

SATISFYING THE 'LEARNING IN DEPTH' CRITERION

Kieran Egan
Faculty of Education
Simon Fraser University

It has long been argued that being educated entails satisfying two criteria: first, one must know many things about the world and, second, one must know something in significant depth. There have been a number of proposals for attaining the depth criterion, none either clear or very successful. A curriculum innovation from Canada called 'Learning in Depth' is a simple and practicable programme for ensuring depth learning for all students which merits experimental implementations elsewhere.

The general curriculum of the school is designed to equip students with some knowledge about the world at large, about its history and geography, about politics in their own and other countries, about what is generally going on in the sciences, about the arts and literature, and so on. We expect that breadth of knowledge not to be merely an accumulation of facts, but also to involve conceptual ordering principles that ensure students develop some general understanding and habits of critical reflection on what is known.

Given the amount of material to be covered in the curriculum – which serves as a kind of vast encyclopedia of human knowledge in outline – it is probably inevitable that students will tend, at best, to leave school with a breadth of rather superficial knowledge. Usually, especially for the more successful students, schools provide opportunities for specialization in some area of study. This usually constitutes a slightly deeper introduction to an area of specialization, which, compared to genuine expertise, can only be considered a little less superficial than what is learned in the rest of the curriculum.

Yet, from the beginning of educational thinking, there has been a constant insistence that being educated involves satisfying two criteria – those of breadth and depth. We struggle to achieve the breadth criterion, in Ireland no less than in other countries in the West, often apparently against the odds of TV and other media attractions and distractions, of students' frequent boredom in the face of, say, algebra and medieval history and much else, and the very variable abilities of students to retain what they have been taught in previous months and years. In this struggle, the depth criterion commonly

receives only the most marginal attention. And yet, educational thinkers have argued that only by learning something in significant depth can students come to grasp how knowledge works, or its nature. These are vague phrases, and specifying what constitutes depth of learning is less easy both to characterize and justify than is breadth, with its obvious social utility. We get some clues about the importance of understanding the nature of knowledge more fully when we discover that many people seem unable to distinguish a knowledge claim from an opinion, or are vulnerable to believing the most bizarre accounts of weird creatures, alien abductions, and even stranger events in the face of overwhelming evidence, and so on through the modern panoply of exotic beliefs accessible on the Internet and in your local pub.

Learning about something in depth has been seen as one antidote to these ills. It does not guarantee immunity, of course, but it is hard to accumulate a great deal of knowledge about some topic and not have the methods of critical inquiry accumulated in the process also give one some protection against the worst vulnerabilities of ignorance.

In this article I want to describe briefly some of the main arguments made for attaining depth of knowledge and understanding and look at some of the practical methods proposed for achieving it. I will also try to account for why none of these has had much significant success, especially for students who currently seem to gain least from schooling. I will then go on to describe a newly devised Canadian programme, called 'Learning in Depth,' which is strikingly simple and is being implemented in a wide variety of educational contexts in a number of countries.

PAST ATTEMPTS TO ENSURE LEARNING IN DEPTH

Plato's programme for attaining both breadth and depth of learning is laid out in his *Republic*. That austere fifty-year programme of study, during which the student is to acquire sanctity as well as dedication to learning – indeed, in which the two are seen to be co-dependent – has not often attracted many enthusiastic adherents. It has always been easier to find some philosophical objection to the scheme in general than to try it and see. Even so, it has remained a part of all conceptions of education, if only by offering an image of deep knowledge enhancing and, in significant degree, constituting the mind.

More recently and pragmatically, William H. Kilpatrick (1918) proposed the 'Project Method' for attaining greater depth of understanding than the

usual routines of classroom learning allow. Kilpatrick conceived of the Project Method as supporting democratic institutions by having students work together to solve problems, supporting John Dewey's calls for students to be actively involved in their own learning, breaking away from the dull knowledge-accumulating style of traditional education that imposed passivity on students. Students might continue with the one topic for a month or longer. The persistence of the Project Method suggests a continuing desire to carry students' understanding to greater depth than is usual in normal classroom work. Among its most energetic modern promoters are Katz and Chard (1989) [see also Helm & Katz (2001)]. They suggest that projects offer a complementary form of teaching to regular forms of systematic instruction, especially in the early school years.

Knoll (1995) describes the two main approaches currently followed. In the older approach, there are two distinct steps. First, students are taught by normal methods the skills and knowledge that will be needed for the project, then they apply these while working in self-directed groups when solving some practical problem, which may involve building a rocket, designing a playground, or publishing a class newspaper. Alternatively, the project work is integrated with the instruction required. Students choose their project, following which they discuss what they need to know to solve problems they may encounter and learn the required knowledge in the process. The Project Method has also seen resurgence in Europe, particularly in Germany, in the latter part of the 20th century (Knoll, 1995).

But the Project Method has not been without its critics, even from the earliest years (see Bonser, 1921). However, it remains something that has become a part of many teachers' everyday practice, even if in a more attenuated form than Kilpatrick recommended. Typically students are set to do a project as a routine part of many units of study. The social aims of the procedure were most prominent from the earliest times, and remain so, along with the joint problem solving that can be a part of a well-planned project. While the focus on something specific to build expertise was also a feature of the Project Method, and it cannot be denied that it does provide some support for developing students' expertise, it can hardly be said to have satisfied the depth criterion for education.

Hirst and Peters (1970) and other educational philosophers (e.g., Barrow, 1981) proposed a curriculum made up of a set of forms of knowledge, or fields derived from them. There were some, though not really significant, differences among them about what those forms of knowledge were. Most

included things like mathematics/logic, physical sciences, moral/religious thinking, interpersonal sensitivities, literature/fine arts, historical understanding. [See Hirst (1974) for a justification of this approach, which provides a kind of epistemological model echoed in significant degree by Gardner's (1983) 'multiple-intelligences.' It should be noted, however, that Hirst, Barrow and White (1993) have expressed discomfort with this earlier work.] These authors' notion of the breadth criterion was that students should gain some significant knowledge in each of the forms of knowledge, but their notion of the depth criterion was that students would learn about one or more of these basic forms of knowledge in more detail. They did not lay out a programme for satisfying the depth criterion, because they thought that specifying what 'depth' meant in any area of knowledge was something that had to be worked out by disciplinary specialists.

Their sense of 'depth' also seemed to be the kind of specialized study that used to be common in British grammar schools or 'public' schools decades ago, and, of course, still is in academic schools throughout the Western world. Hirst and Peters (1970) were not making some innovative proposal for how to achieve learning in depth as much as indicating the importance of achieving some form of depth learning as a criterion for education. Their proposal for satisfying the depth criterion did not stimulate any evident significant changes in practice, however. Élite schools continue to provide specialization in arts, humanities, or sciences. While this provides students with a greater depth of learning about their specialized area, it constitutes a limited satisfying of the depth criterion. And most students in state schools rarely have had access to significant depth study.

Gardner (1999) has made a more radical proposal for depth learning, argued at some length. He believes that we try to teach too many things and consequently leave students with only a superficial understanding that fails to attach them emotionally to the wonders of human life and the world around them. He proposed instead, that we replace the set of areas into which the curriculum is currently sliced with a quite different way of introducing students to their world. For a year's work, he suggested we take three powerful topics – Darwin's theory of evolution, Mozart's *The Marriage of Figaro*, and the Nazi Holocaust, are the examples he develops – and explore each in depth. In the process of doing this we can teach all the material that is currently prescribed in the curriculum, but we would do so in a way that is profound and meaningful. A detailed and disciplined understanding of these topics, or similar rich and complex topics, can have a transforming effect on

people's minds and lives, an effect that is properly what we mean by education. Gardner's book deals with learning in depth in a way that raises the most fundamental questions about our lives and civilization, addressing issues that are both political and timelessly important to all people. His proposal would, if implemented as he describes it, go a significant way towards satisfying the educational criterion of learning in depth. It would hardly have satisfied Plato, of course, but it would come closer than most other proposals to satisfying the depth criterion.

Problems with Gardner's radical proposal include the fact that it would require a radical redesign of the curriculum, as well as a radical retraining of teachers. Virtuoso teaching would be needed to make it work. One can see from his discussion of these topics in *The Disciplined Mind* how Gardner finds them rich and meaningful, and the rich meaning they have in his life is well communicated. But think of the teachers in any local school. What would it require for them to be able to share the meaning he finds in these topics – or any equivalents that plumb to the heart of the 'true, good, and beautiful' in human experience and the world around us. His proposal is, I fear, utopian in the sense of possible in very specific and unusual circumstances, but not something we can anticipate in everyday schools.

THE CANADIAN LEARNING IN DEPTH PROJECT

There is a new proposal that is designed specifically to satisfy the depth criterion in a way that is starkly simple and immediately practical in any school that wishes to give it a try. It has been called 'Learning in Depth' and is becoming known simply as LiD. It was introduced with 30 students in two classrooms in British Columbia in the 2008/9 school-year. In the 2009/10 school-year, more than 2,000 students were involved, and in 2010/11 there are many more, in Canada, USA, UK, Hungary, Australia, Japan, Romania, China, Iran, and possibly other countries. [I should declare an interest! It is my proposal, and my book about it has recently been published (Egan, 2010).]

LiD can be described in a paragraph, and I will simply quote from the programme's website:

Learning in Depth is a program in which each child is given, during the early weeks of schooling, a particular topic to learn about through her or his whole school career, in addition to the usual curriculum. Topics might include such things as apples, ships, the circus, cats,

railways, the solar system, etc. Students will meet regularly with their supervising teachers, who will give guidance, suggestions, and help as students build personal portfolios on their topics. The aim is that each child, by the end of her or his schooling, will have built genuine expertise about that topic. The expectation is that this process will transform for most children their relationship to, and understanding of the nature of, knowledge. It should also transform for each child the experience of schooling (*www.ierng.net.LiD*).

The website also notes:

Learning in Depth (LiD) is an unusual program and tends, after the first simple description, to elicit enthusiasm from some people and hostility from others. While the basic idea is quite simple, we think the potential implications of the program for students, teachers, and schools are profound.

Another oddity of the programme is that it is entirely voluntary and free of any forms of assessment. The direction of students' study of their topics is entirely up to them, helped by their teachers.

I would like to discuss two features of the LiD project. First and briefly, I think it helpful to describe initial implementations to give some sense of why the programme is taking off so rapidly, even while it seems to some people, on first acquaintance, as bizarre and unworkable for one or another reason. Secondly I would like to discuss a few common objections that were initially made to the programme.

In one school in Langley, British Columbia, one teacher decided to try out LiD after she heard it described in a university class she was taking at the time. It should be said that she did so in the face of not a little skepticism, and worse, from some of her fellow teachers. In the following year, six other teachers in the school began the programme in their classes; in 2010/11 there are eleven teachers implementing it, and there is now talk of the whole school taking on LiD. What did those other teachers see that made them go from dismissive skepticism to becoming enthusiastic implementers within one year? They saw a class of students who were showing huge enthusiasm to learn about their individual topics, also bringing to school materials for their fellow students to help them build their portfolios, coming to school with special energy on the day they had their one-hour time slot set aside for LiD, talking to their parents and siblings about what they were learning, accumulating knowledge from libraries, papers, magazines, and the Internet, drawing, tracing, talking with adults, including other teachers, etc. The first

Langley teacher, who has been teaching for about 30 years, said 'I have never experienced the kind of questions and interactions I now have with my students . . . I have never experienced these kinds of conversations with children.' Another teacher summed up his experience after a year simply with 'The kids love it!' A teacher in Oregon wrote: 'The Learning in Depth project has brought to our students a completely new relationship to learning that has been surprising in its depth and quality. After seeing Learning in Depth at work in our school community, I know this has been a critical, missing element. It has proven to be everything we imagined (and much more we didn't) when we heard about [it initially].' (Quotes taken from the LiD website.)

These are typical responses from teachers so far. I include them – even though the paragraph looks more like the kind of advertising one might see on a new and dubious medicine advertisement – to give one side of the response to LiD. Clearly the kinds of people who are attracted by the idea and want to make it work in practice will encourage an enthusiastic response from students. But let me conclude this look at how proponents of LiD are seeing it by quoting another section from a school website, where the programme was introduced during the 2009/10 school-year:

Learning in Depth . . . is simplicity itself. Students are randomly assigned topics that have been vetted for appropriate richness to warrant years of study. They receive individual topics during their primary years and keep them through high school graduation. There are no assignments, no deadlines, and no pressure to produce. This is learning for the sake of learning. Students receive support and encouragement, a medal inscribed with the topic (for inspiration), and a 'starter notebook' to help organize their thinking. (http://web.corbett.k12.or.us/pdf/newslet3_10.pdf)

The programme begins with an initial 'reveal' ceremony, attended by parents, caregivers, siblings, etc., in which the student receives a portfolio folder and learns the topic on which she or he is going to become an expert. In some schools students are also given a ribbon with a medal that includes their name and topic; in others, they receive a tile with their name and topic and a coloured picture of the topic. The tile is then fixed to a wall in the school. Some teachers have found it impossible to imagine that students should be given no choice. (I will discuss that problem below.) In the beginning, the LiD programme need take no more than one hour a week in school. Increasingly, work is done outside of school. The main portfolio is

kept at school. The initial folder is outgrown quite quickly and a number of schools have given each student an Ikea box. Students are also given a 'travelling folder' in which they can bring items from home. Parents are encouraged to help, but not take over. A letter about the programme is given to parents and caregivers, suggesting, for example, that it is not desirable that Sarah should receive her topic one day and that her father should download 55 gigabytes of information about apples the next day!

The programme was designed to begin in the first years of schooling, but already there are implementations somewhere in every year of schooling, including the final year or so in high schools. Even more unexpectedly, the programme is attracting attention from those who run seniors' homes, as it seems to offer a more mentally stimulating and engaging activity than the common bingo and jig-saw puzzles. Unexpectedly, again, the programme has engaged many students who are often resistant to learning, or are considered 'at-risk', giving them something that is theirs that they can pursue in their own way. One 'underperforming' student, aged twelve, was interested only in skateboarding. The teacher persuaded him to take on 'the wheel' as a topic. By the end of the year, he was studying the physics of balance, surface resistances, and so on.

The principal of one of the schools implementing the LiD programme summarized its benefits.

What are the benefits of LiD? Pupils gain in-depth knowledge of some aspect of the world. They learn what it means to learn, what it means to be an expert. Students' imaginations and emotions are engaged in learning. They develop their organizational and research skills. LiD develops schools into hubs of knowledge on many topics. Occasional student expositions provide an opportunity for community members to view the work of the school. (http://www.corbetschools.com/pdf/newslet3_10.pdf).

OBJECTIONS TO THE PROGRAMME AND RESPONSES

Objection. The idea of randomly assigning a topic to a student to study for the next twelve years or so of school life is outrageous. Students should be given a choice of topic.

Response. One of the underlying principles of the LiD project is that 'Everything is wonderful – if only you know enough about it.' There are a number of other reasons to think the random assignment of topics works best

[discussed in Egan (2010)], especially if they are given in a significant ceremony, with parents and others attending. One concern is the kinds of choices students tend to make. Teachers who insisted on giving students their choice of topic found initially that they would choose topics suggested by an immediate interest or a movie they had recently seen. What the five-year old is interested in is rarely what he or she will be interested in when 15 years old. Furthermore, if anything goes wrong with building a portfolio on a topic he or she has chosen, the student will have only himself or herself to blame, which is hardly satisfactory. More pragmatically, it has been consistently found that within a matter of weeks the commitment to the topic is complete; it is 'mine.' The girl randomly assigned 'birds' identifies herself with the topic quickly, aided by the rest of the class recognizing her as the 'bird' person and the appropriate one to whom to bring any information or pictures they find about birds. (All students in a class have a different topic.) Having said all this, there may be situations in which choice might work well – though it would have to be choice among topics identified according to criteria describe below.

One of the earliest implementers of the programme initially insisted on allowing students to choose. But she ran into problems with the number who wanted to study 'pets', 'princesses', and 'dinosaurs.' In the second year, she allowed students to choose three topics, and settled on what she thought would work best for the individual students. In the third year, she concluded that random assignment of topics works best.

Objection. Even though this is a simple add-on to the current curriculum, and much of the work may be done outside school, it can be argued that the programme is simply too difficult to organize. How can we co-ordinate students moving from school to school, and advancing year by year, and somehow keep control of all the portfolios they are accumulating?

Response. At one level, these pragmatic concerns are absolutely important in considering any new programme in schools, but also, of course, one does not want to let the tail of administration wag the dog of education. That is, the prior question is whether LiD is of educational value, and if it is of greater value than some of the things we might currently be doing, we should take the steps necessary to implement it. Oddly enough, perhaps, the pragmatic objection that the programme is unworkable in normal classrooms has not so far proven to be the case. Nearly all early year timetables have some space for what in some places is called 'exploration time' or some such, or, in schools lucky enough to have such facilities, 'library time.' To date, it

has proven quite easy in all cases for schools to accommodate LiD. Whether this will continue remains to be seen. Maybe a sign of things to come occurred in a school in Victoria, British Columbia. The teacher thought LiD might make a good one-year project for his difficult year six class. At the end of the year, the students demanded that he make arrangements with the teacher of the year seven class to allow them to continue working on their LiD portfolios.

Objection. Students will become bored with a single topic. What will you do when they learn all they want to know about a topic? Can they then move on to another? Should there not be a point, say around year five or six, at which they can all change their topics?

Response. One problem with this project is that it is designed to create conditions in schools which no one has seen before. Nowhere has there been a curriculum element designed to build accumulating expertise of this kind. So, firstly, it might be worth some effort of imagination to anticipate some of the changes such a programme might bring about. It certainly seems unlikely that we will see students continuing indistinguishably from today, if the LiD programme works as it seems plausible that it might, and as it seems to be working in many countries. So, boredom is a product of ignorance, not of knowledge. The expectation of boredom is based on our experience of students today who learn many things only superficially. The condition that can really engage their interest in topics is too rarely realized in classes where teachers have to keep moving across the surface level of mandated curricula just to ensure 'coverage.' Typically, the more we know about something, the more interesting it becomes. I anticipate that after students have spent five or six years building portfolios about, say, birds they will be extremely reluctant to give up their topic and move on to something else. In this case, time will tell, of course, and there will no doubt be significant variability among students in this, as in other regards. But boredom seems the least likely product of Learning in Depth.

Objection. Because the programme is entirely voluntary, students can drop out at any time for any reason, and after the first few years, during which students tend to do whatever is expected of them, some will begin to drop out, and this will surely lead a stampede to the exit. Why should students – or teachers – take on a programme and do work that is not required, assessed, rewarded, punished, or have any coercive power?

Response. This too is an empirical question that only time will conclusively answer. So far, although it is early days – at the time of writing

only the third year of implementations is coming to an end in the longest participating schools – no student has asked to drop out. Indeed, it has been more common to have siblings request to be allowed to drop in. Furthermore, and unexpectedly, in many schools, teachers have taken on topics and started their own portfolios. If students drop out, nothing is lost from the current situation of schooling. There may also be good reasons for a student to drop out for some months and then pick up his or her portfolio at a later date. If one thinks of the LiD topic as something like a hobby, it can be argued that some of the mechanisms that hold students to hobbies will, for a few years, also operate to keep them actively building their portfolios.

But the primary reason that I anticipate this objection will have little force for most students is that human beings enjoy learning. Slightly bizarrely, we have created in our main educational institution – the school – conditions in which virtually no learning is not coerced – all is subject to some form of assessment and students are consistently graded and sorted based on formal or informal tests of one kind or another. It is as though we simply do not believe that students will learn unless we compel them to do so by gentle persuasion or harsh high-stakes testing. LiD would be one of the few learning activities in schools that is not coerced. Although, most teachers get their greatest rewards from the experience of students' eager learning, we have created such pressures on them that we have reduced the possibilities for this rewarding experience consistently. Teachers who have taken on LiD report that it does indeed take some extra time – though, once underway, much less than they had anticipated because quite quickly students work largely independently – but they want to continue with LiD because of the delight of helping children who are eagerly learning about topics they come to care about passionately. It is as though LiD re-established their faith that children love to learn; a faith that the school can too often tend to undermine by its overt or covert coercive practices.

Another area of concern has been the nature of programme topics. A number of criteria have been developed for choosing appropriate topics, and I will quote these from the website <http://www.iereg.net/LiD/topics/>:

- sufficient width
- sufficient depth
- sufficient connections with the self – cultural, imaginative, and emotional ties
- not too constrainedly technical
- sufficient local resource materials available for adequate access

- not too general or too unconstrained (e.g., ‘animals’ is too general, ‘tigers’ is maybe OK, but ‘cats’ is optimal)
- not focused on the more depressing features of human existence or on common phobias
- each topic must provide an equivalently rich experience for all students
- each topic must be acceptable to the student’s parents or caregivers (i.e., matters of cultural sensitivity and ethics need to be considered in the allotment or choice of topics).

Many of the initial objections to the LiD programme centred on claims that it would be impossible to implement, for one reason or another. These objections have been vitiated by the experience of the past couple of years. It may be that some version of them might have validity if these initial implementations begin to fail, but we will have to wait on those failures to examine what went wrong. So far, teachers have only experienced remarkable success, much of it no doubt due to a Hawthorne effect and the enthusiasm of ‘early adopter’ teachers.

CONCLUSION

The LiD project has burst into schools so fast that research on it is scrambling to catch up. One preliminary research study is currently underway in Canada and the US, seeking to examine some of the issues raised as objections above, relating, for example, to drop-out rates; boredom; claims of cognitive skills that the programme will develop; transfer of abilities gained in the programme to other work; teacher and student commitment; developing self-confidence as learners; whether the random assignments of topics engenders any disaffection among students; and whether any topics give evidence of being ‘developmentally inappropriate’. No doubt, cultural conditions may affect the implementation of the programme.

Preliminary results, based largely on interviews with about a dozen teachers who are currently implementing the programme suggest that students’ engagement level with LiD is surprisingly intense, and that their engagement was evident both within class and in their work on LiD portfolios outside of school. Teachers reported also that students were connecting their LiD work with the work they were doing in other classes routinely, and that they were giving evidence of greater imaginativeness in their portfolio work as time went on. It was also found to be common that

students helped each other in adding to their portfolios. The disappointments, from the researchers' point of view, was that the preponderance of portfolios examined – and this was supported in subsequent discussions with teachers – had been built almost entirely from text-based sources and the Internet. There was some creative work, but that was an elaboration of text sources. There seemed to have been little experiential engagement with topics, or far less than we had expected. This suggests an issue that needs to be emphasized in preparing teachers to support LiD programmes, as is the finding in a couple of schools that no efforts had been made to engage parents' support for their children's portfolio development.

While we will have to wait on the results of more detailed analysis of this research before drawing definitive conclusions about the programme, the dominant sense I have after visiting a number of schools where it is being implemented is that something is working out of all proportion to what one might expect. I retain images of groups of students eagerly carrying their 'LiDKiD' folders, one boy going to work with a girl, not a usual friend, because they had discovered something their topics had in common that they could add to both their portfolios, a girl asking her father to buy two birds so she could study them over the summer holidays and release them afterwards, a group of five-year olds asking me what my topic was – as though it is everyone's birthright to 'have a topic'. But, mainly, I have been struck by teachers bemusedly saying they have not seen anything like this before.

REFERENCES

- Bonser, F. G. (1921). Dangers and difficulties of the Project Method and how to overcome them. *Teachers College Record*, 22, 297-305.
- Barrow, R. (1981). *The philosophy of schooling*. Brighton, Sussex: Harvester.
- Egan, K. (2010). *Learning in depth: A simple innovation that can transform schooling*. Chicago: University of Chicago Press.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1999). *The disciplined mind: What all students should understand*. New York: Simon & Schuster.
- Helm, J. H., & Katz, L. G. (2001). *Young investigators: The project approach in the early years*. New York: Teachers College Press.

- Hirst, P. (1974). *Knowledge and the curriculum*. London: Routledge & Kegan Paul.
- Hirst, P., Barrow, R., & White, P. (1993). *Beyond liberal education: Essays in honour of Paul H. Hirst*. London: Routledge.
- Hirst, P., & Peters, R. S. (1970). *The logic of education*. London: Routledge & Kegan Paul.
- Katz, L. G., & Chard, S. C. (1989). *Engaging children's minds: The project approach*. Norwood, NJ: Ablex Publishing.
- Kilpatrick, W. H. (1918). The project method. *Teachers College Record*, 19, 319–334.
- Knoll, M. (1995). The Project Method: Its origin and international influence. In V. Lenhart & H. Röhrs (Eds), *Progressive education across the continents. A handbook* (pp. 307-318). New York: Lang.