From Text to Tech
Moving Away from the Textbook Paradigm in the 21st Century

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Abstract

Why has the textbook become the standard, expected medium for materials in the foreign language classroom? Do alternatives exist that will better meet the increasing need for FL fluency in the 21st century? How can technology accomplish the same goals as a textbook, while at the same time providing extra potential for learning?

Introduction

The controversy regarding textbook usage in classrooms is certainly nothing new, but the current state of affairs in both education and technology require us to have another look at the topic. In this paper, we wish to address the above questions, consolidate the opinions that have been presented in the past, and explore some valid alternatives for the classroom.

In the first part of this paper, we will look at the history of textbook usage, and speculate as to why textbooks have remained the standard in classrooms for millennia. The advantages and disadvantages of using textbooks will be discussed, looking at what previous authors have cited, and attempting to qualify the wide-ranging pros and cons that have been proposed. From here, we will examine to what extent textbooks are outdated and restrictive, and thus counter-productive to the fluctuating needs of FL learners.

The second part of the paper will consider technology-based alternatives to textbooks. We will put forward an idea for a web site that could potentially encompass the full functionality of a textbook, but simultaneously resolve the negative aspects of textbook use, as well as providing extra features for teachers, students, and administrators, including syllabus design, assessment, self-study, career
development, and more. Such a web site, although not currently in existence, could easily be put together by emulating the various educational resource web sites that can already be found on the Internet. We will provide support for the idea of using technology as an evolution of the textbook, as well as asking what obstacles we face in effecting such change.

Part I – Background

History

The presence of textbooks in nearly all FL classrooms may make some people wonder why it has become so commonplace. Textbooks have obviously been around for quite a long time, but were originally just pages and pages of facts or rules to be memorized and regurgitated by students, often with a goal of only basic literacy (Wakefield, 1998, p. 5). Gradually educational theory changed, and therefore the main learning goal changed from memorization to understanding. Today, the idea that a language can be learned through the memorization of grammar rules is certain to be rejected by most teachers. Despite this change in teaching methodology and learner needs, the standard print textbook remains.

But why? One factor in the retainment of textbooks may be that some individuals in the profession have accepted the textbook without question, due to its long tradition and elevated status as the primary teaching tool in classrooms. Teachers and administrators, who as students grew up with textbooks being required in most classes, may view textbooks as an integral, core part of study and learning. They may also have too many other commitments and responsibilities to contemplate the validity of the textbook. Even if they do find the textbook to be inadequate, they may not have the time, confidence, or capability to look for or create an alternative, or to attempt to convince other parties that the textbook may need redesigning or replacement. Indeed, no viable, holistic alternative has yet been designed for global or wide-spread use.

We don’t intend to say that textbooks are completely invalid in today’s classrooms and are to be obliterated at once. Textbooks fulfill many needs of many people. However, they are not flawless either. In what areas are textbooks successful, and in what ways are they lacking?

Pros & cons

The following is a list of advantages to using a textbook:
1. A textbook is PORTABLE. Students can access the textbook anywhere and anytime, thereby allowing them to review and look ahead easily. Teachers can also keep the textbook by their side, making planning easier.

2. FAMILIAR. Nearly everyone is used to using the typical print textbook as a learning aid in school classrooms. This may put teachers and students more at ease.

3. PLAN SET FROM THE GET-GO. With textbooks that have been put together before a course begins, and a syllabus usually outlined in the table of contents page, everyone can see how the course is setting out to move students from point A to point B. Hutchinson and Torres (1994) argue that textbooks “survive and prosper primarily because they are the most convenient means of providing the structure that the teaching-learning system – particularly the system in change – requires” (p. 317).

4. Creates confidence. Because textbooks are so familiar and provide such structure, both teachers and students may feel more confident with an already prepared textbook. Woodward (2001, p. 146) mentions the sense of accomplishment one might feel when finishing one textbook and being able to progress on to the next higher level.

5. LESS PREP. When textbooks have already been prepared by another party, less preparation time is necessary for each individual teacher. Time is a huge constraint on teachers, and without a textbook, teachers may be forced to create syllabi and materials from scratch.

6. STRAIGHTFORWARD TESTING. A textbook ensures that all students across many classes are taught approximately the same thing. Therefore it may be possible to administer the same test to all of these students.

7. PROFESSIONAL DESIGN & EDITING. Textbooks are professionally edited and put together by experienced materials developers, educators and publishers.

8. CONSISTENCY & CONTROL. Administrators can feel confident that different teachers and classes are doing and learning the same things.

9. MARKETABLE & PROFITABLE. Because it is usually required that all students in a course buy the textbook, many people, and institutions, are supplied with necessary income.

Quite a number of pros to textbook usage were found. The following list of cons, however, is a bit longer, and many take a “devil’s advocate” view of the pros above.
1. **CLASS WEIGHED DOWN.** Who hasn’t experienced the following phenomenon? You are in the middle of class, doing an exciting communicative language activity. Students are bustling about the classroom, entrenched in the exercise, speaking, listening, interacting, and enjoying themselves all the while. Then the activity finishes. You say, “OK, great job everyone. Now please return to your desks and open your textbooks to page 23”. The momentum and energy of just a minute ago plummets; students stop interacting and using the language, and now sit still, with their heads resting on their hands, elbows propped up on their desks. What happened? The textbook acts as a ball-and-chain, constantly preventing teachers and students from breaking to free to do more realistic language activities, and nagging teachers to stick with the book rather than their own intuitions. Textbooks promote the idea that language is something that can and should be learned from a book. Because of the static nature of textbooks, they can profoundly dampen the atmosphere and productivity in classrooms.

2. **PREDICTABLE.** Students who have been forced to use textbooks starting from kindergarten or early elementary school are bound to find textbooks becoming predictable, lifeless and boring by the time they reach higher level education. So while the familiarity of textbooks may provide comfort for some, de-motivation may also result from this expectation and routine.

3. **ENGENDERS TEACHER APATHY.** Many authors have expressed concern that textbooks do most of the teaching for the teacher, thereby deskilling teachers and reducing motivation to develop original materials and reflect on their teaching. Richards (1993), for example, describes a “process in which there is a lowering and reduction of the level of cognitive skills involved in teaching resulting in a level of teaching in which the teacher’s decisions are largely based on the textbook and the teacher’s manual” (pp. 48-49). Others, however, mention that there is no concrete evidence that such a negative effect actually occurs (e.g. Hutchinson and Torres, 1994). We may just need to look at personal teaching experiences and ask ourselves if there have been times when we have, due to time constraints or other factors, taken the easy way out and just followed the plan set out by the textbook, with little to no adaptation or creation of materials. Probably the answer is “yes” for most of us.

4. **BULKY.** While textbooks do vary in size and weight, even using just a tiny textbook can add up if one is required for every class in the day. Heavy books not only lead to aching backs but also make it that much less likely that students will want to drag out their books and crack them open for studying. The advantage of textbook portability is called into question with textbooks that are oversized.
5. EXPENSIVE & DIFFICULT TO KEEP UP-TO-DATE. There is a large financial burden on students in buying textbooks, particularly when publishers, in their attempts to keep their textbooks up-to-date, continuously put out revised editions of the same book, making previous copies of the same book unusable. Publishers may also encounter a lot of overhead costs in the production of paper textbooks.

6. DESIGNER/EDITOR/PUBLISHER NEEDS DON’T MATCH SCHOOL/TEACHER/STUDENT NEEDS. The people involved in making the textbook may affect its content, design and layout to the detriment of its pedagogical value and efficiency. The team putting the book together often comes from a mono-cultural background, and many textbooks intended for multiple markets tend to be Anglocentric, contributing to the imperialist view of English (Bell and Gower, 1998, p. 119), and severely limiting students’ exposure to the various world Englishes of other ESL/EFL speakers. The materials in textbooks also tend to avoid controversial or taboo topics, even though those areas are often of significance to the teachers and learners involved.

7. TIME CONSTRAINTS. Having a textbook makes a teacher feel that much more obligated to cover a certain amount of material in a certain amount of time.

8. NO FLEXIBILITY/ACKNOWLEDGMENT OF LEARNER HETEROGENEITY. Syllabi and materials should be able to change along the way in response to how well students are learning the material and achieving the objectives. While administrators strive for consistency, different things should indeed be occurring in different classes, since teaching styles and students’ ability levels are different. Students’ learning styles are also different: “An analysis of teaching and testing of foreign languages in formal education systems will reveal that studial learners (who are actually in the minority) are at an advantage” (Tomlinson, 1998, p. 17), and clearly this should not be the case. When we consider that learners incorporate a range of learning styles, such as visual, auditory, kinesthetic, experiential, analytic (focusing on specific parts of the language), global (responding to large amounts of the target language at the same time), dependent, independent, and also the more widely focused upon studial style (focusing on linguistic features and correctness) – see Tomlinson (1998, p.17) for a more detailed explanation – it should be apparent that to restrict the learning experience to just one set of materials and activities, directed mainly at a single, minority group of learners, is unbalanced and insufficient in the progressive field of education which exists today, and needs to change.
9. **LEARNING IS UNCHECKED.** It is not always good for students to be able to work ahead, because they can learn something incorrectly if they don't have guidance, or study something at the wrong time. Activities that the teacher wishes to do in class time may be ruined if the students have the ability to look at them before class. For example, in a reading class, speed-reading techniques, such as skimming and scanning, require that students do not look at the text beforehand, if the teacher wants to use the activities in class.

10. **LEADS TO BLANK TESTING.** Tests do become easy to administer with the use of standardized textbooks, but they also become meaningless and irrelevant if they assume that a large number of students have all learnt the same thing.

11. **ENVIRONMENTALLY UNFRIENDLY.** It won't be long before print textbooks become outmoded, but the question is whether they will become outmoded because of pedagogical concerns or simply because the earth cannot sustain their production any longer.

12. **INAUTHENTIC.** For example, in typical ESL/EFL textbooks, the skill of listening is primarily dealt with through the medium of a CD, which may not only put students to sleep, but also ignores the multi-modal (contextual and visual, including gestures, facial expressions and mouth movements) way in which we process listening. As Meskill (1996) states, “...we need to examine not only aural processing opportunities, but multi modal (simultaneous sight, sound, text) processing as well... Processing requirements such as reciprocity of interlocutors' perspectives, the et cetera principle (filling in the gaps of what one hears with knowledge of the language and the world), and combined retrospective and prospective meanings all come into play” (p. 1). Just as listening textbooks limit the ways we encounter language when listening, textbooks for writing classes may similarly only allow for pen-and-paper writing, rather than the more common and convenient method of writing on a computer. Likewise, reading in the real world is not limited to textbook texts, but is found in a myriad of different formats and situations. And textbooks for speaking classes –oxy moronically called “speaking textbooks” – put the spoken word into writing, a format so far removed from real life that its validity is called into question.

13. **REPUTATION.** Institutions may gain a reputation for being old-fashioned if their classes remain largely based around textbooks. In a recent survey by The Economist (1998), 84% of the 289 respondents (189 from education and 100 from corporate partnerships, with just over 50% [154] from America and the remainder from the rest of the world) believed that “the strategic application of new technologies [would] significantly improve the overall reputation of a
Alternatives to the textbook

Through this discussion, we have attempted to address all of the advantages and disadvantages that have been drawn up by previous authors. We can see that there are many reasons why the typical print textbook remains popular, but can also understand why there is so much discontent with it.

However, to criticize without offering an alternative is a rather pointless endeavor, so our next challenge was to formulate an entirely different approach to teaching English in the classroom, for those teachers who are tired of using textbooks. In our search for a solution, we attempted to encompass the best parts of what a textbook is, whilst eliminating many of the negative factors. We immediately leant towards technology as the medium through which the evolution of the textbook could be realized, and formulated a detailed plan for a website which could both maintain and sustain the structure and consistency of a textbook, whilst also allowing the teachers and students the freedom and flexibility to maneuver around within the framework.

Part II – An Alternative

Structure and syllabus design

The website we envision would be an extensive database of materials, organized through keywords into a highly systemized network of pages which would be available to administrators, teachers and students to use.

The first specification of the website is that it should be able to aid administrators and teachers in syllabus design. By going into the course planning area of the website, the administrators, or teachers, could type in, or select, the goals and objectives which they wish to be addressed by the course, as well as the minimum level of achievement which their institution expects the students to reach; the site would then make suggestions.

In the first stage of this process, the website may offer advice about the initial choices made; if the goals and objectives for the course are incompatible, or too divergent, the site could recommend alternative selections of objectives, available for syllabus design, which would encompass much of the content desired, but with greater consistency and congruousness. The user could then select the best option,
or if so inclined, remain with their original criteria.

From here, the site would move on to offer a variety of possible syllabi, which would all meet the objectives set forth. Amongst the possibilities suggested, there should exist a number of different routes available, with a diverse selection of feasible layouts for the sequencing and progression of topics, skills and functions, in order to meet the objectives decided upon in stage one (see Figure 1). Ideally, various syllabus types, from task-based to content-based, would also be offered in order to suit the needs of the teacher and institution.

Because the syllabi suggested by the site would all be in direct correspondence with the objectives of the course, it should be possible for the individual teachers at the institution to select whichever path they felt most suited their teaching style, and their students’ needs. Likewise, should the teacher find that the students need more work in some areas, but less in others, they could modify the syllabus accordingly. For example, students may have mastered the present continuous, but be struggling with the present perfect. The teacher could reduce the amount of time spent on the former, and increase the attention given to the latter, by adjusting the syllabus appropriately.

Although different teachers’ classes may vary from one to the next throughout the duration of the course, in the final outcome, the results should be the same – all the students should have progressed through the necessary experiences to arrive at the end of the course successful, having fulfilled the requirements specified at the outset. In this way, the rigidity of the traditional textbook can be avoided, and a more flexible, fluid structure can be administered.

Goals:
Pronunciation: tense vs. lax vowels
Accuracy: adjective and adverb usage
Skills focus: reading and speaking

Goals:
Accuracy: adverb clauses and using commas
Skills focus: writing

Goals:
Pronunciation: Consonant clusters
Accuracy: past and future tenses
Skills focus: speaking and listening – switching tenses

Goals:
Accuracy: past and future tenses
Skills focus: reading and writing – switching tenses
Figure 1. Flowcharts showing syllabus extracts, demonstrating alternative routes to the same outcome.

**Learner-centered materials and activities**

In addition to flexible and organic options for syllabi, the site we have in mind would also provide a wide selection of materials and activities appropriate for each objective in a unit (as set out in the syllabus discussed above). Each item in the materials folder would be catalogued according to an extensive range of criteria, including level, activity type, teaching/learning style, online or offline use, grammar points, language functions, skills required, etc. Tagging the materials with such keywords would allow the teacher to easily, and quickly, find and select exactly the type of activity they needed. As the administrators would have selected a minimum level of achievement in the first stage of course planning, none of the activities would drop below this level; however, it should be possible for higher level students to find themselves engaged and challenged should the minimum-level activities prove too easy. In this way, the lowest-level students could progress at the minimum pace, whilst the higher-level students could move ahead within the same set of goals and objectives, but achieve a deeper level of understanding, or a greater amount of language production opportunities. This would be especially useful in large institutions, such as public universities, where thousands of students, of varying levels and backgrounds, are often grouped together homogeneously, and forced through a funnel which does not recognize the heterogeneous nature of their needs and backgrounds. Additionally, the broad selection of materials should allow the teachers and the students to explore a variety of learning methods, not restricting them to the more traditional ‘studial’ methods of acquiring knowledge.
As stated earlier, each learner’s style is variable, and depends upon the purpose for learning and the learning environment in which they find themselves; surely this is even more reason to provide teachers with an extended library of materials catering to all the different styles of learning, and “to diversify language instruction as much as possible based upon the variety of cognitive styles” (Larson-Freeman and Long, cited in Tomlinson, 1998, p. 18). The students’ experience in the classroom should allow them to grow through their own preferred methods of language development, and also help them to develop new skills through exposure to learning styles other than their own preferred ones. These opportunities for learner development, and acknowledgement of heterogeneity in the classroom, are largely ignored by many textbooks. In the website we suggest, the materials would cater for every type of learner, and still meet the goals and objectives set out in stage one of the course planning.

**International collaboration**

The web site would also provide teachers with the opportunity to correspond with other teachers internationally, through the chat-room facilities that the site would offer. Through international collaboration, the walls of the classroom could be “flattened”, allowing two or more institutions to take part in global projects, enabling their students to correspond through speaking and writing in order to complete projects in environments with multi-lingual participants, where English is the necessary language through which they must communicate in order to achieve their goals. This in turn would solve many of the problems which learners face in mono-lingual classrooms, where their language and pronunciation errors are continuously repeated and reinforced by their conditioned environment, and where they have little or no exposure to other accents, dialects or styles of world Englishes.

The chat-rooms available through the site should serve distinct and separate purposes, so that the organization of the resources available would not be undermined. There should be an informal place for teachers to simply meet other professionals and share ideas, ask questions, etc. Also, there could be a meeting place specifically for teachers wishing to set up a flat classroom situation with other schools or institutions. In this page, the teacher would be asked to fill out a form detailing the requirements they have for the project(s) they would like to set up, including the level, objectives, expected duration for the course, the time zone in which they live, etc. In this way, teachers could search through the site by keywords and find other teachers with similar requirements to their own, with whom they can collaborate.
Through such a system, the students would be able to access not only authentic listening and reading opportunities, but also an arena in which to practice communication through real-life speaking and writing situations with actual and practical goals and objectives to motivate them. One website already reaching beyond the walls of the classroom in order to set up global learning opportunities for their students is the “Flat Classroom Project” (www.flatclassroomproject.net), which sets up collaborations between international schools enabling their students to work on and complete projects with other students on the other side of the world. Clearly, such collaboration would not only encourage the students to improve their language ability in order to communicate more effectively, but would also inspire them to develop a multitude of other skills necessary to function in the real world, such as negotiation, compromise, critical thinking, problem solving, and so on.

**Student-centered learning and autonomy**

In addition to the materials and chat-rooms available for the teachers to use, there would be parallel pages for the students to access and utilize. Again, as with the teachers’ pages, these would be highly organized, and enable the student to navigate the digital landscape easily and effectively.

First, there would be pages specifically connected to the course which the student is studying. In these pages there would be help sheets, accompanying the content of the previous lessons; extra practice and production opportunities; direct communication access with the teacher; homework/coursework designation and submittal; and testing related to the content of the course. Amongst the multi-modal language production opportunities there should be activities which connect the students with other students around the globe who are studying the same unit(s) – this would be especially useful for allowing the students to practice speaking in controlled activities with specific goals which also encompass the reality of communication with real people. Such activities could be selected by the teacher as homework, or left open for the students to explore independently. All the activities in these pages would be suggested by the website as complimentary to what the teacher is teaching in the classroom, but the final selection could still be controlled by the teacher, ensuring that they can guide the students effectively through the course. Additionally, all the activities which an individual student took part in could be recorded and evaluated, providing the teacher with a more complete view of the student’s needs and progress.

However, other sites available to the students would be more autonomous, and the teacher would not be able to exert control over these pages. Firstly, there should be online games which provide the students with fun ways to practice and
develop their English skills; some of these games might be played alone, whilst others might be interactive, and played with global participants from around the world. There would also be a page for more traditional worksheet based activities, as well as a page for testing, so that the student can gauge where they are at, and what areas they need to work on. Such pages could provide the students with feedback and advice about which materials might be most suitable for them to access in order to improve, hence guiding them through the site and helping them to take control over their own learning experience. The results of these activities could be submitted by the students to the teacher, in order to gain extra credit, or kept private, acknowledging their right to personal privacy, should they wish to maintain a certain level of learner independence.

Additionally, the students should have access to chat-rooms, where they could meet other students and make friends; such chat-rooms might be organized by level, interests, and skills (speaking and listening or reading and writing), enabling the students to find the most appropriate digital stage from which to launch their interactive learning experience from.

**Teacher development**

In addition to providing teachers with a continuously expanding library of materials and contacts, we imagine the site also enabling the teachers to grow and develop on a personal and professional level. Contained within the site would be help pages regarding all manner of things connected to teaching English, including grammar and pronunciation reference materials, teaching methods and techniques, etc. Furthermore, the chat-rooms available for teachers to ask questions and share ideas would provide an extended support network through which they could cultivate their views and knowledge. Also, an online journal of published papers and articles could provide the teachers with access to the current trends in thought regarding teaching, as well as the background from whence the more contemporary ideas have sprung.

Perhaps most importantly, there would be a number of pages available for the teachers to upload their own materials onto. One page would be for online/offline classroom and self-study materials, one for help sheets which they have written, and one for papers and articles. These pages would be openly available for all teachers to look through and use, but would not be organized or catalogued, and would lack the professional editing of the other pages. However, such pages would be protected by copyright through the site, affording the teachers with some protection in publishing their work online. Moreover, the administrators of the website could review all the new material coming into these pages, and should they find anything which they
deemed as suitable for the main pages, where all the materials are highly organized and edited to a professional standard (the syllabus library, help sheets and journal), they could then contact the teacher (identifiable through an individual user name and password system), and request to purchase the materials from the teacher, or publish the paper in the journal. In this way, the website would have a constant stream of fresh new ideas and materials, sourced from a global pool of professionals, and the teachers would feel motivated to contribute, with the incentive of status and monetary rewards should their contributions be selected for inclusion in the site’s other pages.

**Addressing the cons**

The website we envision would address many of the disadvantages to textbooks listed earlier. To start with, as well as providing a complete range of possible activities for each goal and objective, and at each varying level of learner competence, the website would also be far easier to update than its printed ancestors. Therefore, the materials available would be kept up-to-date and authentic without any great cost to the sites administrators. As the website would be continuously growing and changing through a global network of sources, the problem of Anglocentricity and mono-culturalism could be overcome and dealt with, allowing students and teachers virtually unlimited access to global English from multiple contributors.

In addition to authenticity through continuous updating of materials, the multi-media opportunities which open up through the use of technology in the classroom also expand the modes and means through which students and teachers can explore language as a living, organic, communicative tool; it soon becomes evident that the digital world of language learning has much to offer that its paper-based forerunners did not. For example, having a wide variety of listening experiences available would allow students to practice in more realistic situations and contexts (including, but not confined to, CDs), and through a variety of task types, helping to avoid the boredom trap, and allowing the students to improve their listening realistically in a multi-modal manner. Computer Assisted Language Learning (CALL) already allows students access to a wide range of multi-modal listening opportunities, but at this point there is little organization of the extensive online library of materials into integrated syllabi, and graded/goal-orientated listening tasks. The website which we are suggesting would address this problem, by organizing all of the materials extensively, and guiding teachers and students to the most appropriate resources for their needs.

Of course, listening is not the only skill which would benefit from a multi-modal approach – indeed the logic applied to the skill of listening is equally applicable to all the other language skills. Through a website with a comprehensive library of
well-organized and continuously updated materials, it would be possible to include a huge variety of reading opportunities, affording practice of the wide range of skills realistically required by readers – including speed reading techniques.

Where we stand now

The possibilities are endless; or so it appeared once we started to delve into the matter. Living in the digital age, as we do, we have a fountain of knowledge and resources available to us on demand, and mostly at little or no cost. Springing forth from this fountain are countless educational websites designed by teachers, for teachers. Amongst them, some notable sites were:

1. TeleNex (http://www.telenex.hku.hk/telec/pmain/opening.htm): a website for teachers in Hong Kong schools to access materials, online help and communicate with other teachers
2. Flat World Knowledge (http://www.flatworldknowledge.com): a site providing free textbooks online for teachers and students to access and use; also offering teachers the possibility to combine chapters and pages from different textbooks to create their own, custom-made textbook for their courses
3. Flat Classroom Project (http://www.flatclassroomproject.net): mentioned earlier – providing an arena for international collaboration between teachers and students
4. BBC and the British Council websites (e.g. http://www.bbc.co.uk/worldservice/learningenglish and http://learnenglish.britishcouncil.org/en): both providing teachers and students with a wide selection of online and offline materials available to use both inside and outside the classroom (rather Anglocentric, however)

These represent just a small selection of a myriad of educational sites offering uploaded and downloadable materials, chat-rooms and blogs, and various help sheets, papers and journals. Many of these sites cost little or nothing to participate in or take from, and all of them are easily accessible and readily available through the Internet. In addition to the education-specific websites, there is also an almost limitless source of authentic materials available through sites such as YouTube, blogs, chat-rooms, online newspapers/magazines, etc.

With a little imagination, every teacher should be able to create a multi-modal classroom which allows their students to explore English more as a means of interacting with the real world rather than simply a school subject necessary to pass exams. Of course, the level of work required by individual teachers would be greatly reduced, or at least maximized in effectiveness and productivity, through the website
we are suggesting, but none-the-less, the only thing preventing teachers from embarking on a digital voyage into the technological waters of the Net and exploiting them for all the treasures they contain, is their own fear or resistance to change.

Furthermore, with developments in computing such as Moodle (software that can be utilized by teachers for uploading materials for students, and even for organizing material databases for use by other teachers), and Wikispaces, teachers have the tools available to them to create independent websites of their own, where they can share materials and ideas freely and easily.

Perhaps the most interesting result from The Economist’s 2008 survey mentioned earlier is the fact that 54% of interviewees predicted that “textbooks and printed materials will be largely replaced by online materials” (p. 27) within the next 5 years. The implications of such a move, not only for students and teachers, but also for the environment (freed from the manmade stresses placed upon forests by the perceived necessity for paper textbooks) are far-reaching and evolutionary. Isn’t it time for us to move forward together and help education and its tools to fully evolve into the digital era?
References


