Number 5 **March 2018**

RADICAL TEFL[1]

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1 **'*Radical*': " going to the roots" (Oxford Dictionary)**

RADICAL TEFL

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An annual forum for probing concepts and assumptions in TEFL,
and for exploring and developing understanding of EFL teaching and learning.

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FUTURE ISSUES

Issue Number 6 (Articles for 30 September 2018, for Publication March 2019)
Articles wanted from teachers: Themes:
*** *"Problems and solutions in teaching EFL to teenagers"* (pages 38/39)
and
"Histories of EFLT" (page 46)

Issue Number 7 (Articles for 30 September 2019, for Publication March 2020)
Theme:
"*Methods of enquiry in investigating and understanding EFL pedagogy and learning"*
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Many thanks indeed to Dr Richard Smith of the University of Warwick for creating and updating the *Radical TEFL* website.

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ALAN WATERS - THE ELT TEACHER'S FRIEND

A talk given at the University of Lancaster, UK, on 24 February 2017 to The Alan Waters Memorial Symposium, and which was organised by Marije Michel, Sharon McCulloch and Mary Waters. Alan Waters died in July 2016.

Tom Hutchinson

I first got to know Alan in 1977, when we worked together at the newly founded Institute for English Language Education (IELE) at Lancaster University. Alan had recently been recruited from Kuwait as one of the permanent Teaching Fellows. I, on the other hand, found myself there quite by chance. Having completed the Lancaster MA, I had been due to take up a post as an ELT material writer in Oman with the British Council, but this fell through at the last minute and I found myself in need of a job, while I looked for another post abroad. Fortunately, IELE had secured a contract to teach pre-service English to a group of Iranian marine engineers who were coming to study at British technical colleges and I was engaged as a tutor. Thus I found myself working with Alan in the field of English for Specific Purposes.

English for Specific Purposes (ESP) in the 1970s

ESP was very much in vogue at the time. The oil crisis of the early seventies had led to huge amounts of money being pumped into English teaching in the oil-producing countries. Consequently, the ELT profession found itself having to leave the cosy confines of literature and grammar to try and make sense of this strange land of language use, populated by engineers, technicians, doctors, scientists, businesspeople and the like.

The first task with our marine engineers was to try and identify their needs and then look for teaching materials to fit. Unfortunately, there were very few materials currently available, and what there were did not prove very useful. Essentially they were based almost exclusively on written technical texts and manuals – highly formalized and very specific. A few visits to the local technical college, however, quickly showed that the kind of language our learners were going to have to deal with was much more general, mostly oral, fairly colloquial and frequently intertwined with visual activity in the form of practical demonstrations. A second shortcoming of the current materials was that they were very focused on language form, which was at odds with the movement at the time within ELT towards a focus on language use and a more active form of methodology.

So Alan and I set about creating our own materials. These proved to be reasonably successful and we later approached a number of publishers with a view to giving them a wider audience. They were eventually published as *Interface: English for Technical Communication* (Longman, 1984). Interestingly, the last thing that Alan and I ever did together professionally was to sell the rights to *Interface*, which had been out of print for a number of years, to a small publisher based in Oman – Canford Publishing. It was pleasing to see that the book had stood the test of time well, as much of the original material was retained in Canford's revised edition.

Our work together on probing and developing thinking in ESP

As noted, Alan and I produced *Interface*, because we felt that the currently available ESP materials were not appropriate to the group in hand, but the work led us to question the whole basis of the prevailing view of ESP. Our initial concern was that it was too language-focused in its approach and thus out of step with the general move in ELT at the time towards a greater focus on methodology. The language that was focused on was also normally that of formal written texts, which was not necessarily appropriate for the learners' needs.

Essentially, the orthodox ESP approach was: 'You're an engineer, so you need to know this vocabulary and these

structures, which we have identified as being characteristic of engineering texts.' (In practice the structural work usually just meant doing the passive over and over again!) Digging deeper, however, we concluded that the problem was really a far too narrow interpretation of what constituted learner needs. This manifested itself in a number of ways:

1 The approach was very utilitarian, the assumption being that if you're an engineer what you need is Engineering English. But this ignores the fact that engineers are also people, who might want to use English for other non-work-related purposes e.g. talking about your family.

2 There was no real concession to the students' existing state of knowledge. ESP was seen as a bolt-on extension to the General English knowledge that students were assumed to have acquired at school. Sadly, students often came to ESP with such poor levels of basic English that there was nothing to extend or build upon. (It is an unfortunate fact that in many places around the world, ESP was seized on by authorities as a panacea for the appallingly inadequate standards of school-level teaching. Instead of tackling the problem at source in schools, an attempt was made via ESP to rectify things at tertiary level. Thus ESP, rather than being the refinement or extension exercise envisaged, frequently became a desperate kind of remedial programme - a sticking plaster on a gaping wound.)

3 The focus was all on target needs, with no attention given to learning needs e.g. the need to make texts interesting, to have motivating activities and so on. I recall a teacher once asking my opinion on some materials they were using. When I commented that they were rather boring, the response was: 'Of course they're boring. It's ESP.' – a neat summary of the prevailing view amongst teachers.

4 This prevailing attitude stemmed from the fact that most ESP teachers, being by and large literature and language graduates, had scant knowledge of, or interest in, the technical, scientific or business subject matter of the texts they were having to use. Yet, little attention was paid to this matter when it came to course design.

Alan and I developed our critique of ESP through a number of articles, leading ultimately to our book, *ESP - A Learning-centred Approach* (CUP, 1987), which advocated a much more 'communicative' approach to ESP i.e. one more in line with what was becoming the accepted orthodoxy in General English. I'm pleased to say that the book is still going strong thirty years later.

An interesting thing that came out of the book is that essentially we were arguing for a needs-based approach to ESP, taking a more holistic view of what constituted needs. But, of course, all language learning, whether we're talking about engineers, teenagers or seven-year olds, should be needs-based. The logical conclusion thus is that either ESP does not really exist – it's just another application of a needs-based approach – or we could take the opposite view that all ELT is a form of ESP. In fact, having finished the book, we did consider re-naming it '*Course Design – A learning centred approach*', but the publishers thought that ESP was the buzz-word that would help it sell.

And they were probably right. Although logically there is no real difference between ESP and General English in terms of fundamentals, it's a workable distinction that can be of use. But it's interesting to note that the distinction is becoming less clear, as General English has in recent years been moving in the ESP direction by building CLIL (Content and Language Integrated Learning) into school-level curricula to give students experience of dealing with technical or scientific subject matter in English.

Alan's other contributions to the profession

Subsequent to the publication of the CUP book, our careers took us into separate areas. While I spent most time on General English textbook writing, Alan pursued his great interest in teacher development. Alan was always very much on the side of the teacher. He had a genuine interest in people and was concerned, not just for their intellectual achievements, but also for their human needs. So he and his wife, Mary, frequently invited students to their house – often for Christmas lunch. Alan, I felt, was always happiest when working in a teacher development project, as he did in Thailand and more latterly in the Philippines. A man devoid of deceit or of conceit, he loved being part of such a team and would devote a great deal of time and energy to making any project a success.

One other great interest of Alan's was journal editing, which enabled him to keep abreast of developments in the field. And in his later work he frequently used this knowledge in defence of the language teacher. Let me first, however, take you back to the book that we wrote for CUP. The title is: *ESP- a learning-centred approach*. Note, not 'learner-centred'. The latter, we felt was an unhelpful term, since any learning process involves negotiation between the individual and society, so to highlight one side to the exclusion of the other makes little sense.

But our major concern was that learner-centredness is essentially an ideological concept, reflecting a particular educational philosophy. While this may or may not be appropriate for e.g. school-level teaching, where ELT is part of the general education of the child, it is certainly not appropriate to ESP. Here the concern is to maximize learning by whatever means may be considered appropriate to the learners' needs. Hence 'a learning-centred approach'.

Work by Alan challenging assumptions in Applied Linguistics

In a number of articles in recent years, Alan pursued this point, arguing that learner-centred v. teacher-centred is in any event a false dichotomy. For example, if a teacher chooses to do group work, a supposedly learner-centred activity, but the learners don't particularly want to do it, is that being teacher-centred or learner-centred? But Alan pushed matters further, arguing that the teacher/learner-centred dichotomy is just one manifestation of a fundamental dissonance between the theoretical/academic side of language teaching and day-to-day practice.

Much of what goes on in ALLT (Applied Linguistics for Language Teaching), he argued, is in reality ideologically and culturally based, but is being presented to language teachers as if it were evidence-based fact of universal relevance. To quote from his paper *Argumentation in Applied Linguistics for Language Teaching* presented at the 44th Annual International IATEFL Conference in Harrogate 2010:

> *The discourse of ALLT tends to advocate attitudes to English and English language learning which are much more congruent with i) the academic rather than the practitioner, and ii) the native rather than the non-native speaker perspective ….. In overall terms, ALLT sets itself up as the voice of enlightened, evidence-based progressivism, and thereby also constructs the world of everyday ELT perceptions and practice as retrograde and 'pre-scientific'. However, …… much of its argumentation is based on a number of autocratic, ideological 'red herrings', and, as a result, rather than serving the true interests of most practitioners, is in fact self-serving and inward-looking, lacking the kind of reflectivity required for the role to which it aspires.*

Alan felt not only that much of what comes out of ALLT is questionable in itself, but, more importantly, that teachers are having ideas foisted upon them, which are often irrelevant to their context and/or go against their own experience and instincts as practitioners.

A case in point is the argument, frequently promoted in ALLT, that RP/Standard English is a colonial legacy, perpetuating the hegemony of the West. Alan argued that whatever the rights and wrongs of this argument from a sociolinguistic point of view, it is of little relevance to ELT – especially in places which have no experience of colonialism. Teachers and learners, he maintained, will rightly always want whatever form of English has the greatest international currency and that, like it or not, is RP/Standard English – or the American equivalent.

Although I've spoken of Alan throughout this paper as a co-writer and academic colleague, he was much, much more than that to me. Alan and I worked easily together, largely because our strengths and weaknesses were complimentary. Alan's great talent was as a superb critic. He was an avid reader, an assiduous note-taker and a dedicated conference-goer. And he was scrupulously honest, not just in his daily life, but also intellectually. While my approach was to take an idea and run with it, Alan brought his talents to bear to ensure that what we produced stood up to scrutiny and was well backed up by research and the literature. So we worked well as a team.

Even when we were no longer working together, we always kept in close contact, enjoying many a chat over a pint at the Sun Hotel in Lancaster, or with our wives, Eunice and Mary, over a Thai meal. He was the best and most loyal of friends and that's how I will always remember him. So his untimely death came as a bitter, personal blow. A sad, sad loss.

February 2017

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TASKS IN TEXTBOOKS: BARKING UP THE WRONG TREE?

Alan Waters

Introduction

1.1 How can 'tasks' for EFL learning be best designed for use in typical classroom situations? This paper argues that there are two approaches available, deriving from quite differing assumptions about the nature of language learning. The first group of assumptions is found in mainstream foreign language teaching around the world, and the second group derives from applied linguistics.

I will argue here that the first 'mainstream teaching' assumptions typically:

1. allow for tasks to take into account the realities of state-school learning;
2. can help learners, using tasks, to bring into use *prior* language knowledge;
3. allow for task work to be set in a context of other exercises and activities of (for example, focusing on forms), from which they depend on and from which they derive much of their nature and purpose.

These assumptions lead to what I will call a *'task-enhanced' approach.*

These assumptions are markedly different from thinking about language learning and work on 'tasks' in much of the applied linguistics literature, in which it is often assumed that:

1. tasks need to be 'real-world', and primarily meaning- or communication-focused; and
2. tasks should be designed to generate *new* language knowledge, rather than being integrated with prior or existing understanding.

I will argue that these clear differences in starting points, rather than being seen as evidence for a lack of enlightenment on the part of authors, publishers, teachers, and so on, indicate instead that the educational and pedagogical reasons for the prevailing textbook approach – a number of which are discussed - need to be acknowledged and appreciated to a greater extent, as part of the basis for a more productive programme of research and development concerning the successful use of tasks in the typical foreign language teaching situation.

1.2 Research into language learning tasks is nowadays increasingly concerned with the pedagogical side of the matter (see, e.g., Van den Branden 2006, Carless 2007, Samuda & Bygate 2008) - that is, with the problems and the potential associated with the everyday use of tasks in a variety of language teaching situations. At present, however, the primary tendency is to attempt to investigate tasks under 'laboratory' conditions (Bygate, Norris & Van den Branden 2009) and/or to look at how theoretical models derived from such research can be made to operate in practice (see, e.g., Van den Branden , ibid). However, in order to strengthen the attempt to take pedagogical realities surrounding task use properly into account, a more 'bottom up' approach is arguably also necessary, one which theorises from practice as it exists in the typical language teaching situation (cf. Waters 2009b).

What can be learned in this respect by the analysis of tasks in ELT textbooks? Textbooks are a useful source of data for throwing light on tasks in everyday pedagogy because they form the basis of – or, at least, are likely to exert considerable influence on - the approach used in most language teaching situations around the world. What role do tasks play in ELT textbooks? To what extent does the picture resemble or differ from the one in applied linguistics in general, and why? What implications might there be for further research and theorising in this area?

For this study I looked at the way in which tasks are used in a series produced for the international 'general English'

market by a cross-section of leading UK publishers.[1] However, this obviously leaves much out of account, especially since the majority of textbooks used around the world are produced by local, not international publishers. Also, only the intermediate level books in each of the series were scrutinised, and how the picture at other levels might be similar or different has therefore not been studied. In addition, the focus was only on the 'on paper' presentation of tasks in the materials, rather than their classroom implementation.

1.3 There exist competing definitions of the term 'task' (Bygate, Skehan & Swain 2001, Ellis 2003). However a consensus, which I use here, indicates that a task is a language learning activity which involves a primary focus on using language as communication, i.e., one intended to achieve a purpose over and above only displaying a knowledge of an area of language. However, even relatively recent editions of the type of textbooks studied do not necessarily use the term 'task', and when they do, there is no guarantee that the word is being used in the same sense as in the applied linguistics literature. For these reasons it was the perceived *function* of the part of the textbook in question which was taken as the characteristic which defined it as a 'task'.

2 A 'TASK-ENHANCED' APPROACH

From my study of several general EFL coursebooks I found that the task element in those textbooks can be seen less as an isolated end in itself (as in the manner of the majority of studies in the academic literature on the topic) and much more as a means of *drawing together* the discrete language and content strands of earlier parts of the lesson unit in order to provide the learners with an opportunity to put them into practice in a holistic manner. [2] This stance to 'task' can be represented as shown in the figure below (cf. Hutchinson & Waters 1987).

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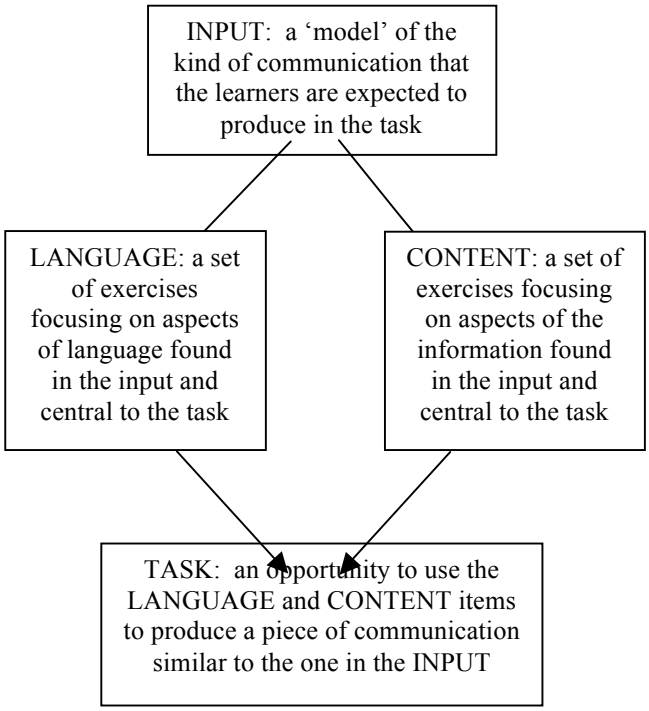
[1] 'Cutting Edge Intermediate' (Cunningham & Moor 1999), 'New Headway Intermediate' (Soars & Soars 2003),

[2] An analysis of textbooks which I have made indicated that, first of all, it was often not easy to determine whether the teaching materials do or do not contain elements which matched the definition. Thus, in the case of 'Headway Intermediate' (Soars & Soars 2003), there were several items which met the criterion in one respect, but on closer inspection, appeared to function mainly as either 'post-reading', 'disguised' language practice or writing skills exercises (e.g., in Unit 4, respectively, p. 34, 'What do you think?'; p. 33, 'Practice': item 4; p. 108: item 5). It therefore needs to be acknowledged that a straightforward 'read off' from materials using a conception of tasks based on the academic literature is often problematic. This situation is also indicative of one of the issues to be developed further in this paper, viz: once 'tasks' are looked at in terms of their real-life pedagogic context of use, they may no longer lend themselves to being categorised so readily in the relatively one-dimensional manner of much of the literature: instead, their role is characteristically more ambiguous, typically fulfilling more than one main pedagogical purpose



In the textbooks studied a task is defined not only by its intrinsic properties but, crucially, by its pedagogical role in the sequence of other elements to which it is related. In other words, in such instances, it functions not so much as a replacement for or a re-badging of other items in teaching materials, but as an additional, qualitatively different entity, one that plays the role of providing learners with an opportunity to apply, in a holistic manner, the knowledge studied earlier on in the lesson unit.

Such an approach to the use of tasks is in contrast to the academic privileging of the 'task-based learning' (TBL) model, where the task plays a much more 'up front', self-sufficient and comprehensive role (see, e.g., Willis 1996). Rather, the 'textbook approach' would appear to much more closely resemble what has been characterised as 'task-supported learning' (TSL) (see, e.g., Ellis 2003: 28-34), i.e., where the task is a supplement to or is an extension of a form-focused approach, providing an additional, communication-oriented, learning-by-doing element. However, even the term 'task-supported' implies that, in TSL, it is the task which plays the pivotal role in the teaching-learning sequence, and that the other elements involved have only a subordinate or auxiliary role.

But this is to (once more) bias the perspective towards the primacy of the task. Rather, as I have tried to show elsewhere (Waters 2009a), in the kind of textbooks which have been analysed for this study, pre-existing features of their contents, such as comprehension work, language practice exercises, and so on, have all been retained, consolidated and even expanded over the last 20 years or so, and it is the task element which has been 'grafted on' to this long-standing stock. The textbook approach is therefore more appropriately characterised as a 'task-enhanced' learning (TEL) one [3]. In other words, the function of the task is to supplement but in no way to replace more traditional textbook fare – a way of extending the potential of the latter, in other words.

[3] I am grateful to Tom Hutchinson (personal communication) for this wording.

3 IMPLICATIONS FOR APPLIED LINGUISTICS

3.1 A first and conceptual benefit of the above analysis for the academic study of tasks is that the analysis provides a clearer, 'hands-on' way of understanding a task, since a task is understood here *in relation to its pedagogic role in a lesson sequence*. The analysis I offer here also helps to show how 'task' can differ in meaning from terms such as 'exercise' or 'activity', and, by implication, that it is a complement rather than an alternative to them. But perhaps the most important advantage of the study of task as used in textbooks emerges from an understanding of the rationale for its orientation. Why, in other words, do tasks tend in fact to be incorporated into textbooks in the way that my study has found that they are?

One answer would be: because publishers and writers lack sufficient awareness of the benefits that can accrue from the use of a full-blown TBL approach – in other words, they are barking up the wrong tree. However, this is unlikely, because of the enormous commercial advantages that using a more effective model of language learning would bring. An alternative and more plausible explanation is that the approach used in textbooks exists because it is considerably more compatible than a 'TBL'-oriented approach with the main features of the majority language teaching situations around the world. Studies such as those by Carless (2002, 2004 & 2007) indicate that, in language teaching contexts in the secondary-school state sector, a TEL approach is likely to fit better in terms of 'situational constraints' such as class size, variability of engagement in small group work, noise problems, indiscipline, use of the mother tongue, form-focused examinations and so on. This is the case because the majority of the activities the TEL approach employs have the potential to lend themselves more readily to the relatively teacher-centred, whole-class, 'lock-step' teaching methodology which tends to be favoured in such locations. [4]

3.2 A further lesson from the above analysis is that, taking into account what actually happens in classrooms, we see that the TEL approach can arguably be seen as more compatible than TBL in terms of the overall educational 'ethos' that prevails in most teaching situations. A distinction is sometimes made between two main 'sets of classroom processes', that is, 'traditional form-focused pedagogy' on the one hand, and 'task-based pedagogy' (or, in other words, 'TBL') on the other. In the former, 'language is treated as an object and the students are required to act as "learners"', whereas in the latter, 'language is treated as a tool for communicating and the teacher and students function primarily as "language users"'.

Teachers and students, around the world, want and expect to teach and learn *language*, and they appreciate the satisfaction of coming to the end of a lesson with a clear learning goal achieved. Since a TEL approach involves a much greater preponderance of elements which lend themselves to being handled via a 'traditional form-focused pedagogy', it follows that TEL is more likely to be accepted by consumers than a TBL approach, where teachers and students may wonder exactly what, at the end of a lesson, has been learned.

This rationale for the use of the TEL approach can also be seen as extending to the 'out-of-class' context as well. As Hutchinson & Hutchinson (1996) point out (with respect to the role of textbooks in education in general) an important part of the function of a textbook is to make clear and summarise what the curriculum consists of. However, in a TBL approach such information may be difficult to provide, since a good deal of the language syllabus will be implicit, and can only be fully disclosed on an emergent, retrospective basis. On the other hand, the TEL approach, because of its much more explicit, prospective, 'focus on forms' character, is capable of functioning as a much clearer 'route-map'. In this respect, it can be once again seen why such an approach tends to prevail in textbooks.

Conclusion I found, from a study of textbooks, that a TEL and not a TBL approach appears to predominate in them. A typical pattern of task use in textbooks is an awareness of the need for compatibility with the defining features of the typical language teaching situation. So, this aspect of textbook design has not evolved in wilful opposition to the development of thinking about tasks in much of applied linguistics, as sometimes appears to be assumed, but rather from attempts to incorporate thinking on tasks in the applied linguistics literature into current practice, *to the extent that is feasible.* [5]

Appreciation of reasons - on the ground - for preferring TEL over TBL is perhaps the primary potential benefit for applied linguistics of the conclusion of this study, in other words, an understanding of the rationale for the use of tasks in textbooks entails developing a greater awareness *of the practicalities involved* in attempting to translate academic ideas into practice, and therefore also of how research and development concerned with the pedagogical application of tasks - and applied linguistics for language teaching in general, for that matter - can be become more rooted in and capable of building more productively on existing practice (Waters 2009b).

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[4] See Holliday (1994)

[5] See Waters 2009a with respect to the similar typical overall historical relationship between materials design and applied linguistics.

Such an approach might be developed by additional studies of the kind this paper has been concerned with, focusing for example:

- on tasks in other types of textbooks,
- on an overall typology of textbook tasks, as well as;
- teachers' and learners' evaluations of differing textbook tasks, and, of course;
- studies of the actual use made of tasks in classroom teaching and learning.

Such investigations would involve a much more bottom up as well as top down stance towards research in this area, with the potential for more balanced, negotiated development of understanding in both directions – in other words, less risk of barking up the wrong tree. This might result both in better pedagogy involving tasks in textbooks, as well as more relevant and productive research and theorising in applied linguistics.

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A longer version of this paper was read to the 3rd Biennial Conference on Task-based Language Teaching, Lancaster University, UK, 13-16 September 2009.
Alan Waters died in July 2016.

REFERENCES

Bygate, M., J. Norris & K. Van den Branden (2009). Coda. Understanding tblt at the interface between research and pedagogy. In Van den Branden, K., M. Bygate & J. Norris (eds.) *Task-based language teaching.* Amsterdam: John Benjamins, 495-499.

Bygate, M., P. Skehan & M. Swain (eds.) (2001). *Researching pedagogic tasks : Second language learning, teaching, and testing.* Harlow: Longman.

Carless, D. (2002). Implementing task-based learning with young learners. *ELT Journal* 56.4**,** 389-396.

Carless, D. (2007). The suitability of task-based approaches for secondary schools: Perspectives from hong kong. *System* 35.4**,** 595-608.

Carless, D. R. (2004). Issues in teachers' reinterpretation of a task-based innovation in primary schools. *TESOL Quarterly* 38.4**,** 639-662(624).

Crace, A. & R. Wileman (2002). *Language to go intermediate student's book.* Harlow, Essex: Pearson Education Limited.

Cunningham, S. & P. Moor (1999). *Cutting edge intermediate student's book.* Harlow, Essex: Pearson Education Limited.

Dellar, H., A. Walkley & D. Hocking (2004). *Innovations intermediate coursebook.* London: Thomson.

Ellis, R. (2003). *Task-based language learning and teaching.* Oxford: Oxford University Press.

Goffman, E. (1981). *Forms of talk.* Oxford: Basil Blackwell.

Holliday, A. (1994). The house of tesep and the communicative approach: The special needs of state english language education. *ELT Journal* 48.1**,** 3-11.

Hutchinson, T. (1997). *Lifelines : Intermediate student's book.* Oxford University Press.

Hutchinson, T. and E. G. Hutchinson (1996). The textbook as agent of change. In T. Hedge and N. Whitney (eds.). *Power, Pedagogy and Practice*. Oxford, Oxford University Press**:** 307-323.

Hutchinson, T. & A. Waters (1987). *English for specific purposes : A learning-centred approach.* Cambridge Cambridgeshire: Cambridge University Press.

Samuda, V. & M. Bygate (2008). *Tasks in second language learning.* Basingstoke: Palgrave Macmillan.

Soars, L. & J. Soars (2003). *New headway intermediate student's book.* Oxford: Oxford University Press.

Van den Branden, K. (ed.) (2006). *Task-based language education.* Cambridge: Cambridge University Press.

Waters, A. (2009a). Advances in materials design. In Long, M. H. & C. J. Doughty (eds.). *The handbook of language teaching.* Wiley-Blackwell, 311-326.

Waters, A. (2009b). Ideology in applied linguistics for language teaching. *Applied Linguistics* 30.1**,** 138-143.

Willis, J. (1996). *A framework for task-based learning.* Harlow, Essex: Pearson Education Limited.

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RADICAL TEFL 5, March 2018

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Note by the Editor

Alan Waters sent me a draft of his article published above ["Tasks in Textbooks – Barking up the wrong tree?"] in November 2015, at the same time as he sent me his article "Re-invention in ELT Pedagogy; the 'Goldilocks' Principle". The draft which I received of "Tasks in Textbooks – Barking up the wrong tree?" has been edited from about 3,200 words to 2,200 words, to allow his main ideas to come across more clearly. Alan Waters published three articles in *Radical TEFL*, as follows:

March 2016:	*Language Teaching as Technology: The Importance of Pedagogic Design.*	**(Issue 3)**
March 2017:	*Re-invention in ELT Pedagogy; the 'Goldilocks' Principle*	**(Issue 4)**
March 2018	*Tasks in Textbooks – Barking up the wrong tree?*	**(Issue 5)**

Radical TEFL owes a large debt to Alan Waters, as not only did he submit valuable work for publication, but the themes which he treated are exactly those which I had hoped to explore in the magazine, and Tom Hutchinson has drawn attention to some of those themes in his article here (page 4). He draws attention, firstly, to Alan's interest in *learning...*

Perhaps Alan identified here the elephant in the TEFL room: we need more insight into, and understanding of, learning. This is not only because, firstly, a study of the *process of learning* (as by individual learners in real classrooms*)* has been relatively neglected by TEFL and applied linguistics, but because, secondly, given that the concept of pedagogy (or teaching) requires first an understanding of *learning* (as mainstream education argues), then we cannot understand teaching and the role of the teacher until we understand learning. The article which follows (page 16) , on learning (and failure to learn) in the mathematics classroom is intended as a contribution to understanding learning, and the questions which follow that article on page 36 offer entry points to understanding learning *from the learner's point of view.*

Alan's "Tasks in Textbooks – Barking up the wrong tree?" can be read as an analysis and probing of the concept of 'task'. We have here an example of a word, often employed in applied linguistics and TEFL, but less often probed or prodded or analysed. Alan identifies a weak form of the word 'task', and a strong form. He argues (drawing his evidence from textbooks and referring to real-world classroom situations) that a 'weak form' of 'Task-enhanced learning' matches well with learning realities around the world. More such probing work of other terms used in our profession is surely called for, drawing on evidence of what classrooms actually need and can use. Alan has shown how a term, such as 'task', can be clarified, and made more useful and relevant.

Alan Waters is frankly critical of applied linguistics in his article (and also see the last page of Tom Hutchinson's article where he quotes from Alan (on page 7 here). It is surely unacceptable - for both applied linguistics and TEFL - that the relationship between them has not been more thoroughly explored, and the article at the end of this issue of *Radical TEFL,* 'How can Applied Linguistics understand TEFL?' is intended as a contribution to helping the relationship between the two fields.

In section 1.2 of his article, above, Alan writes *" the primary tendency (of applied linguistics) is to attempt to investigate ... under 'laboratory' conditions ... and/or to look at how theoretical models derived from such research can be made to operate in practice".* He contrasts this with the need to carry out investigations under real classroom conditions. Strangely, applied linguistics does not refer to (or seem to be aware of) literature in mainstream education which has studied exactly such questions as to how the classroom, or pedagogy, might be researched. That neglected literature draws attention to the many problems and pitfalls in studying classrooms... [6]

That literature from education, firstly, points out that, before even beginning a research project, there are issues of conceptualisation – of knowing what we mean when using terms - and which Alan tackles in his analysis of task. From mainstream education, Scarth & Hammersely (1986), in the context of pointing out some difficulties in conceptualising the same word, 'task', raise and discuss these problems. [7] For Martyn Hammersely these issues and problems include, for example, prior issues such as:

- categorisation of what is being measured;
- identifying the task (allowing it to be demarcated from similar tasks), so distinguishing one task from another;

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[6] I have drawn attention to work in mainstream education which does this in *Radical TEFL* **3**, March 2016, pages 62-63 in the electronic version only, Four Major Difficulties in Researching Pedagogy, citing work from that literature.

[7] For a probing and critical analysis of the word 'task' (as used in teaching materials), see Scarth & Hammersley, M, Some problems in assessing the closedness of classroom tasks, in Hammersely ed (1986), Case Studies in Classroom Research, Open University. Also on the need to analyse concepts used in research see Scriven M (1988), Philosophical Inquiry Methods in Education, in Jaeger, PM (ed), Complementary Methods for Research in Education, pub. American Educational Research Association, pp 131-51.

- knowing if the task is in fact a task, or needs to be broken down into smaller tasks? and;
- who decides the classifying decisions and the answers to the above problems?

A serious methodological difficulty which is raised before researching a classroom (when, for example, focusing on pedagogy) is that, in order to describe the complexity of pedagogy we need to capture something with many variables, and with many interactions between those variables, and which sometimes seem to be quite daunting to describe, often in fact inaccessible to the observer and perhaps *unspecifiable*? Donald McIntyre, a leading empirical classroom researcher, who was Director of the PGCE programme at the University of Oxford and Professor of Education at the University of Cambridge, concluded: *"it is difficult to envisage ways in which …quantitative and comparative research (can) take account of so many interacting variables"*.

Examples of neglected issues which Alan identifies (for example, questioning how applied linguistics can research pedagogy, or of the need for more clarity about terms such as 'tasks') were explored in British mainstream education a generation ago, but that work has not yet been taken into account by researchers in applied linguistics. (A forthcoming issue of *Radical TEFL* would like to publish work on issues in researching the EFL learning process: please see page 44).

Alan Waters, together with others including Michael Swan, and who are primarily interested in *learning* and in *classrooms,* have challenged the academy and their influence on TEFL. I was happy to publish Alan's work (as well as a review of Michael Swan's important *Thinking about Language Teaching* in the first issue of *Radical TEFL* [8]*),* because these thinkers, close to the realities of classrooms, have identified some ways forward for an exploration of how TEFL might become more autonomous. TEFL might follow up and develop this seminal work by doing more of the kind of kind of probing work which Alan published in *Radical TEFL*: by examining concepts and ideas, and by referring to real-world classrooms. Also, we might draw, according to our needs and our problems, from other fields such as mainstream education, learning theory and from methods of enquiry, to move our field forward. To publish such work is the project of *Radical TEFL.*

Alistair Maclean / Editor

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[8] Swan M, (2012), Thinking about Language Teaching: Selected Articles 1982-2011, (Articles **1**,**2**,4,**5**,7,**8**,10, 12,13,**14**,**15**,16 – key thinking in bold), OUP

IMPLICATIONS FOR TEFL PEDAGOGY OF WORK IN MATHEMATICS EDUCATION DERIVING FROM SCHEMA THEORY

Alistair L. Maclean

Why, despite motivated learners and the good intentions of teachers, do secondary-school students often fail to learn to speak English? What impedes their learning? I will argue here that schema theory - which has been used in mathematics education – can help us to anticipate and understand student difficulties, and that schema theory has implications for pedagogy leading to successful EFL learning.

In Section One I argue that there are sufficient similarities between EFL and Mathematics learning to allow EFLT to learn from the mathematics classroom. In Section Two I present schema theory, and describe how it has been used in Mathematics education. I then explore implications of schema theory as used in mathematics education, and present an argument for understanding and preventing student failure in learning EFL.

I am not an academic, but a retired teacher: the argument and ideas presented here come from my teaching experience, from reflection on that experience, and from reading outside the EFLT literature. So far as I know there is no work in the UK TEFL literature which explores implications of schema theory for EFL pedagogy in teaching speaking, and so I hope the following might be useful. In this study I will use "he" to refer to the student and "she" for the teacher. **9**

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SECTION 1 – SIMILARITIES BETWEEN MATHEMATICS AND EFL LEARNING

1.1 There exist a group of abilities (eg, using second languages, doing mathematics, playing musical instruments and doing sport at a good level) which seem to share some conditions for successful learning to take place. For example, the learning seems to require two distinct stages: first, some kind of mechanical or repeated practice to learn a 'skill', and then, time and practice given to *transferring* the skill to real problem-situations. Also, when the *transfer* stage is found difficult or unsuccessful in the learning of these abilities, it often seems to be because of some lack of 'technique' or skill which was not acquired in the first stage.

I now list some further common features in maths and EFL learning, from my own my teaching experience: I have in mind the learning of mathematics and EFL in large classes, at about 11-15 years, for average- or lower-level students. I observed and learned most from my students who had problems in learning, many of whom were quite confused at the foundation levels, and so found it difficult to build on those foundations:

1. Mathematics and English **are both languages**, and are in part *"an artificial system of signs and symbols"* **10.** These are learned so that they may be applied. The symbol system, of both, needs to be grasped by the learner, organised into existing understanding and transferred to real-world situations. (Sec 4.2 below)

2. students rely on substantial contrived input, and from which they can extract models and examples of how maths or English works; and concepts in both subjects are primarily learned from worked out examples: Whereas in some school subjects the student relies on the environment for input and materials, in both maths and EFL the learning materials are often artificial at early stages;

3. in both maths and EFL, a skill is learned step by step, with the next stage relying on mastery of the previous one, and this is required as an apparent condition for learning;

4. in the pedagogy and materials, if more than one new difficulty is introduced at a time, confusion and even breakdown in learning can occur, and so ....

5. … careful selection and grading of material and student input is required.

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9 This study develops ideas introduced in my (2016: Part 2) *What is teaching speaking?*

10 Chambers Dictionary. See section 4.2 below for an exploration of implications of this understanding of languages for learning both English and maths.

6. while students may easily grasp new ideas, and are able to show this understanding in controlled practice, they often find it difficult to apply this understanding in solving real-world problems;

7. a condition of learning to speak, and doing maths, both accurately and 'fluently', seems to be a combination of controlled and free practice; in both EFL and maths the teacher cannot really show or teach a student how to make the transition from controlled to free and creative work - but she can set up conditions where it will happen; and so:

8. a different kind of 'teaching', more 'over-to-you', is required, in both subjects, at the stage of transfer to real use. (From this observation, it might be argued that there are two quite distinct kinds of learning - skill-learning and transfer - and so two kinds of 'teaching'.) **11**

9. while there is a need for a social and cooperative component in both maths and EFL learning, ultimately a learner in both subjects has to learn for himself: no one can do this work for him.

10. If one spends a morning observing both classes at their (normal) work, students in each seem to learn by *doing* problems in maths, or by *doing* speaking, reading or listening; **12**

11. Progress and success, in large classes, is partly proportional to on-task time, conditional on students working from materials at an appropriate level of difficulty;

12. in a maths and EFL secondary classroom when the teacher has handed over work to the students, one observes that, in both classes, students often work through their learning difficulties and perplexities, *in a mainly individual way.*

13. Because maths and English are both symbol systems, it may be that, parallels can be found in the processes and failures in learning both such subjects. Without a grasp of the symbol system the student cannot apply (or 'transfer') the subject to real-world situations. The symbol system needs to be introduced in some way which is clear for the learner.

14. In both maths and EFL learning the student is searching for connections, and using and reinforcing connections between different pieces of understanding. **13** This reinforcement seems to require, as a condition for it to happen, that new understanding is put to use in real-world situations or problems...

15. ... some kind of circuit or loop is in operation in the learning of both subjects: grasping new input; organising that input with prior knowledge; reinforcing and confirming that understanding through putting it to use; followed by fresh input.

16. Both subjects seem to require the student, in part, to construct a system of networks or maps or schemas (section 2 below), *and the student seems to do this work alone,* and needs time for himself to do this organising work.

Each of these features, common to maths and EFL learning, represents a challenge or problem that needs to be addressed and solved by teacher, materials or learner, as a condition for learning to occur smoothly.

1.2 Differences between Mathematics and EFL learning However, there are differences between learning Mathematics and EFL. For example, whereas in maths classes students will have all followed the same course and materials in previous lessons (so, they are 'in lockstep' in their learning), in EFL classes often each student has a different history of learning. A second difference between maths and EFL learning is that students at school, almost from the beginning, are routinely encouraged to use *strategies* in their approach to mathematical problems: perseverance; looking for alternative lines of attack on a problem; hunting for errors; double-checking their number work; going outside the immediate topic being studied for help in tackling a problem, etc. **14**

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[11] The word 'learning' is used throughout this text, however, learning may be many different things. See Chomsky (1976: 11; 19-20; 119; 214; & 159-62), Reflections on Language, Fontana, which in several passages suggests that it may be a mistake to presuppose that there exists one general learning theory which can be applied to the stages and processes of learning of a (first) language, and that matters may be rather more complex, with many learning theories, as well as different stages of learning (these requiring different theories?)

[12] When an observer is in a class, the teacher often feels obliged to 'put on a performance', as he is often assessed on his work in this respect. In this sense, the observer does not necessarily see a typical lesson.

[13] This idea is the kernel of understanding pedagogical implications of schema theory.

[14] For a presentation of strategies in mathematics learning, see the Introduction by Ian Stewart (University of Warwick) to G. Polya's How to Solve it (1957).

Also, in mathematics learning (but not EFL) at school level:

1. the student is always given a clearly-stated problem to address;
2. to address the problem, the student starts from defined, given information;
3. mathematics learning often seems more *conscious* than EFL learning:
4. in the maths class students continually reason to themselves, and deduce from what they know. EFL learning seems, by comparison, to involve less reasoning, and to be more subliminal and unspecifiable; however …
5. the maths learner seems to use insight and intuitive leaps, especially in more complex work, in order to link up structures by way of arriving at a solution.
6. In maths learning students write down their thinking, and this seems to help their learning, which is not the case in EFL learning.
7. When passive understanding is brought into real-world use (a common feature in both subjects), in maths the student has time to think and is alone, whereas in EFL this is not the case;
8. while English is only partly an interconnected system mathematics seems to be entirely a system. Those parts of English which are a system seems to be more subliminal than the system of maths, which can be summarised on paper: the EFL system cannot be so easily captured.
9. There is more structure in maths, and also more abstraction;
10. Finally (and assuming schema theory as argued below) the EFL student is, like the maths learner, constructing schemas, but unlike the mathematics learner, the EFL learner, significantly, has a competing, distracting and so unhelpful schema to draw on, namely, his first language.

We see that, whilst there are many differences, there are perhaps sufficient similarities between EFL and mathematics learning to allow some comparisons. So, a study of how mathematics teachers and materials try to help learners may have lessons for understanding problems in learning EFL, with implications for pedagogy and materials.

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SECTION 2 SCHEMA THEORY

Richard Skemp (1986) proposed that schema theory, which I now present, can be applied to mathematics education, arguing that this general learning theory (which derives from Jean Piaget and is taught at A level Psychology) has far-reaching pedagogical consequences. **15** Implications of Skemp's 'schema' theory for mathematics learning can be summarised: *A successful learner is continually reorganising, developing, or abandoning his understanding, whilst an unsuccessful learner cannot or does not do that work.* I will argue that these implications can be extrapolated to EFL learning. Schema theory seems to be compatible with gestalt learning theory (which understands that efficient learning is done by grouping items), although I do not refer to gestalt theory in this study. A founder of gestalt theory, Wolfgang Kohler, writes: *"experience is important to (a person) to the extent to which is it organised"* (in his [1947] Gestalt Theory, p. 164). **16**

Schemas (or schemata). For schema theory, a schema is a map which belongs to a learner, and which he uses to make sense of and to develop understanding within a topic. Building blocks and concepts which make up the schema are held by the learner *in a network*, as in a map. Concepts and material are related to each other, and are held in a network by the leaner. According to schema theory, such schemas or networks are easier to remember and easier to build on than isolated elements and concepts, as a student finds it easier to remember and understand new information when he can

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[15] Richard Skemp, after teaching secondary-school Mathematics and writing several Mathematics coursebooks, was Reader in Psychology at the University of Manchester before becoming Professor of Educational Theory at the University of Warwick, UK, in 1973. His reputation in Mathematics Education is based on his applying schema theory (from Psychology) to mathematics learning. I do not know of an attempt to apply schema theory to the pedagogy of teaching and learning of speaking in EFLT. See Oxford (2011: 48) for a summary of schema theory.

[16] Gestalt theory was applied to the Psychology of Education by R.M. Ogden (1926) in his Psychology of Education, Routledge, see ch. XIV, and also sections 44 and 45. Ogden acknolwedges The Growth of the Mind, by a founder of gestalt theory, Kurt Koffka. Both gestalt theory and Dewey regard learning as, in part, a circuit or loop.

'fit in' that new information or concept to what he already grasps. **17** As a corollary, however, unless information and concepts are understood in *relation to each other,* then understanding is insecure. For schema theory, the student is in a sense on his own, as he *constructs or organises* a new schema. **18** Schema theory is, partly, a restatement of 'constructivist' learning theory (von Glasersfeld 1995: ch. 2, ch. 3 on Piaget; & ch. 10), and is underpinned by a claim that learning about reality requires a *fitting-in with and reorganisation* of what one already understands.

Assimilation and accommodation A key idea in schema theory is *'assimilation*'**,** which occurs when a learner takes information from the outside world and incorporates it into an existing schema. This work is relatively straightforward, easy and unthreatening for the student, compared to the challenge of 'accommodation' . *'Accommodation*' (the second key idea)is required when an existing schema cannot deal with new information and concepts. It meets with anomalies – information which it cannot account for – *and so the learner needs to drastically alter his schema i*n order that that information can be processed. This can be threatening for a learner, and who may even refuse to attempt a revision of his understanding. **19**

2.1 Pedagogical implications Richard Skemp (1986) proposed how schema theory could be applied to mathematics teaching and materials. **20** For example:

(a) Care needs to be taken in the ordering and in the way in which new concepts and information are presented and practised, so that they can easily be fitted in or assimilated (but by the learner, not the teacher) to existing schemas. Students require examples, because schema theory argues, firstly, that it is through examples that a student will grasp new relations between concepts, and in this way, form new concepts. It does not normally help the student when the teacher 'explains' concepts or relations – at least, not until the student has tried to do this for himself. However, examples given when a topic is introduced (and from which the student can extract what he needs) can allow the student to make *for himself* the needed connections. For this reason, a typical mathematics lesson, near the beginning, will spend perhaps 10 minutes on examples, in the form of worked-out solutions to problems, this done on the board.

(b) Since concepts and information are *related* to each other within a schema, the student does not need to just learn concepts, but to learn how interlinked concepts relate to each other, since it is *relationships* that the learner needs to grasp. The teacher needs to create the conditions (together with her material) for the student to work out how concepts relate to each other.

(c) A teacher needs to understand when accommodation (reconstruction of a schema) is needed by a student, and also understand when the student needs time and safety to abandon a redundant or exhausted schema. However, learning though assimilation is simpler and less risky than through accommodation, and in order to avoid the need for accommodation Howard suggests: *"Structure material as closely as possible to students' existing frameworks, or teach them a broad framework that they can hang new material onto"* [176], that is, somehow, get students to see *connections* between lessons, between different material, and between apparently distinct concepts (but which need to be understood as *relating* to other concepts, in order for progress to be made). The student can then, for himself, do the needed internal organising work.

Accommodation can be traumatic for the student, and so the teacher needs to anticipate and prevent situations where accommodation is required. To repeat, ideally, learning should be by assimilation. A main pedagogical implication of schema theory is not to:

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[17] Howard (1987) presents schema theory (ch.3) and from the theory he derives implications for pedagogy (ch. 11). Schema is defined as [31/32] *"A schema ... is an abstraction from experience (and) consists of several parts or elements organised in a certain way"*. Howard's book was endorsed by Skemp.

[18] Schema theory is related to constructivist understandings of learning, and partly derives the work of Jean Piaget (with roots in Kant). Schema theory is presented (although not clearly) in Piaget (1950: see the key passages pp. 4-8; 36-44 of ch. 2; 63-66 of ch. 2; & pp 12-109 of ch. 4). Piaget writes: (1970: 2 & 15) *"(systematic) thought ... is a process of continual construction and reorganisation ... To know is to assimilate reality into systems"*. Von Glasersfeld (1995: ch. 3) offers a clear introduction to Piaget's thought.

[19] Schema theory can be claimed to be relevant to all kind of learning. Essentially, we can use new information and ideas to confirm, construct and organise further what we previously grasped (assimilation) – or to abandon what we thought we 'knew' (accommodation) because new information or ideas do not 'fit'. The first, assimilation, is the easy way, and the second, hard work.

[20] Summarised in my (2016: Part 3), and some thinking behind these pedagogical implications is presented there (ibid) Part 2. This study develops that section.

*"impart poorly organised facts … but to teach concepts and schemas (which) will allow students to look at the world in a different way, to make better sense of it, to readily understand and retain new material, and to solve problems".(*Howard ibid)

How might schema theory account for student learning difficulties or failure? I explore this question in the remainder of this study. For example, the teacher needs to understand resistance to changing and reconstructing schema. Students will generally want to avoid doing major reconstructing work (accommodation), and the teacher needs to be aware of student strategies for not doing this, eg, "*Discrepant data may be ignored, compartmentalised or only partly absorbed … (or) students who cannot apply a given schema may just learn by rote or opt out of the learning situation in some way"* (Howard ibid).

Failure, according to schema theory, can arise because the student:

- does not not have an appropriate schema to understand or 'assimilate' the new work;
- is unable, for some reason, to construct the needed schema;
- has the schema, but the material does not prompt him to recall it. He will need prompting from the teacher - however, too much prompting will stop him from 'doing his own thinking'.
- a student often has a quite different set of schemas from the teacher's: and so may not be able to relate material and lessons together, and is unable to make connections. In other words, the teacher needs to know 'where the students are', and start from there. **21**

We see in the above how important and relevant materials are in this work. **22**

2. 2 Pedagogy and schema theory Given the fundamental ideas in schema theory, as outlined above (the ideas of 'accommodation', 'assimilation', student resistance to abandoning a schema, etc.), I now sketch some implications for both mathematics and EFLT learning, which derive from Skemp's insights, and which in my own work as a teacher made sense to me as I tried to understand my learner's difficulties - and which achieved results for my students...

First, since the student is, for himself, developing and constructing his schemas, he needs plenty of *examples* (perhaps, in EFLT, in the form of short, simple dialogues which show language being used), and which will allow him to derive, for himself, his new concepts and schemas. The student needs space, time, and an absence of pressure to to this work: if the teacher introduces new material which deals with a concept which he is *not ready for* the student will be 'lost'.

Already referred to above, 'assimilation' is much easier for the student, and is a more efficient way of learning than 'accommodation': the former only requires some 'fitting in' to what is already grasped, whilst the latter requires a major reconstruction of the student's relevant schema or map. It follows that situations where the student needs to do accommodation work need to be avoided, and such work may even be too much for the student, and so progress stops. Skemp argues that early work on a schema should be done in such as way that sound foundations are built. That is, the student needs, at the early stages, a schema or map into which he can easily assimilate future material, concepts and difficulties. So, in EFL learning in for example the context of learning the tense system, the student needs a sound understanding of the first tenses which he meets, so that he can easily integrate new tense work with that initial understanding.

Consistent with this idea, it seems that the EFL teacher (together with her materials) needs to *look ahead* to future material and related work, as well as to future concepts which the student will meet, and to in some way give the student the schemas or maps which will allow him to easily and efficiently assimilate that future work. An inappropriate (or poorly established) schema, on the other hand, will mean that, when those later stages are met, the student will not be able to 'fit in' that work to what he already understands to be how maths or English works, and he will have the problems of major reconstruction or 'accommodation'.

Further, schema theory argues that a student's schemas are developed *gradually and progressively*, as fresh examples and materials allow the student to develop and organise (or 'construct') his schemas, step-by-step. Schemas are not developed through jumps, but rather through connections between old and new work, and these connections need to be seen by the student. It is in the nature of assimilation (the efficient way to learn) that schemas are only developed gradually. It follows that material need to be presented in small, discrete stages. A rule for learning, for example, the simple past tense, is *"Introduce one new difficulty at a time".* **23** The question arises (but cannot be addressed here): If

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21 This is Dewey's concept of starting from prior knowledge, and which is also found in Michael Swan's work.

22 In my (2016: Sec 1) I have argued that materials and teaching cannot be separated, as materials often perform the function of teaching, that is, they do the teaching.

23 Interestingly, this idea is found in Comenius. The influence of Comenius can be seen in William Mackey, in his

the EFL student constantly has an alternative map available and competing with the target language (his first language) how can (or should) the teacher and materials designer take account of this?

2.3 Understanding failure to learn **24** Schema theory has implications for appreciating reasons for student difficulties in learning and student failure to learn. **25** The key to understanding learning failure, for Skemp, is that the learner has *failed to rearrange or develop new material into his existing understanding or 'schema'*. **26** For Skemp and schema theory, some sources of misunderstanding or failure in learning may be:

- *"The wrong schema may be in use"* (1986: 76-77) and *"The gap between the new idea and the existing schema may be too great (and the learner might say) 'You have gone too fast!'. The (solution) needed here would be to supply more intervening steps, thereby bridging the gap …* and … T*he (student's) existing schema may not be capable of assimilating the new idea without itself undergoing expansion or restructuring."*
- For Skemp (and he writes from his experience as a teacher), students resist developing their schemas: *"A schema (even a mistaken one) is of such value to an individual that resistance to changing it can be great and ... experienced as a threat, and responded to accordingly. ... Even if it is less than a threat, reconstruction can be difficult"* [and] *"if a (concept) is imperfectly understood, everything from then on is in peril"* (42 & 33).

2.4 Syllabus design for EFLT Materials and teaching clearly rely on the syllabus (or list of learning objectives) which the teacher works from, and given the above pedagogical implications for mathematics education of schema theory, one might derive implications for EFL learning syllabus design, and materials production, as follows:

- in order to be consistent with what has been proposed above, a syllabus needs to progressively establish a secure foundation for the work which will follow (to allow assimilation rather than accommodation);
- a syllabus should be designed in terms of small, manageable incrementations (to allow assimilation);
- new items selected by the syllabus designer need to allow the student the possibility of assimilating that new material to what he already knows, that is, to his existing schemas.

It seems to follow from the above implications that a grammatical or structured syllabus (and which works from an understanding of a language as partly an inter-connected symbol system) is very helpful for the student in building his schemas or maps of the language, firstly, because established understandings form a foundation for future work. Secondly, such work can be more easily assimilated to an inter-connected network than it can be assimilated to a less

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influential Language Teaching Analysis (1967: esp. p. 204, and in the rest of his important ch. 7). [Comenius, John Amos, The Great Didactic Part 1, Introduction. (1896, 1910, 1967). Translated into English and edited with a biographical, historical and critical introduction by M.W. Keatinge.) Russell & Russell, New York.] See esp. pp. 122-135 & 142-147 of the 1967 edition for Comenius's principles of teaching, which were derived from from practical experience of teaching and of working with teachers. In this way, he presents a first systematic and influential general learning theory, based on classroom work.

[24] This sub-section is expanded in section 3 below. Ideas here were introduced in my (2016: sec 3).

[25] It is beyond the scope of this essay to argue that a schema theory of learning is compatible with an understanding of enquiry and learning as proposed by John Dewey (his theory of enquiry is presented in my 2017). However, the idea of developing or abandoning a schema on the basis of new evidence seems to have a parallel with the idea of an enquirer developing or abandoning an hypothesis or provisional knowledge claim, as new evidence become available. Other parallels between schema theory and Dewey's theory of enquiry can be argued for, for example: that some problem or doubt or threat to existing and provisional understanding is a starting point for learning is found in both Dewey's enquiry theory and schema learning theory. This idea is also compatible with the idea that, whilst one cannot make certain claims to 'knowledge', we can identify, through scrutiny against evidence, where knowledge claims are faulty or incomplete. A seminal implication of these complex parallels between understanding learning and understanding the growth of knowledge may be that the latter can provide a route to understanding the former. This is an unexplored implication (so far as I know), but a clear one, of Dewey's work on learning and on enquiry, (Dewey 1910, How we Think).

[26] For Skemp, *"To understand something means to assimilate it into an appropriate schema"* (1986: 43). Also see (ibid: 31-33.

structured command of language (as in language learned, for example, from a phrase book). From this it follows that teaching form and structure may be more helpful, for some aspects of language learning, than communicative or functional syllabuses. While the latter may often have a more immediate practical value, they cannot be easily be built on, so allowing the student to develop his English schemas.

2.5 An early and seminal paper by Richard Skemp (1962) offers an interesting footnote to the above. He noted that schema theory (he cites Piaget 1950) had been neglected in mainstream education **27** , and he drew attention to the neglect of schema theory by even a standard textbook on learning theories. **28** Skemp went on to apply schema theory to mathematics learning (1971, 1986), but pedagogical implications of schema theory have not been discussed and explored, so far as I know, in the EFL literature. **29**

This may be because: firstly, EFL educators were unaware of developments in mainstream education and especially in mathematics education; and because secondly, at about the time theory schema was being first discussed, behaviourist and other learning theories dominated educational psychology (although Ausubel [1968: ch. 15], presented schema theory to educators in the USA). Also, the reaction against behaviourist theories of learning (and which focuses on the *individual* learner), was replaced by theories of language which emphasise *social* aspects, and this came to dominate discussion in British EFLT, and the content of some Masters' courses. Specialists in second language learning (in the UK) often did not study *general* learning theories, but preferred to begin from theories of *language* learning (and which seem neither to draw on educational psychology, nor on general theories of learning). **30**

Arguably, as a consequence, mathematics education, with its feet generally on the ground (apart from the excursion to 'new maths'), and influenced by Skemp (1971, 1986), drew on schema theory, and explored its implications for pedagogy and materials. But schema theory did not influence TEFL. Nevertheless, experienced teachers and materials writers (eg, Robert O'Neill, Michael Swan) perhaps drew indirectly from schema theory, and applied it in their work. The climate of opinion in TEFL (at least, in the UK) in the 1980s and after, and which sometimes mistakenly equated any structured or repetitive work as 'behaviourist', allowed frankly ideological socio-cultural theories on language learning (not 'stress-tested' for those secondary classrooms where the greatest learning problems occur), to dominate UK EFLT conference agendas. The individual learner, which schema theory starts from, was relatively neglected.

2.6 The broader context of Skemp's work in learning theory

Although it goes beyond the scope of this study to discuss the work of Jean Piaget, since Skemp draws on Piaget's concepts of assimilation and accommodation, a summary of one relevant aspect of Piaget's work can place Skemp's work in a broader context. A central theme in Piaget (1950), concerning the growth of knowledge or learning (after childhood) is that 'learning' - or coming to know - can be understood as a response to problems, challenges and difficulties presented by the environment. Sometimes the learner (as with all organisms) will be content (in a primitive way) to simply find a workable equilibrium which removes the problem ('adaptation'), but *the more adventurous learner* may look for creative (and experimental) routes through the problem, resulting in a fresh perspective, understanding and attempted resolution of the problem. There are, thus, two kinds (at least) of 'learning'.

For Piaget learning, of whichever kind, is *not* an accumulation, nor based on some stimulus-response model, but for him learning is rather a *restructuring* (or reorganising) of new experience to what is already known. There are similarities here with John Dewey's understanding of learning (that is, the growth of knowledge in an individual), and which is due to their common debt to Kant, who argued that what we bring to new experience (in the form of previous knowledge claims and assumptions) may be as important as the new experience.

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27 Skemp suggests that Piaget (1950 may have been neglected because of the book's difficulty, and its misleading title. The book has been reissued by Routledge. Piaget's thought (apart from his work on child development) seems not to be generally well-considered in the English-speaking academy. See Skemp (1962: 140) where he lists advantages of schema theory. See von Glasersfeld (1982 & 1995: ch. 3).

28 The textbook is the well-selling (in the USA) Hilgard, E.R. & Bower, G.H., (1958, 1975, 4th edn.), Theories of Learning, Prentice Hall [esp. pp. 22-29; 35; 58 (with clear sections on Thorndike's (now challenged) principles; 252-261; 274; 282-85), and on Dewey's influence [423; 456-57 & 608-09]. But even in this fourth edition schema theory is not discussed.

29 Vivian Cook [2001: 89-90] cites research from the 1980s (without offering a discussion) on employing schema theory in teaching reading. See Oxford (2011: 48) for a summary of schema theory, (although without discussion of pedagogical implications).

30 I develop this criticism in section 4.3 below.

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SECTION 3 MORE WORK IN MATHEMATICS EDUCATION ON UNDERSTANDING LEARNING DIFFICULTIES

My reason for presenting schema theory - in the context of trying to understand student learning difficulties and failure - is that schema theory provides many insights into the *understanding of, anticipation and prevention of student learning difficulties.* If, in addition, my argument is accepted that there are sufficient similarities between mathematics and EFL learning to allow us to compare the two, then work on student failure in mathematics classrooms which draws on schema theory, may be relevant for EFL teaching, learning and materials. So, in this section I report on some more work in mathematics education which, trying to understand student problems and difficulties in learning, indirectly or directly, draws on schema theory. **31**

3.1 Understanding 'mistakes' David Kent and other mathematics educators have tried to understand their students' learning problems, and to do this, they start from their *students' standpoint.* Kent (1978 & esp. 1979) was a career classroom teacher, and his insights are interesting because of his approach: as a teacher helping individual students with their problems, and using their written work as evidence, he tried to "get inside his students' heads" in order to understand their learning problems. He writes *"mistakes are a source of learning about the thought processes of others"* and *"any mistake made by a child (is) an invitation to explore the universe of the learner".* He concluded that a 'mistake' can derive from different sources: **32**

- mistakes may arise from an underlying *conceptual confusion* about the work being done;
- more difficult for the teacher (and student) to resolve, a student may be confused in two areas at the same time, with one confusion masking the other;
- the student *misunderstands the problem* to be addressed.

Kent writes that conceptual confusions in the mathematics class *"are nearer to the rule than the exception".* This was my experience, also, of teaching mathematics: students, when they first see new material, are normally puzzled, they don't 'get it', and a successful maths lesson for a learner is defined by finding a way through that confusion. Some temporary confusion and failure is normal.

Often, not knowing the problem (or cluster of problems) which a student has (and different students may have different problems!), the teacher does not see how to best intervene to help a learner who has asked for help, or to help a class who are clearly 'lost', and consequently *"the teacher will often start the explanation at the wrong place and finish at a point which the (learner) cannot comprehend ... and (this) will only serve to confuse and alienate (learners) even more".* For Kent, a learner may lack the operating ability to advance to the next concept. This acts as a block to further development – and there may be other kinds of blocks to the student moving forward. He writes: *"Before a teacher can hope to come up with solutions to the misunderstandings and false images which children create, it is obviously necessary to know what any particular child is doing wrong at a particular time"* If you don't know what the child is doing wrong – at a conceptual level – then the teacher cannot help the student to move on.

Work on understanding mistakes raises the question of correction, and of how far should a teacher explain to a leaner where he is going wrong, and point out the root source of his mistake. In my three years of secondary maths teaching most of my time during a lesson, when students were working on their own, was given to looking at individual student written work, pointing out mistakes, and helping the student understand why he had made that mistake (although I normally waited for students to ask for help). I also looked at their work at the end of each lesson, and identified for them their mistakes. **33** Without this feedback, maths students simply do not know how well they are progressing, and in my experience of teaching maths, students will make very little progress if their mistakes are not pointed out to them.

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[31] Some of the reasons for student learning problems given by mathematics educators here do not draw from schema theory: I do not suggest that schema theory has a monopoly on understanding student learning problems.

[32] Kent's (1978 & 1979) have a refreshing realism about them: they do not refer to theory, but only to what he observed in his classrooms. Kent (who taught at Belper Grammar School, UK) cites no sources from the academy, and although he was probably influenced by schema theory, his insights directly derive from looking at and trying to understand his students' written work and mistakes. They are unusual papers in that they *are reports from the classroom*. His method of enquiry into his students' learning (discussed in secs. 4.1 & 4.3 below) may have lessons for how one investigates and understands second language learning.

[33] Research in education on detailed correction of students' written work has shown that time spent on 'marking' is a poor use of teacher's time, as student do not look at the teacher's corrections but only at the mark or grade given. What is important for maths learners is that the teacher has looked at their work, and has demonstrated interest.

When I taught EFL to adults, in one-to-one teaching, I wrote mistakes down, after asking the student if he wanted correcting. The student invariably wanted me to do this, often saying, *my teachers didn't tell me what my mistakes were before*.

Knowing that he has made a mistake can be an entry point for a lower-level maths learner to retrace his steps and reorganise his understanding. For stronger maths learners, identifying a mistake can open a way for him, pro-actively, to ask himself (without asking for help) where he is going wrong. All maths students, if they know where and why they have gone wrong, can then try to work out (*for themselves,* and so consistent with a schema theory of learning), where a previous 'schema' or understanding was lacking, and can then *reorganise* understanding of that topic. I found, in maths teaching, that the most helpful way to work with any confused student was to give him information about his mistake, sufficient to allow him to work out *the rest of the reason for the mistake himself.* This is then followed by more practice on the same problem area, allowing the student to confirm for himself his improved understanding, as he sees that his new understanding works, this confirmed by getting a tick in his book, and receiving a good mark from the teacher. **34**

Fixation Trying to understand what, under the surface, leads to mistakes, Kent observes that children may rely on habits "*that actually prevent further mathematical growth".* In other words, new learning may be impeded by an earlier and well-established idea, and so a student can fall back to safety, adapting to security rather than experimenting and taking risks and looking for new *routes or pathways.* The problem with well-established pathways and habits is that they worked in the past for the learner. Kent observes that many students prefer to fall back to what has already seemed to work for them, and writes "*the habits of a lifetime predominate ... and bad habits are difficult to get out of"*.(1979: 24). **35** He is making the simple point, observable in a maths classroom, that many students try to avoid seeking out new ways and new routes, and when facing a problem, they look for safety, and will use what has previously worked. However, maths is constantly building on what was earlier grasped, and old ways may not work for new difficulties.

For Skemp, concepts are learned more slowly by young people than often thought, with the the risk that a teacher may move too quickly through material, meaning that foundation concepts and schemas are not learned. Here is a key explanation for learning failure, extremely common in both maths and EFL classes, where the teacher is under pressure to cover material. Typically, material presented is not mastered by weaker students, who need time to learn and apply new concepts, and so the material must be gone over again the following year, and perhaps again the year after that. **36**

Other elementary and superficial sources of mistakes may be simpler to understand and remedy: lapses in concentration by the student; hasty reasoning [not double-checking reasoning or answer];
memory overload; and failure to notice the salient features of a situation. In other words, some underlying 'misunderstandings' or conceptual confusion may be only one source of 'mistakes'.

However, an apparent 'mistake' may not be a mistake at all, but a quite consistent manifestation of a student's provisional interpretation or misunderstanding, and Malcolm Swan writes (2001: 150) *"Pupils seem to create their own alternative meanings of mathematics in spite of what they are taught".* Swan adds that 'mistakes' are normal in the longer-term mathematical learning process, and adds that sometimes a misconception is a necessary temporary phase. And Kent writes: (1978) *"with serious mistakes, children have sometimes (done something) in order to make progress".*
Further, Orton writes, *"students (perhaps) do not remember material exactly as it was taught ... they construct their own meanings (and) retention involves an active process of reconstruction".* (1992: 28). This implies that learning difficulties may not be caused by failure to absorb all that was taught, but that rather these difficulties are caused in the *reconstruction* of knowledge. **37**

3.2 For Skemp (1986 83), in order to *anticipate* failure, a student's foundation processes (which rely on elementary schemas and concepts being established in a student's mind) need to:

"become automatic, thus freeing our attention to concentrate on new ideas which are being learnt -

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[34] During the maths lesson, a teacher will often give different levels of work to different students, to allow each to to work at an appropriate level on reorganising (or confirming) his understanding. (See Appendix A of my [2016], 'On differentiation of level of materials'.) The strongest students seem to 'learn' rather differently: they look for alternative routes and pathways in order to solve their problems. (That idea is from Piaget)

[35] The learning theory drawn on here (which tries to understand habits) is related to 'fixation'.

[36] I develop this discussion in [4.2] below, on symbol learning.

[37] I do not refer to the extremely complex topic of memory and recall in this study.

which, in their turn, become automatic ... (Also, we need to) distinguish between routine manipulations and and problem-solving activity, and unless the former can be done with minimal attention, it is not possible to (transfer these skills to solving fresh problems). The same is true of any skill (but purely) mechanical manipulation ... is not mathematics"

Concerning anticipation of learning problems, Skemp writes: (1986: 48):

"The central importance of the schema as a tool of learning means that inappropriate early schemas will make the assimilation of later ideas much more difficult ... "

The second language student is, of course, working with an 'inappropriate early schema': his own first language, which comprises his understanding of what language is. The problem of EFL teaching and of materials design and selection is perhaps largely the problem of how to move the student away from that well-established schema. **38**

An implication for understanding the student's difficulties and mistakes, argued above and which arises from Skemp's learning theory, is as follows, and concerns student resistance to changing schemas. Skemp argues (ibid: 42-43 & 48) that whilst a condition for learning is that existing and inappropriate schemas will need to be restructured (and this perhaps involving abandonment of already-established schemas), however, invariably learners do not like doing this: it makes then feel insecure. This means that the EFL teacher may meet resistance and defences to new ideas and concepts, and to new learning. This may partly explain why, for many learners, they do not progress beyond a certain point in a given area. The teacher's work is, somehow, and to repeat, to help the student construct early appropriate schemas rather inappropriate ones, meaning that major reconstruction work ('accommodation') will not be required later.

SECTION 4

SOME IMPLICATIONS OF WORK IN MATHEMATICS EDUCATION FOR UNDERSTANDING AND INVESTIGATING FAILURE IN EFL LEARNING

4.1 The method of enquiry of Kent and maths educators: lessons for SLA studies?

The mathematics education investigators cited above try to understand the *internal processing taking place in learning.* But can one, perhaps partially, understand what is going on 'inside the head' of a confused or failing student, who makes mistakes, looking at his written work for evidence? My experience is that any such insights can be very helpful for the teacher and for practice, and that work on this is needed in EFLT. A study of mental processes may go against some conceptions of what 'research' can achieve – but perhaps these conceptions need to be revisited. (See page 44 of this issue of *Radical TEFL*). A feature of the work of these mathematics investigators lies in the kind of questions they ask: they are looking for insights which can be put to use in helping their students, rather than answers in a more general sense. There is a very close interaction between theory and practice, with feedback from the one to the other. (See page 40 of this *Radical TEFL*).

Thus, an interesting subsidiary issue, and arising from the above work in mathematics education, is to note the way in which mathematics educators have approached their problems, that is, their methods of enquiry into student learning, and the presuppositions which they bring to their investigations. We have noted, first of all, an emphasis by mathematics educators on focusing on failure, and evidence from 'mistakes', as entry points to understanding learning, and we note their constant reference to pedagogical implications of their insights. **39**

We note that Kent uses the student's written work as evidence for learning (or mis-learning) processes, writing *"(we need to) examine the thought processes of a child and to share his or her mode of perception"*. Admittedly, student learning processes are easier to observe in maths learning than in learning to speak a second-language, as maths students write down each stage of their thinking: their wrong turnings can be used as evidence and entry points for reconstructing their thinking. But in Kent's searching for his student's underlying learning problems we see an investigator into learning **drawing evidence from his teaching experience**, and reading his work one feels that he is close to the student and his difficulties. Kent is especially interested in diagnosing and understanding the student's problems *in processing during learning*, and which, he believes, underlie the surface mistake. He assumes that without an understanding of the student's problems in this respect it is difficult to see how to help him. He is surely correct.

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[38] In my experience of living in Poland, people with a Slavonic language have relatively little difficulty in moving to another Slavonic language, perhaps because the schemas are similar. So, if we follow schema theory, they can easily 'organise' or assimilate new input with their previous knowledge of language, whilst moving from Polish to English does not allow such easy integration. Here, the student needs to do more difficult 'accommodation' work.

[39] For work on methodological issues in enquiry in the social sciences and education, see especially the work of Martyn Hammersley. I have given citations of some key work by him in the bibliography of my (2017, e-version only). Work in SLA studies seems generally unaware of some methodological problems raised in its enquiries, nor do these studies draw on work by specialists in method such as Hammersley, and which could offer SLA many insights and warnings. By comparison, other academic fields such as History and Physics have an extensive literature on issues and problems of method in their enquiries.

This proximity to students' problems and difficulties, and to actual processes of learning, is also the case with many other mathematics educators, who often spent years teaching secondary-school mathematics before entering the academy. By having this experience of observing learning at first-hand they became experts on learning, as well as being obliged to ask themselves why learning didn't take place*:* They became specialists on failure to learn, and a good career teacher - whose students often fail before they succeed - asks herself continually, *Why did a student fail at this point? What can I do to help him move forward?* This feeling of the writer of an article or book on mathematics learning being close to her student's problems and difficulties is a recurrent feature of the mathematics education literature which I have cited.

4.2 The role of symbols in maths and language learning

I suggested above (sec. 1.1, point 1) that English and Mathematics **are both languages**, *"an artificial system of signs and symbols"* (Chambers Dictionary)**.** Now, Skemp, drawing from the American educational psychologist Jerome Bruner, claims: *"It is largely by the use of symbols that we achieve voluntary control over our thoughts",* and he writes:

> "*English and mathematics have both been described by Bruner as a 'calculus of thought', and it is their symbol-systems which make them so. Without an appropriate language, much of the potential of human intelligence remains unrealised".*
>
> (Skemp 1986: 78, 87)

If Bruner and Skemp are correct, it follows for pedagogy and materials that their role is to introduce this symbol system to students of mathematics or of English, for without the symbol system the student is not equipped to master those subjects. And for Skemp and followers in mathematics education, following his schema theory, the symbol system needs to be introduced in some graded, systematic and controlled way. This is consistent with schema theory, as argued above.

Following this idea, where may learning difficulties arise? In mathematics learning, Gray (2002: 209) points out that different symbols may have different meanings for different learners, or a symbol in mathematics can mean different things to the same person at the same time. An example of a symbol in learning EFL would be the ...s at the end of the word, which a student might interpret as indicating he is seeing a plural form, or a possessive, or which he might understand from seeing this sign that the third person singular is being used. How is the perhaps already-confused student to know?

There are many such multiple-meaning symbol words in English. Other examples are the multiple-meaning words and particles 'yet'; 'do'; 'have', and 'are'. Worse for the student, many of these multiple-meaning words and particles occur at the beginning of a language course, where the student is looking for safety in translating. But he is told that there is no one-to-one translation for these problem words. Since the student does not know which particular meaning (from a variety of meanings) the word, for example, *'have*' has, **40** when asked to learn and use this word, he has two problems: firstly he does not even have a starting point for addressing the problem, and
secondly, he does not know on what prior knowledge within his second-language repertoire he should be drawing from. **41**

The beginner student, or the insecure student, will typically refer to his first language for help, but this will not help if there is no one-to-one correspondence between the new concept (eg, ….s at the end of a word, or the continuous concept) in his first language. The result is a student who fails to understand material being presented, and so, as his course progresses, fails to establish the basic 'building-block concept', and so has nothing on which to build on later. [42]

Our beginner EFL learner, feeling insecure and looking for safety, often seems to search for *analogies with his own language*, that is, a student looks for understanding of a new difficulty by looking for help in his first language (which is done by looking for a translation) in the hope that there is one-to-one correspondence to be found. If the student thinks he has found an analogy through a one-one correspondence (a translation) he may believe that his problem is solved, but it is known that the insecure second-language learner will often too easily move to 'premature closure' (Ausubel

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[40] See Roger Kingdom, The Troublesome Verb "to Have" (ELT Journal [1950], **4**, pp. 156-63, to appreciate the student's difficulties with finding his way through the multiple meanings of the word '*have'*.

[41] According to John Dewey's theory of enquiry, since learning starts from a clear problematic situation, we cannot begin to enquire (or learn) unless our problem is clear. It follows that a student who misunderstands the problem to be addressed (or who 'mistakes' his problem) is handicapped from the start. See my (2017: sec. 1), where I summarise Dewey's thinking on this, or see Dewey's Logic; The Theory of Enquiry, (1984 edn., pp. 109-112).

[42] See Carroll [1964] on the learning of concepts in EFL. An extremely interesting paper, and perhaps a good example of an eclipsed tradition in TEFL which tries to understand the learner's learning problems.

1968: ch 15), and all he may have achieved is a faulty foundation for future learning in that area of the language (for example, the tense system used for past events). That student is on the way to failing, or at best, to a broken-style fluency, with mistakes that will become fossilised with use.

4.3 What else can enquiry in TEFL/SLA learn from the methods of mathematics enquiry?

a) Firstly, investigators in mathematics education who I have cited are clear about their standpoint. Orton (1992: 6), describes his approach to understanding the learning of mathematics: *"First, we take a look at the problems from the child's point of view, to see what is being learned and how thoroughly".* These mathematics educators try to enter into their individual students' understanding, to understand their successes and problems. As one reads these mathematics educators, it is almost as if we see them sitting next to a student as he learns, with the investigators learning from the student's progress and difficulties. This is perhaps a more helpful approach to understanding learning and learning problems than controlled empirical enquiry, whose methodology sometimes relies on 19th century scientist thinking, and on unexamined assumptions about enquiry. **43**

b) So, these maths investigators focus on how the *individual* learner makes sense of material as he learns – or how he fails to learn. Skemp's work starts from the individual student, as does Orton's, who writes, drawing on schema theory, and stressing the individual nature of learning: (1994: 46, my emphasis)

> " *whatever the value of groups methods ... for many children, learning remains a very individual activity ... In the last resort ...(children) will only understand when ... understanding comes from within (and) fits in and makes sense ... (and) when the result has a firm place in the connected network of ideas in the mind"*

c) This penetrates to a root problem in EFLT, in its attempts to understand second language learning: such work often does not start from the learner's standpoint**.** It often starts from theories and assumptions about language and of communication. Interestingly, in some work of the generations before us within TEFL and second language learning, there seems to be an underlying assumption that the individual was on his own. For example, Spolsky writes (1989: 221):

> *"Second language learning is essentially an individual process, however much it is socially relevant and derived (and language) ultimately exists in the brain and mind of each individual speaker"* .

Although social factors were neglected during that earlier period (which ended about 40 years ago) an arguable over-reaction towards social contexts in ALLT since that time may have masked and neglected the importance of investigating and understanding individual learning processes.

d) A further interesting lesson, for enquiry methods into EFLT, is that mathematics educators start from the question *What is learning?,* and not, *What is mathematics learning?* They look for and start from a general learning theory and, only then, apply it to their field. By starting from a prior general learning theory (schema theory), uncontaminated by assumptions about the nature of mathematics, they are then able to more securely address the question, "Why do students fail to learn mathematics?".

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43 This is not to suggest that 'subjectivist' approaches (eg, ethnographic approaches) will solve methodological problems in enquiry, as they may raise fresh problems, for example, such approaches to investigating the classroom may lack a reflective or scrutinising stage, without which knowledge claims are insecure.).

4.4 Summary of my argument and conclusions
In this study, drawing from work using schema theory as reported on in mathematics education:

1. I have drawn on a claim (sec. 1) that there are sufficient similarities between some aspects of mathematics learning and some aspects of EFL learning to allow an argument, by analogy, that EFLT can therefore, as maths has, make use of schema learning theory.
2. I have argued (sec. 2) that Richard Skemp and others made a convincing case for the application of schema theory in understanding mathematics pedagogy and materials, and for understanding some reasons for student failure;
3. At a more general level I conclude that (sec 4) , since mathematics education seems to have studied and drawn on learning theory and educational psychology more than we in EFLT have, so by studying both the methods used by maths educators in their investigations, as well as their conclusions, we can perhaps :
    - learn from their enquiry methods for developing our learning theories;
    - learn from the work and 'mistakes' of *individual students*, as an entry point to understanding learning processes, and the breakdown or failure of these processes.

Secondary mathematics and EFL teachers require theories of learning which are helpful in the concrete situations in which they work, and I have argued that schema theory, given appropriate conditions of materials and pedagogy, is a theory which 'fits' with difficult maths teaching and learning conditions. The insights and conclusions about student learning difficulties offered by schema theory are consistent with my own experience of teaching secondary-school maths. I conclude that since schema theory succeeds in understanding and addressing pedagogical issues related to learning failure in some secondary maths classrooms, and since secondary maths and EFL learning have many similarities, then we are entitled to propose that schema theory might help us understand, anticipate and address failure in some aspects of EFL secondary-school learning.

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BIBLIOGRAPHY AND OTHER SOURCES
A full bibliogrpahy for references and citations in the text is given in the e-version of this article, and which is available as a free download at *http://radicaltefl.weebly.com* . My main source for this study, however, is experience of teaching secondary-school mathematics.

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Alistair Maclean studied Physics, Chemistry and The History and Philosophy of Science, and graduated in Philosophy. He taught Mathematics in secondary schools in England and secondary EFL in Poland, and also worked with pre-service and in-service EFL teachers. He lived and taught in Poland for 20 years, and edited *The Polish Teacher Trainer*. *Radical TEFL* is his retirement project.

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BIBLIOGRAPHY

I found the following texts (or extracts as cited) helpful and relevant in preparing this study. Many of the books cited are available cheaply second-hand on Amazon. The easiest and fastest way to follow up this bibliography and the bibliographical footnotes cited in the text is to spend a few days at the extraordinary Welsh National Library in Aberystwyth, which is open to anyone with ID and a UK address. It is almost empty outside term-time, with a wonderful

working atmosphere. Go to www.llgc.org.uk for the library catalogue, or telephone 01970.632800.

Ausubel , David (1968), Educational Psychology: A Cognitive View, Hart Rinehart, for ch. 15, The Acquisition and use of concepts.

Calderhead, J. (ed)(1987), Exploring Teachers' Thinking . Cassell

Carroll, John B., (1964), Words, Meanings and Concepts *Harvard Educational Review*, **34/2.** On teaching and learning vocabulary concepts in a first language language. An implication is that the learner does not need to 'learn to learn' concepts, again, in a second language.

Claxton G (1996), Liberating the Learner, for ch. 4, which is: Implicit Theories of Learning. Routledge. An attempt to understand 'learning'.

Cook, Vivian (2001: 89-90). Cites research from the 1980s (without offering a discussion) on employing schema theory in teaching reading. [Full reference not traced.]

Cooper & McIntyre D (1996), Effective teaching and learning: teachers' and students' perspectives, pp. 22 & 76

Ernest, Paul (ed)(1994), Constructing mathematical knowledge: Epistemology and Mathematics Education.

Ernest, Paul (ed)(1994), Mathematics, Education and Philosophy, Introduction, for paper 15 by John Mason: Enquiry in Mathematics and Mathematics Education

Frobisher, L, Problems, Investigations and an Investigative approach, in Orton & Wain (1994). esp. pp. 160-65. On problem-solving in mathematics learning, and this paper also usefully identifies some processes which are employed in learning maths. (There are echoes of Dewey's understanding of learning as processing, see Dewey [1916] 'Essay in Experimental Logic', chs. II & VI.).

Gass, Susan, (1988), Integrating Research Areas: A framework for second language studies, *Applied Linguistics*, **9/2** Very interesting on some issues on the processes of language learning, but nothing on the pedagogical implications of these issues.

Gates, P, (ed)(2001), Issues in mathematics Teaching, RoutledgeFalmer

Glasersfeld, Ernst von (1982), An interpretation of Piaget's constructivism, *Revue Internationale de Philosophie*, **Annee 36**, pp. 612-635. Von Glaserfeld describes the influence of Piaget on his own understanding of the learning process.

Glasersfeld, Ernst von (1991)(ed). Radical Constructivism in Mathematics Education. Kluwer Academic Publishers.

Glasersfeld, Ernest von (1995), Radical Constructivism: A Way of Knowing and Learning, A full statement of his thinking on constructivism. See esp. ch. 2 [philosophical-historical context]; ch. 3 [on Piaget]; & ch. 10 [practical implications].

Goulding, M (1999), Pupils Learning Mathematics, in Johnston-Wilder, Learning to teach maths in the seconrdary school

Gray, E., Processes and Concepts as false friends, in Tall D & Thomas (ed)(2002). On understanding children's misconceptions in mathematics learning. (Gray was one one of a several mathematics educators [with David Tall] from the University of Warwick Mathematics Education Research Centre, who built on Richard Skemp's work there.)

Hager P & Hodkinson P, (2009). Moving Beyond the Metaphor of Transfer of Learning, *British Educational Research Journal*, **35/4**

Hill, C., (1997), Assimilation versus accommodation: A Piagetian view of Difficulties encountered in mathematics by Undergraduate students, *Mathematics Education Review,* **9**

Howard, Robert H., (1987), Concepts and Schemata: An Introduction, Cassell Education. In **ch. 3** he presents the idea of schema, and in **ch. 11** he derives, from the theory, pedagogical implications. This book was endorsed by Richard Skemp.

Illeris, Knud (2006), How we Learn, Routledge. From mainstream education. See ch. 9 on barriers to learning.

Jaworski, Barbara (1994), Investigating Mathematics Teaching: A constructivist enquiry, Falmer Press. Ch. 2. On the use of constructivist learning theory in a school subject.

Karpov, Y.V., (2014), Vygotsky for educators, CUP. Ch. 10 for a critique of constructivist instruction. [But Karpov and Vygotsky refer mainly to social constructivism, and not to constructivism in individual learning processes.]

Kent, David (1978), Some Processes through which Mathematics is Lost, *Educational Research*, **21/1**, pp. 27-36. Kent, a mathematics teachers, learns from the 'mistakes' of his students about their thought processes. Developed in Kent (1979)

Kent, David (1979), More about the processes through which Mathematics is lost, *Educational Researcher,* **22/1**. **Key**

Kingdom, Roger (1950), The troublesome verb 'to have', *ELT Journal*, **4**, [pp. 156-63].

Kitchener, R.F. (1986), Piaget's Theory of Knowledge: Genetic Epistemology and Scientific Reason,, Yale University Press

Larcombe, Anthony, (1987), Mathematical Learning Difficulties in the Secondary School: Pupil Needs and Teacher Roles, Open University Press. Draws on Skemp, and see ch 4, esp. pp. 33-43, *The Development of Concepts*

Maclean A.L (2016), What is Teaching Speaking?, *Radical TEFL, **3***. Download at *http://radicaltefl.weebly.com* . Part 2 presents some work on schema theory, and Part 3 summarises some pedagogical implications.

Maclean A.L (2017), Reconceiving 'Teacher Research' with the help of John Dewey's Theory of Enquiry, *Radical TEFL,* **4**. Download at *http://radicaltefl.weebly.com* .

Maltby, Gage & Berliner (eds)(1995), Educational Psychology: An Australian and new Zealand Perspective, John Wiley, pp. 267-72; 281-83; 289-91 & 298-306.

Mason, John (1994), Enquiry in Mathematics and in Mathematics Education, which is ch. 15 of Ernest (1994). Includes an overview of some issues in researching mathematics education. Mason is a leading authority on mathematics education.

Mason, J. & Johnston-Wilder, Sue (eds)(2004), Fundamental Constructs in Mathematics Education, RoutledgeFalmer / Open University. A survey of work on mathematics learning. See: [37-55; 92-94; 150-157; & 294-95; 302-04]; and esp see [**280-81]**, which quoting from Dewey's How we Think, gives a **key** entry point into Dewey's understanding of the conditions for learning.

Nuttall, Graham (2004), Relating classroom teaching to student learning: a critical analysis of why research has failed to bridge the theory-practice gap, *Harvard Educational Review,***74/3**. (See especially pp. 273; 291-292; 295 & the final sentence)

Ollin, Ros (2008), Silent Pedagogy and Rethinking Classroom Practice: Understanding teaching through Silence rather than Talk, *Cambridge Journal of Education,* **38/2**, pp 266/267; 268; 271/72

Orton, A (1987), What cognitive demands are made in learning mathematics?, which is ch. 3 of Orton, A (ed) (1987, 1992 2nd. ed), Learning Mathematics: Issues, Theory and Classroom Practice, Continuum. (Also see chapter 9, drawing on learning theory by David Ausubel , Is there a theory of mathematics learning?)

Orton, Anthony, Learning mathematics: Issues, Theory and Classroom Practice, (1987, 1992, 2nd ed.), Chs. 1, 3, & 9 Continuum. A discussion of how learning theory from David Ausubel and from constructivist learning theories may be relevant to understanding mathematics learning, as well as helpful in understanding problems and failure in mathematics learning. [With different pagination in 1987 and 1992 editions]

Orton, Anthony, (1994), Learning Mathematics: Implications for Teaching, which is ch. 3 in Orton & Wain (1994)(eds)(pp. 35-57), Issues in Teaching Mathematics, Cassell

Orton, Anthony and Wain Geoffrey (eds)(1994), Issues in Teaching Mathematics , for ch. 3 by Orton

Oxford (2011: 48), for a summary of schema theory, but without discussion of pedagogical implications. [Full reference not traced.]

Piaget, Jean, (1950), The Psychology of Intelligence, Routledge, esp. pp. 4-8; 36-44 of ch. 2; 63-66; & pp 12-109 of ch. 4. The concept of assimilation is presented. A dense book. Piaget argues for two kinds of learning: at early stages it is 'adaptive', and at more sophisticated levels it is often an 'experimental' enterprise.

Piaget, J., (1970), Genetic Epistemology, Columbia University Press, esp. pp 1-7; 15-19 & 77-78.

Polya, G, (1945, 1957 2nd. ed), How to solve it, esp. for the Introduction by Ian Stewart, which gives a clear summary of the ideas in Polya's often-cited book. (Stewart, together with Skemp, Gray and Tall taught at the University of Warwick)

Simon, M., Constructivism, mathematics teacher education, and research in mathematics teacher development, which is ch. 14 of Steffe & Thompson (eds)(2000). Tries to understand the maths student's learning processes.

Skehan, P (1998), A cognitive approach to language learning, OUP, pp 1-7; & **263/265**

Skemp. Richard R., (1962), The Need for a Schematic Learning Theory, *British Journal of Educational Psychology*, **32**, pp. 133-42. Skemp notes that Piaget's schema theory of learning (Piaget 1950) was not, at that time, known about in Education, and had not been made use of in teaching school subjects. He followed up this paper with his (1971, 1986, below), introducing schema theory into mathematics education.

Skemp, RR, (1965), Understanding mathematics Book 2. This secondary-school mathematics course, in 4 volumes (4 school years), exemplifies Skemp's ideas on teaching and learning mathematics

Skemp (1976), Relational Understanding and Instrumental Understanding , *Mathematics Teaching,* **77**, pp. 20-26. Explores two meanings of 'understanding', in order to better understand obstacles to learning mathematics.

Skemp, R.R., (1979)[cited in Howard, 209, and elsewhere, but I was unable to trace this reference], Intelligence, learning and action, Wiley

Skemp, RR, (1971, 1986 2nd. Ed), The Psychology of Teaching Mathematics, Penguin. **Seminal**

book within mathematics education. Part 1. Short and accessible, outlines the theory of learning schemas. See esp. pp. 30 -50 & 73-87. **pp. 40-43 is key.** Richard Skemp (University of Warwick) was the chief influence of his generation on mathematics education.

Spolsky, B, (1989), Condition for Second Language Learning: Introduction to a General Theory, Oxford University Press, esp. see the Introduction, ch. 8 & 12 and pp. 221-222.

Steffe, L.P. & Thompson, P. (eds)(2000), Radical Constructivism in Action: Building on the pioneering work of Ernest von Glasersfeld, RoutledgeFalmer

Steffe, L.P, & Tzur, R., Interaction and Children's Mathematics, ch.2 of Ernest (1994). pp. 12/13 [argues against the primacy of starting from a sociological understanding of learning, as argued for by Vygotsky, and for EFLT, by Williams{1997}]

Swan, Malcolm (2001), Dealing with misconceptions in Mathematics, In Gates, (2001)

Tall, D. & Thomas M (eds)(2002), Intelligent Learning and Understanding in mathematics: A Tribute to Richard Skemp. For the paper by Gray.

Williams, Marion, (1997), Psychology for language teachers: a social constructivist approach, CUP, pp. 49-55; 143-55 & 174-77. Discussion is mostly at a general level about 'humanist' social constructivism. As with Karpov (2014) [above], in this sense an incomplete treatment.

Wilson,S.M, Schulman Lee S., & Richert, A.E. (1987), '150 Different Ways' of Knowing: Representations of Knowledge in Teaching, which is ch. 4 of Calderhead, J (ed)(1987)

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GETTING INSIDE THE EFL LEARNER'S STANDPOINTS AND LEARNING PROBLEMS

For the next issue of *Radical TEFL* articles are invited which explore, *from the learner's standpoint*, problems and difficulties in learning EFL {An introspective article from an EFL learner would be very welcome}. (Articles please for 30 September 2018. Please also see pp. 44 & 45)

(A) STARTING FROM THE LEARNER'S STANDPOINT

Can we understand EFL learning without entering into and starting from the learner's standpoint? Aren't the questions *'What is second language learning?*' or *'How does second language learning happen?*' premature questions? Do we first need to ask *'"What is a second language from the learner's standpoint?"* and *"What is learning from the learner's standpoint?"*

(B) TRYING TO UNDERSTAND LEARNING AS THE LEARNER SEES IT

What does a learner mean when he says or shows that he is puzzled or confused by new input or by new material? When he says "I don't see,", what doesn't he see, and what is he trying to tell us? What does he mean when he says "Now I see."? What does he see? Does he see how the new *fits in* with the old? How does he fit new information into what he has already established in his understanding? Do we need to know how he does this in order to help him?

If a language is, partly, a system, does the learner need to somehow construct or organise that system *for himself*? Do different learners see the English language system in different ways? Are their routes to learning it different? Does a student who grasps new material *see* the material differently from the student who doesn't: what are the differences in their seeing? How much can the student work out for himself? How far must the student solve his problems *alone?*

(C) WHAT IS 'UNDERSTANDING' AND 'LEARNING'?

In what ways are the learner's challenges in learning a mechanical skill different from challenges in bringing that skill into real-life use? How many kinds of 'learning' are there? Are different kinds of teaching needed for different kinds of learning? What is involved in 'understanding' EFL, what happens when someone understands? Has the learner *acquired* something new? Has the learner *organised* new insights or facts to what he already knew, as if he *finds a place* for new material?

If 'acquiring' EFL occurs in the sense of 'acquiring' new knowledge item by item, does this imply that earlier knowledge is *built on*? What happens here, what is the relationship between old and new knowledge? What if the earlier 'knowledge' is faulty? What can a learner do if he can't *fit in* or organise new information, or a new concept, into his existing understanding? What options are open to him? Reconstruct, rearrange what he 'knows' until the new information or new concept – *fits?*

Do differences in learner standpoints come from what the student already has available: prior knowledge, assumptions, and misunderstandings? What does a student *bring* to a learning situation? Strategies? Misconceptions? Low (or high) expectations of success? A good (or poor) grasp of necessary foundations? How do factors which he 'imports' into his learning situations make his learning more complex or less complex? He brings his first language – how can he know when he can draw from it and when he can't? What are the differences between L1 and L2 learning? What has already been learned in L1 learning, and so does not need to be learned again?

(D) APPRECIATING THE LEARNER'S PROBLEMS AND LEARNING STRATEGIES

In what areas of 'language learning' does the student have most problems and difficulties? What special problems and difficulties exist for him in each area? For example, where are the problems in bringing passively understood language *into use in real time?* Or, how does a student get started on learning some new material, or integrating new input to what he already grasps? Are learning processes for EFL the same for everyone?

Is a learner a kind of (experimental) investigator or explorer? Trying different paths? Looking for confirmation of where he is? Perhaps admitting he is lost and retracing his steps? Looking for safety when in danger - retreating? Looking for helpful analogies with similar situations and solutions from earlier learning? What is really going on inside a person's EFL learning?

(E) ISSUES IN ENQUIRING INTO LEARNING

In what ways can one investigate different kinds of 'learning' EFL? Is learning EFL, in principle, specifiable, or is it too complex to be understood in any complete sense? What are we looking for when we make claims about how learning occurs? A description? An explanation? A workable solution to some learning problem? Are we investigating a process? If learning EFL is a process, are there distinct stages in the process which can be classified, and which can be investigated? How does one enquire into a process (eg, learning) which is partly hidden?What are our starting questions – are they clear? Are we clear about our assumptions? How can we make use of insights and work in educational psychology to help our understanding of learning? Where is some literature on this to be found?

How can one stand back and scrutinise one's investigation? How can one enquire into a situation where there are multiple variables, or where variables may be interacting and influencing each other in real time, or where variables and concepts have not been defined or clarified, or where these meanings are not generally agreed on? What are the sources of experimental bias in investigating learning? Is the observer of learning entitled to assume that students are doing their best work, or their typical work? How can sources of bias be dealt with?

(F) RECONCEIVING OUR APPROACHES TO INVESTIGATING LEARNING?

The ways in which learners relate to each other and to the teacher has been explored in the literature, but don't we need more insights into the learner *as an individual learner?* For example: what is going on as an individual learner *interacts with* learning materials? How can this interaction be investigated? Does the academic EFL literature not over-emphasise social and cultural-environmental factors in learning at the expense of psychological-cognitive factors? What can we learn from typical EFL classrooms? Is a 'scientist' approach to investigating learning appropriate - what does it leave out? Where is some work and discussion within SLA studies on issues of methods of enquiry into learning? Who investigates the investigators?

Alistair Maclean / April 2017

RADICAL TEFL, 5, March 2018

ARTICLES WANTED !!

COMPETITION FOR ENGLISH TEACHERS !!

WIN 7 NIGHTS IN A YOUTH HOSTEL IN THE UK!! **

Radical TEFL wants to publish articles by English teachers and student teachers:

- **Topic: "<u>Problems and solutions in teaching EFL to teenagers</u>"**
- **length of 1,000 / 2,000 words, to fit on one or two double pages**
- **bibliography and references are not needed**
- **based *on personal experience* and on *classroom problems met and tackled;***
- **your article will: describe *a problem*; say what you did; give concrete information and examples of *what happened* in your classroom; and *reflect* on what you learned**
- **Help can be given by the editor on improving your first draft;**
- **Send your article in WORD to me: alistair. maclean@outlook. com**

(Please email me for clarification or for further information

- **Deadline for receiving first drafts of articles: 30 June 2018**

Why do we need such articles? At the moment articles about English teaching often start from theory in applied linguists and other academic subjects, or they are descriptions of successful lessons. They do not start from classroom problems, and they do not explore and reflect on those problems.

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<u>Borth Youth Hostel</u>

** The winner of the competition will be given 7 free nights accommodation at Borth Youth Hostel in Wales (dates of your choice). You pay for your flight to Birmingham International Airport, and for your train from there to Borth. (Direct train, every two hours, terminus Aberystwyth). The youth hostel has a self-catering kitchen where you can cook. It is <u>by the sea</u>, with the Welsh mountains nearby. There is a bus or train to Aberystwyth (20 minutes journey), which is also by the sea. Aberystwyth has the Welsh National Library, and you will be entitled to do research and reading there. The library contains all books published in the UK since 1907.

/ MORE DETAILS ON THE NEXT PAGE

Short articles wanted on the theme

"PROBLEMS AND SOLUTIONS IN TEACHING ENGLISH (EFL) TO TEENAGERS"

Articles are wanted which focus on problems and solutions in teaching English in secondary school classrooms, eg:

- **how to give helpful homework;**
- **adapting materials to make them more motivating;**
- **working with uncooperative classes, etc**
- **what you learned from a lesson which didn't give the result you hoped for; but**
  Ideas which you suggest should have been tried first in your classes.

Your article might have the broad fame work of

- **identifying a teaching problem you had, or a learning problem which your students had;**
- **what you did in your teaching to address the problem;**
- **what happened in your students' learning**
- **what you learned from your experience**
- **theory and references are not needed, but reflection**

Your article might also:

- give the context of your teaching: class size, materials used, constraints, learners' attitudes, and anything which affects your work;
- say you wanted your students to achieve;
- focus on the problems and progress of just one student.
- be centred on a learning problem (or difficulty) which your students have

The winning article will be published in the print version of the March 2019 *Radical TEFL* (300 copies are printed), which will also be published on the *Radical TEFL* website below, and which is available as a free download. **All interesting articles submitted will also be considered for publication.** Lecturers - please encourage your student- teachers to write an article.

http://radicaltefl. weebly. com

(This is a free website, from where past issues of *Radical TEFL* can be downloaded)

Alistair Maclean / Editor of Radical TEFL/06

HOW CAN APPLIED LINGUISTICS UNDERSTAND TEFL?

Alistair L. Maclean

Tom Hutchinson, in an article on Alan Waters which is published in this issue of *Radical TEFL,* quotes Waters as he queries (in 2010) the relationship of Applied Linguistics for Language Teaching (ALLT) and English Language Learning. I would like to here develop and add to the criticisms that Alan Waters makes. Waters says:

> *The discourse of ALLT tends to advocate attitudes to English and English language learning which are much more congruent with … the academic rather than the practitioner ….. In overall terms, ALLT sets itself up as the voice of enlightened, evidence-based progressivism, and thereby also constructs the world of everyday ELT perceptions and practice as retrograde and 'pre-scientific'. However, …….. much of its argumentation is based on a number of autocratic, ideological 'red herrings', and, as a result, rather than serving the true interests of most practitioners, is in fact self-serving and inward-looking,* [44]

Three further main criticisms of ALLT might be made:

1. Firstly, ALLT, while claiming to be relevant for teaching EFL, has not understood or taken account of large secondary classroom practicalities, nor does it generally study mainstream education;
2. Second, and developing the first, ALLT does not scrutinise or validate its claims for language teaching – it is often not open to feedback from secondary-school EFL teaching;
3. Third, ALLT (and Second Language Acquisition Research Studies) pay relatively little attention to their methods of enquiry and of making claims to knowledge. Beyond a technical level, they often seem not to be aware of deeper methodological problems in enquiry and in educational enquiry, and have neither developed nor sought expertise to understand these problems. They do not clarify their terms or tackle difficult methodological problems involved in investigating the complex processes of "learning". Further, they do not study histories of enquiry, where help and lessons might be found. ALLT is unreflective in this respect. (See point 5 in sec (D) below for sources of help available here)

I hope that the following questions, suggestions and observations might show that these criticisms can be used as a starting point for ALLT to broaden and deepen its perspective, and so to strengthen itself, and perhaps in this way become more relevant and useful for EFLT.

A) CRAFTS AND PRACTICAL KNOWLEDGE

Assuming that teaching is, in part, a 'craft', let us make the following claims about crafts:

1. First, crafts are developed where they are carried out, and owned by practitioners. Within a school, teaching draws on an existing craft tradition which is handed down through teachers in the school.
2. Second, a feature of a craft is that it cannot be understood separately from its tools: the tools perform the function of the craft. [45] In the case of the craft of teaching, it is teaching materials which are the teacher's tools, and which she relies on to carry out her work. It is difficult to separate pedagogy from materials: they seem to comprise a continuum;
3. What else is involved in a craft and teaching as a craft? [46] : we can identify, thirdly, a cluster of features: *tailoring* (as a tailor does with material), according to individual needs; *adjustment or adaptation* to a situation, leading to: a*ppropriateness (*'goodness of fit'*),* as well as the need by the teacher to take account of

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[44] The paper by Alan Waters which Hutchinson quotes from here is *Argumentation in Applied Linguistics for Language Teaching,* presented at the 44th Annual International IATEFL Conference in Harrogate (2010).

[45] I have discussed the idea that teaching is a craft (drawing from mainstream Education), and that understanding of a craft cannot be separated from considering its tools (drawing from Polanyi) in section 1.9 of my [2016] What is teaching speaking?, and which can be freely downloaded from the *Radical TEFL* website. I have explored the claim made in the sentence which follows this in my ibid: sec 1.

[46] This paragraph follows work by the British classroom researchers Cooper & McIntyre (the fuller context is given in my [ibid: 2016, sec. 1.9], and where the conception of teaching of craft is explored further.)

time constraints, materials, conditions, pupil experience (prior knowledge) and administrative requirements. [47]

It may follow that an attempt to apply a source discipline may be intrusive and unhelpful to pedagogy if the source discipline is not sympathetic or compatible to the above features of a craft. Outside pressures in the form of syllabuses, materials and examination requirements, deriving from source disciplines, may conflict with well-established principles of the craft work of teaching. Crafts work in their own way, and seem to draw on a different kind of knowledge and understanding than does more academic knowledge. **Perhaps we need to distinguish between two kinds of knowledge or theory: one kind tries to provide general statements, and another (practical or craft) theory tries to provide principles to address practical problems?** Teachers seem well-positioned to develop the latter kind of theory, sufficient to address their problems and those of their students, *theory based on practice:* namely, pedagogical theory. [48]

B) WHAT CAN GO WRONG AS A CRAFT IS INFLUENCED BY A THEORY?

What are some conditions for feedback to occur, as a craft draws from a source discipline (SD)? But sometimes a craft develops successfully without an SD, eg metallurgy; cathedral builders in the middle ages: how was this done? How much fresh input from an SD does a craft really need (especially once it is working well) ? An example in Education is the work of Comenius: he developed his principles of teaching from experience, and not from source disciplines. [49]

A condition for a craft to develop is *trial and error*: the craft learns from feedback obtained in practice (especially failures and mistakes) to move forward. Successful practice simply confirms that what is being done is working, with no reason for the craftsman to ask why, or to look for a reason why (or theory), as in the example of the development of metallurgy. However, trial and error requires a mind which is open to correction, which regards knowledge claims concerning the craft as provisional and, which is ready to amend or even abandon them if they are not giving results. **Failure seems to provoke questions and leads to progress more than success does.**

Assuming that feedback from a craft will help a SD to develop and refine its ideas and claims, has the SD, itself, built into its work provision for *learning from* the craft? [50] In other words, is there provision within the SD for searching out and acting on feedback from the craft? Who, within SD, takes responsibility for doing this? How can theory lose touch with the practice it wants to influence? What if the situation on the ground develops in unexpected ways, making the theory less relevant? [51]

If the SD relies, in some way, on the craft financially, how might this distort the relationship between SD and craft (for example, a SD might receive funds to apply its ideas to the craft, via university courses or overseas seminars). How have craft subjects *successfully* drawn from an SD: what conditions were present, allowing this to happen ? What conditions are required to establish and keep a healthy and productive relationship between an SD and craft; and to keep that source discipline working well (eg, by feedback from the craft, so that the SD can develop)?

C) WHAT ARE SOME ENTRY POINTS TO CRITIQUE A THEORY?

What if the SD is, itself, based on faulty foundations? Isn't it then unsafe to draw from that SD? Given that this is always a risk in any academic field, how can the craft discriminate between what is sound and unsound in those parts of the SD which it is being asked to apply? How can a craft critique theory? By critiquing assumptions about a concept or

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[47] Some implications for pedagogy of this understanding of 'teaching as craft' are discussed in my [2016: ibid, sec 1.8], in the context of an argument that pedagogy is a form of *practical knowledge* (see my [2015]: 'How can a teacher grow her knowledge?). The concept of practical knowledge, explored in my [2015], is known about in mainstream education, and belongs to a tradition in epistemology which goes back to Aristotle. For example, see Dewey (1929), The Quest for Certainty, ch. 1.

[48] I explored the contrast between 'propositional knowledge' and 'practical knowledge' in my (ibid: sec 1, 2015).

[49] I have given a full reference in my article in this issue of *Radical TEFL*, in a footnote in section 2.2.

[50] D.J. Price, a Historian of Technology, writes: "*whenever science or technology (do not feed from each other) the results have been disastrous for both. Science without the byplay of technology becomes sterile"*

[51] See John Plamenatz, German Marxism and Russian Communism, [1953: esp. chs 5 & 9], which is a case study in probing the relevance of a theory for practice, and understanding, in a general way, how a theory may not be relevant for practice, eg, because conditions on the ground had changed.

about the a concept which the theory relies on? But when a theory claims relevance for practice, perhaps that theory should surely no longer be evaluated *as theory* but rather it should be evaluated by its consequences in practice?

A theory can always claim that practical conditions were not in place for the theory to work - but if a theory is designed to work in some ideal conditions (eg, disciplined classes, small numbers; engaged students; trained and convinced teachers, etc), then should these conditions not be specified within the theory? It is easy for those developing theory, in a context which must be sometimes isolated from practice, to forget *the essentials*, to lose sight of essential issues such as the student's need for a secure foundation, and the teacher's need for discipline to achieve any learning. Has not an idea which relies on inadequate understandings (or flawed assumptions) about how things are on the ground lost touch with the reality of that situation? (But to critique a theory - or rather, to critique the claims which the theory makes for practice - is not the same as saying that the theory is mistaken. A theory may be made up of *a cluster* of insights, and some of those insights may be more helpful than others.)

Perhaps the theory neglected to consult successful practitioners practitioners as to how they had addressed their problems? For example, communicative approaches did not seem to draw from the Direct Methods. Rather than go to those classes, and learn from that experience, it started from theories of first-language learning (Hymes); language (Austin); and society. They relied on theory (and the sometimes ideological reading surrounding it) rather than look at practice, and at what was already working well. (How can we know if a theory in education is ideological? Is one of the roles of the academy not only to disseminate knowledge, but to scrutinise knowledge, and especially, identify and expose ideology?) Theory makers have something to sell, but the product may not be needed: there are, however, vested interests in promoting [unrequired] changes in theory and in practice (and so requiring changes in coursebooks, tests, courses, etc). Can one "apply" language studies to the EFL classroom?

What studies might help us to address the above questions: For example: Studies of the history of crafts, especially how a craft (helpfully or not) drew from SDs in the past? Can we learn from case studies of relationships between a SD and a craft, especially where the relationship failed in some way, and probing the reasons for that failure?

D) SOME SUGGESTIONS TO ALLT COLLEAGUES

Colleagues who work in a University have a rich source of information and perspective potentially available from colleagues in other departments (Education, Psychology, Philosophy, Engineering, Medicine. etc.). This resource might be used as follows:

1. Ask colleagues in fields which are intended to be applied in some way (eg, medicine, engineering) how they design into their work feedback to their thinking from practitioners from the ground. Ask colleagues in your Education department how education organises research and other instruments which are designed to find out and take account of feedback from teachers …

2. … Spend a day, if possible, in a secondary-school classroom with a foreign language teacher who is working under constraints of time and resources; where she has no choice over materials used; and where she is required to prepare for tests or exams, over the content of which she has no control. At the end of a day with different classes spend some time listening to the teacher talking about her work; ask the teacher what she would change in the materials and ideas she is asked to use in her teaching ...

3. … look for insights and feedback from education and learning, especially from average, difficult classes and a typical teacher, not from demonstration lessons in ideal situations, or from teachers who are doing research in good schools, who might hope that you can recommend them for a course of conference in the UK. (They may tell you and show you what they think you want to hear or see). Look especially at failing learning situations and individual failing students, and ask how thinking in your field applies to them;

4. From the above, ask how your thinking might be developed to take into account those classroom realities. Discuss what you saw, and your academic work, with a colleague in your institution who has some background in mainstream education, learning theories, and educational psychology: and read work in educational psychology. Study educational and pedagogical problems, study work in educational psychology, and ask how that might be linked up with your own work in a way which is helpful for teachers and materials writers;

5. Ask a colleague in the Philosophy department of your institution to explore with you the assumptions in your work, especially your assumptions about language and enquiry. Especially, explore the ways in which your field enquires and develops. In other words, probe with this colleague epistemological foundations of your field. Become interested in the question of methods of enquiry, and ask what enquiry methods are relevant to ALLT (or SLA studies), and ask where the pitfalls in those methods are (See page 41 following)

6. Ask if your field is ideological in some ways, and if so, how this might restrict what you are open to, and what it closes you to (but how would you know if it had an ideological bias?);

7. Ask more questions; get perspective and distance from the details of your field; learn from others outside your field, and read classic works from other fields which have helped those fields move forward, and to reinvent themselves;

8. Write up and share your findings in the form of an article for *Radical TEFL*. In these ways, ALLT might broaden its base and perspective, and survive. Fields which are not in touch with their applications, or which no longer contribute to solving problems on the ground, can lose relevance and disappear from the academy.

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June 2017

CALL FOR ARTICLES

Issue Number 7

(Articles for 30 September 2019, for Publication March 2020)

Theme:

"Methods of enquiry in investigating and understanding EFL pedagogy and EFL learning"

- In researching "EFL learning", is it clear what is being investigated? What *is* learning?
- What are some methodological pitfalls in researching learning and classrooms?
- What might different approaches to enquiry into learning leave out and neglect?
- What are the different factors and variables in learning? Can they be clearly described, prior to investigating them? How can research deal with multiple variables and factors which are interacting with each other?
- If learning is, essentially, a *process,* then what methods of enquiry are appropriate for investigating processes? What research methods are inappropriate?
- Can learning be understood by studying groups, or do we need to start from individuals? Should we start from the learner's standpoint?
- What sources of evidence can we use? How far can teacher experience be used?
- In which ways, and for which questions, are teachers best placed to understand EFL learning, compared to external observers?
- Before investigating EFL learning, does one require as a starting point a general learning theory or group of learning theories?
- **Investigating pedagogy:** what is pedagogy; if it is craft, how are crafts investigated? Is pedagogy a constant, or does it depend on day-to-day interaction with learners, taking account of their learning problems? See pages 40/41 above.
- If a language cannot be 'taught', but only learned, then what is the role of pedagogy?
- Can pedagogy be separated from teaching materials?

CALL FOR ARTICLES

AND GUIDELINES FOR CONTRIBUTORS

http://radicaltefl. weebly. com

Radical TEFL **would like to publish work which probes beneath the surface of EFLT: work which examines assumptions, myths or contemporary orthodoxy in our field, or which in some way put under the spotlight some aspect of EFLT, while relating ideas discussed to classroom realities. In addition to the calls for articles on pages 38/39 and 44,** ***Radical TEFL*** **would also like to publish longer and more analytical articles which perhaps draw on educational thinkers from outside EFLT, whose thought and experience could open up new and fresh approaches and perspectives to understanding our problems, while related to classroom realities.**

Longer articles should, so far as possible:

- **Start from a clear research question, or from a problem met in practice;**
- **Try to probe under the surface of the question addressed; and**
- **Be grounded to the EFL classroom, normally by use of examples and by being based on experience.**

Shorter articles reporting on classroom experience do not require citations and references. Send your work in WORD to: alistair. maclean@outlook. com**. Copyright of articles will belong to the author, and your article will be published in both a print version, and be available as a free download on the** ***Radical TEFL*** **website above. Although the final date for receiving articles is September of each year, it is very helpful if articles (or drafts) can be sent earlier.**

Alistair Maclean/Publisher

ARTICLES WANTED FROM TEACHERS ON HISTORIES OF TEFL IN LOCAL SITUATIONS

As an example of a format of an article:

- describe an outside influences that took place during your teaching career; eg, obliging you to change something in your teaching
- describe the effects of those changes on your teaching problems and constraints;
- to put these changes into a context, describe the situation you taught in, the problems you had to deal with, and describe the needs of your students; and exam requirements, and perhaps coursebooks, and any other external constraints (or incentives) in your teaching;
- give an evaluation of the results of those outside influences which led to change on meeting the needs of your students.
- Or, write a personal reflection on how your teaching developed over time as a result of outside influences (e. g. , as influenced by a mentor, a course, new theory about language or learning; or by new syllabus requirements)

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Article please:

- between 1,000 / 2,000 words, to fit on one or two double pages;
- bibliography and references optional;
- based on personal experience and on classroom problems met and dealt with;
- don't be afraid to be critical or questioning about outside influences on your teaching
- be specific by giving concrete examples of what happened in your classroom
- Send your article in WORD, in 12pt, to: alistair. maclean@outlook. com
- Deadline for receiving articles: 30 September 2018 (for March 2019 publication).
- Articles on histories of TEFL are also wanted for future issues.

LONGER AND MORE GENERAL ARTICLES ON TEFL HISTORY ARE ALSO WELCOME, FOR EXAMPLE,
CHALLENGING AN ACCEPTED VIEW OF THE HISTORY OF TEFL, OR
CRITICALLY LOOKING AT THE HISTORY OF AN IDEA EMPLOYED IN TEFL

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WHY *RADICAL TEFL?*

Radical TEFL **hopes to:**

- **encourage debate and questioning about assumptions and concepts within TEFL; (eg, 'What is teaching?, 'What is learning'?** and **'Can source disciplines be "applied" to TEFL?);**
- **provide a forum for responses from the classroom to second language acquisition studies, Applied Linguistics for Language Teaching, and other influences on TEFL; and so:**
- **add perspectives and rigour through which we can better understand the teaching and learning of EFL.**

If you are sympathetic to this project, please write an article, or encourage a student-teacher to write. (See pages 38 & 39)

DISTRIBUTION AND FINANCING of Radical TEFL 4 (March 2017 issue)

380 copies were printed and about 340 complimentary copies were distributed. Most of those copies were sent to British Universities offering MA courses in TESOL or Applied Linguistics, and about 80 were distributed at Glasgow IATEFL 2017. The cost of printing and distributing Radical TEFL 3 was about £1000 and was paid for by the publisher. Radical TEFL receives no financial assistance or sponsorship, and offers of help (including for a single issue) would be welcomed, perhaps from an academic institution which would like to share some editorial responsibility?

The Editor is looking for EFL teaching opportunities

I would like to investigate and better understand EFL learning, by spending more time in secondary classrooms. I am available, for teaching, for periods of up to a year, and could for example replace a teacher who is on leave.

I have taught EFL in secondary schools, and in foreign language teacher training colleges. I also have experience in teaching intensive EFL courses and EFL summer courses. I have taught Theory of Knowledge (IB), and understand the requirements of the IB Diploma Programme. I can teach academic writing.

AM

Contact me at my email address for a CV: alistair. maclean@outlook.com
Please allow time for replies to emails.

LECTURERS!
SHORT ARTICLES WANTED FROM YOUR STUDENTS!

Radical TEFL **would like to publish articles from teachers, and from student teachers, based on classroom experience.**

Lecturers – please encourage your student-teachers to think that their experience is worth writing up and sharing. There is a prize of 7 nights in the UK for the best article on the topic:

"Problems and solutions in teaching EFL to teenagers"

See pages 38/39 of this issue for more details.

Back issues of *Radical TEFL*,
are available as a free download at

http://radicaltefl.weebly.com

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END OF E-VERSION

***RADICAL TEFL*, 5, March 2018**