Irn Bru and Argentina?

MAKING LEARNING HAPPEN – THE IMPORTANCE OF THE ENVIRONMENT

Having looked at the learning process we had lived through during IBE from different perspectives it became clear that we had stumbled into 'self reflective learning' without fully realising what it was. As Mezirow (1985) states 'self reflective learning involves challenging and breaking out of old mindsets. It also requires unlearning as well as new learning'. But this was not entirely by accident. Such a transformation would have been very unlikely away from the situation we found ourselves in on the IBE course. As Argyris (1982) points out, such learning is, 'only possible in an environment that enables and empowers individuals to be responsible, productive and creative and to see error as a positive learning vehicle. It also requires acknowledging uncertainty and spanning information boundaries'. This all now seems obvious but would have been meaningless jargon before the experience.

We have therefore come full circle to see that John Bothams was not in fact mad, trying to be perverse or of questionable parentage.

Instead he had set up an environment in which a true learning experience could take place. To overcome the latency in our cognitive processes and achieve a quantum leap in the way we looked at the world and ourselves required a large amount of energy, which needed to be contained in a safe environment. We came to see IBE as a sort of 'intellectual reactor'. At times we came close to melt down, but the resultant product could not have been forged in a 'cold reaction'. The paradigm shift, which took place during IBE, is its own way the result of a sort of catalysed learning reaction, if not quite intellectual alchemy."

Having moved through the transition curve the group see many things differently including the author.

Conclusions:

It is possible to design learning including the assessment so that people can learn from their mistakes, which is a natural everyday process. It is not however something that is likely to be tackled without consequences for the designers of the process and the institution from which it takes place. Careful attention needs to be paid to support and the consistency of the support not just to the learners but also for those providing the learning.

With acknowledgements to the students, Pythagoras, Socrates and R.Lembke

Argyris, C. (1982) *Reasoning, Learning and Action*. Josse-Bass, San Francisco.

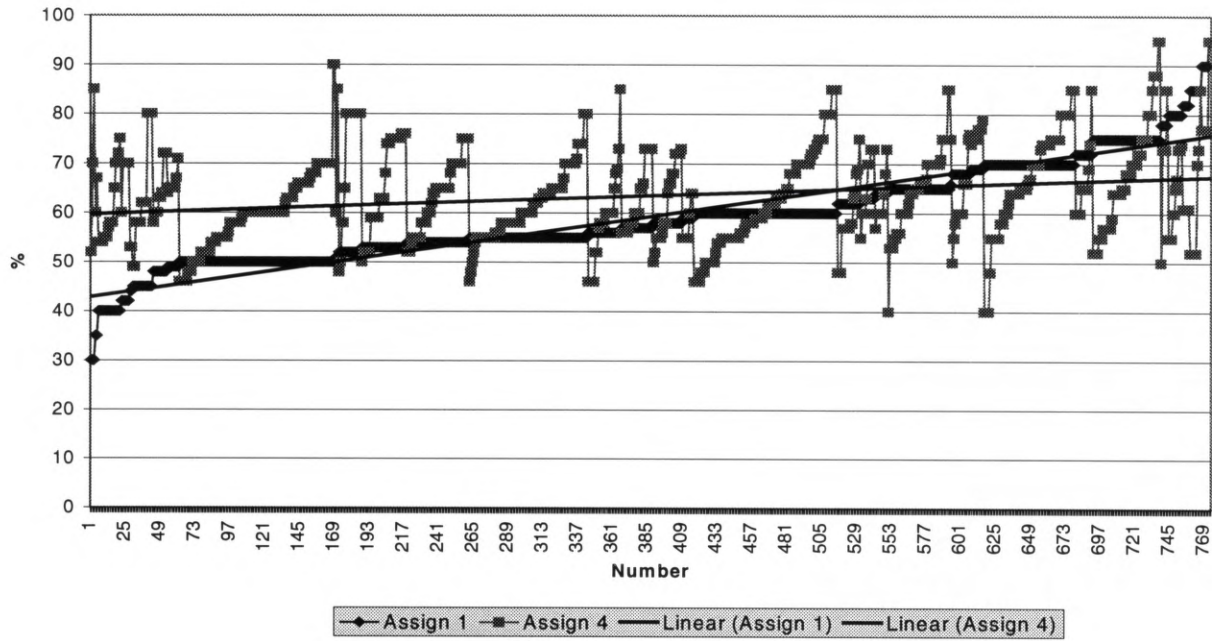
Mezirow, JA. (1985) 'A critical theory of self-directed learning', in Brookfield, S. (ed.), *Self-Directed Learning: From theory to practice*. Jossey Bass, San Francisco.

Robertson, M (1976) *Transition – understanding and managing personal change*.

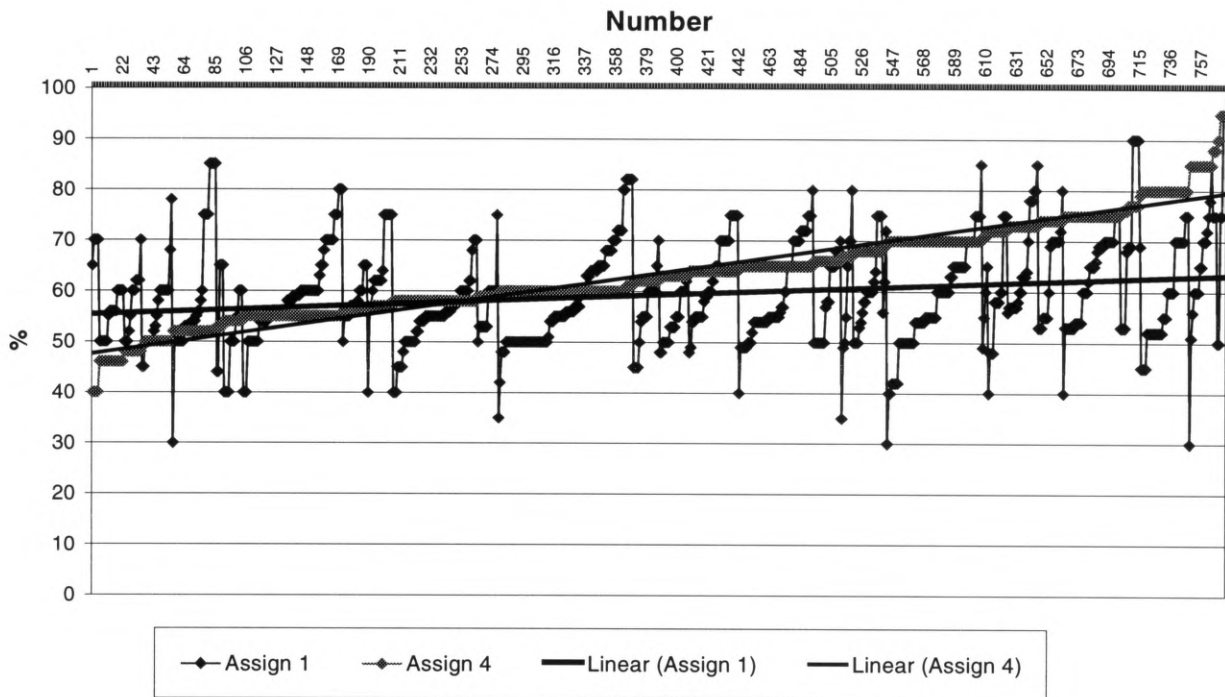
Schwartz, P. (1991) *The Art of the Long View*. Doubleday, New York.

Appendix 1

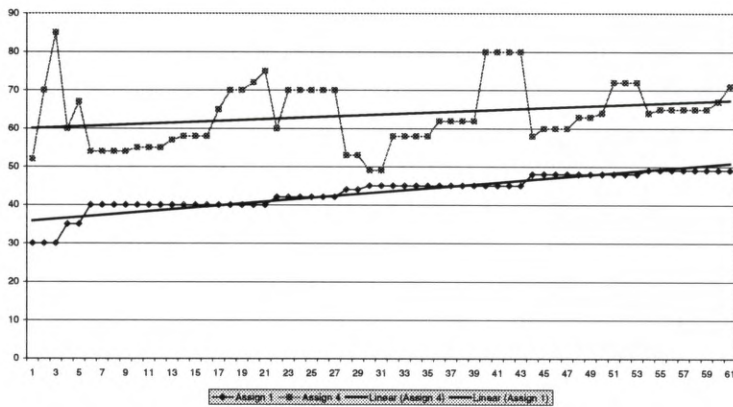
IBE based on Assignment 1



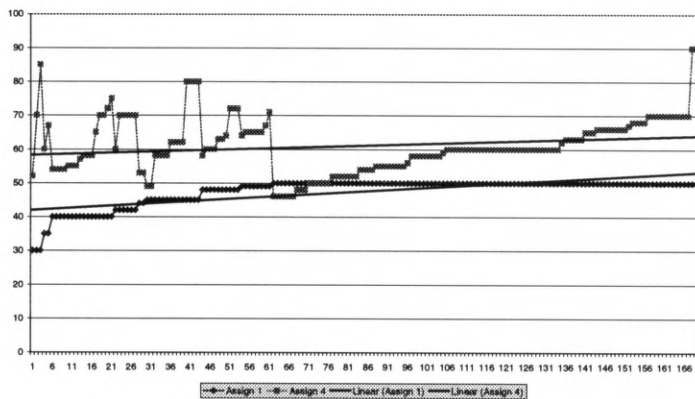
IBE Based on Assignment 4



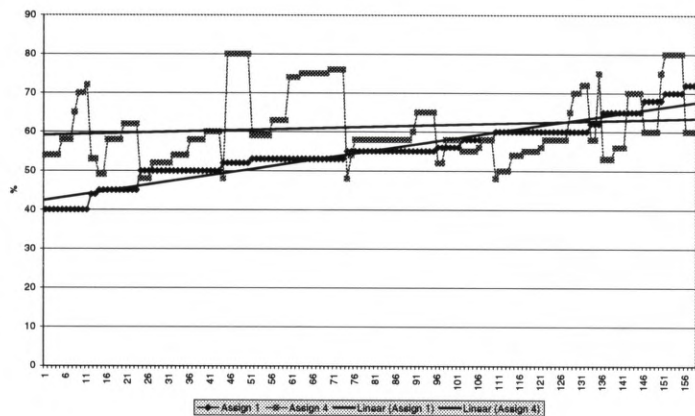
"Falling" Assignment One



50% or below on One



Part time 3 years



Swiss IBE

