What do we know about learning and teaching second languages: Implications for teaching

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Biography:
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Abstract
In the last twenty-five years a number of insights have been achieved through research on the processes of second language acquisition/learning. This article discusses some of these insights, drawing implications for teachers for their classroom practice. In addition, there is a brief discussion on some of the insights that have been achieved about teachers’ practical theories or teacher knowledge in the general education field. It is argued that in order for some of the insights to be translated into classroom practice, teachers and teacher educators have to understand the ways in which teachers’ practical theories develop and consequently the types of behaviours teachers would wish to exhibit if they are to continue to develop professionally as teachers.

Keywords
Second language acquisition, second language teaching, foreign language teaching, teacher development, second language research

Introduction
Second language acquisition (SLA) has been in existence as a field of study for over 25 years, applied linguistics as a field just over 40 years [if we take the influential book by Halliday, McIntosh and Strevens (1964) as the beginnings of applied linguistics]. It took just over ten years for the first models of second language learning to be formulated
(Krashen, 1979; Schumann, 1978a, 1978b) including a neurofunctional explanation of second language learning (Lamendella, 1997). Of these models, the Monitor Model became eventually known as the Input Hypothesis (Krashen, 1985, 1991, 1994) and the Acculturation Model has continued to be used as an explanation for second language learning in certain contexts (Schumann, 1986).

These models of second language learning arose out of the research that had taken place up to that point and they in turn led to further research. Krashen’s ideas as embodied in the Monitor Model, which eventually became the Input Hypothesis, have been described as "bold" and "brash" (Brown, 2000), but at the same time Brown has acknowledged that the ideas “have spurred many a researcher to look very carefully at what we do know, what the research evidence is, and then in the process of refutation to propose plausible alternatives” (p. 281).

This article looks at our current state of knowledge regarding second language acquisition/learning and discusses some insights that have been offered by research. It also looks very briefly at some insights from research into teacher knowledge and teachers’ practical theories of teaching and suggests how these insights might be used to ensure that insights from research on SLA are translated into classroom practice more effectively.

Before beginning with these insights, a word of caution is necessary. These insights are what have seemed to me to be compelling and may not be accepted by other researchers as such. (In this respect, readers might like to read Harrison and Gough (1996), a conversation between the two authors on what makes a piece of research compelling for one person but not another.) Others have blazed a trail already and if there is anything new in this article, it is because I stand on the shoulders of these giants (e.g., R. Ellis, 2005; Lightbown, 1985b, 2000).

**Insight 1: Adults and adolescents can 'acquire' a second language.**

The focus of this insight is the word "acquisition" in the sense that Krashen (1982) has used it in distinguishing it from the term 'learning'. Acquisition is non-formal, subconscious way of picking up a second language through exposure to it. It therefore refers to implicit knowledge, rather than explicit knowledge, such as, that in Spanish one can omit the subject if it is easily recoverable from the context. The term has generally been associated with children learning their first language in contexts that are informal, meaningful and not planned (for language tuition purposes). The term, however, is not completely unproblematic when it is used in research contexts. A second language (SL) learner might in one context say "I don't know", a perfectly acceptable English utterance, while in another come out with this utterance: "No can play today". Can one say that this learner has acquired negation in English on the basis of one correct utterance? Or does the negation have to be used correctly in fifty percent of the cases? Or 80 percent? Or 90 percent? Myles, Mitchell and Hooper (1998), for example, show how learners of French in schools learn language chunks, such as, Je ne sais pas (= I don't know) for communication purposes and yet use less target-like language, such as, Je ne sais pas la magasin (meaning I don't like shopping). The latter is more typical for the level of development in that language. So quite accurate production of language can mask the fact that acquisition of knowledge that should underlie such performance has not yet occurred. Studies that have used different criteria to make a judgement about acquisition thus present problems of comparability.

To return to the insight, the claim is that it is not just children who can acquire a language but adults (including young children and adolescents) can do so also provided there is a large amount of exposure, or input, to use a term used in the SL field. Some evidence for this comes from the early work of Elley and Mangubhai (1983) where children (10-12 years old) learning English as a second language (in a foreign language-
like context) were provided with extensive input ("Book Flood") in English through regular reading (20-30 minutes) in the classroom. These children outperformed the control group who did not have this printed input but continued with their structural program for the same duration. The superior language development through extensive reading has been labelled "acquisition" by Krashen (1993b). Further examples of acquisition through reading have been documented in Elley (1991) and Krashen (Krashen, 1993a; 1993b).

While the above provides some evidence for acquisition through input provided via the printed word, rich input through oral as well as printed modes is provided in the immersion programs, of which the most researched are those offered in Canada (see, for example, Genesee, 1987; Swain & Lapkin, 1982).

Another line of research has, however, talked about whether anything can be learned unless it is noticed. One of the earliest writers to talk about noticing in the field of SLA was Schmidt (Schmidt, 1990, 1992; 1993) who has emphasised the importance of noticing in second language learning. While he has acknowledged that there can be acquisition, he has argued that most second language learners learn the second language and hence the concept of noticing is critical in understanding SL development (Schmidt, 2001). His own view is made explicit in a footnote:

My own view is that conscious and unconscious processes probably interact in all domains of language, but that there is little evidence for learning without attention (one reading of 'unconscious') in any of them. (p. 4)

Research has not been able to settle this question definitively and it remains of on-going interest (Ellis, 2002). But Nick Ellis (2005, p. 306) has argued that the "bulk of language acquisition is implicit learning from usage. Most knowledge is tacit knowledge; most learning is implicit; the vast majority of our cognitive processing is unconscious". He does agree with Krashen (1982) that implicit and explicit learning are different, but, unlike Krashen, he sees a role for explicit instruction and thus he can be seen to subscribe to a weak interface between the two types of knowledges, implicit and explicit.

Most language teachers are unlikely to be overly concerned whether what their students learn is explicit or implicit, except that fluency is better achieved when the language knowledge is more implicit, or has become more implicit. Of greater significance to teachers is the current understanding that generally the amount of second language learning is related to input, however it is provided. Motivating students to frequently watch English videos or listen to audiotapes in English outside formal classroom time is likely to lead to acquisition through substantially increasing the amount of input they would otherwise get.

**Insight 2: Learners need to focus on form also in order to develop a more complete grammatical repertoire in the second language**

In discussing Insight 1, I mentioned the immersion programs in Canada and their obvious success in teaching a second language, French (quite apart from the discipline curriculum). As evaluations of these programs occurred it became obvious that while students seemed to show a great amount of fluency in the use of French, the range of grammatical structures that were utilised in their communication was limited (Harley & Swain, 1984; Swain, 1985, 1993). This insight, that despite the provision of large amounts of comprehensible input provided in the immersion classrooms many students did not acquire the full range of grammatical structures, led to an assessment of the role of form in immersion classrooms. It led to what is called "form-focussed instruction", defined by Spada (1997, p. 73) as "any pedagogical effort which is used to draw the learners' attention to language form either implicitly or explicitly". This is a slightly different definition from that of Long (1991) where he talks about 'focus on form'. The
critical difference between the two definitions is that Long defines focus on form occurring during meaning-based pedagogical tasks where attention is drawn to language as there is a perceived need rather than the focus occurring in some pre-determined manner. Long reserves the term "focus on forms" as referring to the type of grammar teaching that used to be the staple of many foreign language courses: grammar items are introduced and then they are practised either orally or in print. Spada, however, sees form-focussed instruction as an approach that can occur both spontaneously (as in Long sense) and in pre-determined ways, for example, as a means of providing some language prior to its use by students in a more communicative context.

In 'focus on form', in the Long sense, the intended outcome is noticing - the allocation of one's attentional resource at a particular moment to a form (Long & Robinson, 1998). It may occur at a point in a lesson, say group work, where many of the students are making the same type of mistake. A quick lesson on the correct form at that particular instance when students need the form might lead to a greater amount of noticing between what their current knowledge is and where they need to be in order to communicate with grammatical accuracy.

The evidence for the efficacy of 'focus on form' is growing, with learners as young as 7 and 8 (Harley, 1998), in content-based classroom (Doughty & Varela, 1998), and in reviews of focus on form studies (Ellis, 2001, 2002). There are nevertheless some who are still not convinced of its effectiveness (see, for example, Sheen, 2003). Evidence from the immersion studies suggest that form cannot be neglected. It is interesting to note that the book flood studies mentioned previously do not, it seems, show this shortcoming in grammatical development and it is intriguing why this might be so. Mangubhai (2001) explains this by pointing out that many of the book flood studies mentioned in Elley (1991), for example, occurred in countries where there was a tradition of focus on grammar teaching. It is therefore possible, he argues, that as students became better at extracting meanings from the stories they were reading, they had sufficient attentional resources left to devote to some focus on form.

Another related line of research focuses on the need to provide opportunities for comprehensible output. This hypothesis proposes that "through producing language, either spoken or written, language acquisition/learning may occur" (Swain, 1993, p. 159). Earlier, Swain had argued that learners have to be "pushed" to produce comprehensible output that is grammatical accurate and appropriate (Swain, 1985). There are, according to Swain (1993) four ways in which output might play a role in language acquisition/learning: (1) provides opportunities for meaningful practice; (2) could force a learner to move from simply semantic processing to syntactic processing also, (3) provides opportunities for hypothesis testing, and (4) one's output can generate responses from other speakers, feedback that can lead speakers to reprocess their output.

Both lines of research mentioned above emphasise the need to focus on form in addition to focusing on meaning. In focus on form one can do it more spontaneously as Long (1991) suggests or it may be a combination of spontaneous and pre-planned as Spada (1997) suggests. Swain's suggestion implies that teachers need to push their students to produce more language and produce it accurately. In both cases, the emphasis is on a greater focus on form, but this is not equivalent to doing more grammar exercises in classroom.

**Insight 3: The learner's developing grammatical system, the interlanguage, is often characterised by the same systematic errors as made by a child learning that language as a first language. At the same time there might be systematic errors which appear to be based upon the learner's first language.**

This insight seems to suggest that some of the mechanisms that operate when children
are acquiring their first language operate also in second language acquisition (see for example, Ervin-Tripp, 1974, and papers in ; Hatch, 1978). In a seminal article Corder (1967) had suggested that perhaps second language learners had an "in-built syllabus" and that by analysing the errors learners were making we might get some insight into the grammatical system, the interlanguage, they were operating with at that particular moment in their learning.

Errors that arise out of the use of the rules of one's L1 in the second language context suggest that learners are using all their linguistic resources, including L1 resources, to convey their meanings. For example, 'Why daddy can go with us' is acceptable in French but English does not permit wh questions without verb inversion (Spada & Lighbown, 1999). A study of the interlanguage of ESL learners in Hong Kong found that the surface structure of many of the interlanguage strings or sentences in English were identical or very similar to the usual sentence structure of Chinese (Chan, 2004).

What are the implications of this insight for teaching? If learners make these systematic errors will they disappear as they refine their developing grammar of the second language? How do we account for a learner such as Wes described by Schmidt (1984). He was able to communicate quite successfully but continued to have many grammatical inaccuracies in his utterances. If a learner's interlanguage becomes fossilized the task of the teachers becomes one of motivating such learners to get over this hump - not an easy task. Granted that there is systematicity in the interlanguage, Insight 2, discussed previously, provides a pedagogical solution to assist learners to move to the next stage in their interlanguage, though not with 100% success (Selinker, 1992).

**Insight 4: There are predictable sequences in SL acquisition; learners have to acquire certain structures first before they can acquire others as their interlanguage develops.**

Research has shown that there is a pattern and order in which certain grammatical features are learned, so that later items cannot be acquired until the earlier ones have been acquired. For example, the ~ing progressive, plural and copula (to be) have to be acquired before the auxiliary (progressive, as in 'he is going') and the articles are acquired (Dulay, Burt, & Krashen, 1982). Pica (1983) found that learners undergoing instruction did not manifest a different order of acquisition of grammatical features in comparison to those learning the SL more naturally. An extensive study conducted in Germany with adults acquiring German as a second language found that there was a developmental sequence in the acquisition of a number of grammatical features (Meisel, Clahsen, & Pienemann, 1981). They also noted that there was some variability in language use, depending upon the linguistic context in which the particular grammatical item/structure was used. Pienemann has developed these ideas further under his Processability Theory (Pienemann, 1998).

Regarding Insight 4, there have been two schools of thought: the "zero option" (Ellis, 1997) and the other that might be termed 'non-zero option'. The zero option suggests no teaching of grammar and instead the creation of opportunities for the use of language naturally, as found in untutored contexts or children's development of L1 (Krashen, 1982; Prabhu, 1987) The non-zero proponents have tended to argue from a cognitivist viewpoint that explicit learning can become implicit through practice (Sharwood Smith, 1981) or have argued that while grammar instruction may not lead to acquisition, explicit rules may allow learners to exploit this knowledge at a time they are ready to acquire that particular grammatical feature of the SL (Lightbown, 1985a; Seliger, 1979).

SL teachers have traditionally rejected the zero option for many different reasons, which we do not need to go into here. Teachers can, however, combine the insights in #4 and #2 and provide focus on form instruction when necessary. It may not inevitably lead to the learning or acquisition of that particular grammatical item under focus unless the
learner(s) are developmentally ready to internalise it. It does reflect in a way Krashen's notion of i + 1 (Krashen, 1981) but as with this notion, teachers are unlikely to know which of the students are ready for the next stage.

Insight 4 can also provide an explanation for the frequently experienced phenomenon in classroom that a grammar rule is taught one week and seemingly learned, only to find errors the following week which indicate that previous week's lesson did not produce the desired or expected learning.

**Insight 5: To become fluent in a language, one must practise using it. (And as a corollary to this insight) To become fluent in a language, one must receive extensive L2 input.**

In light of the discussion that has taken place so far, it is evident that the practice in this insight does not refer to grammatical practice of structures of the type that used to be standard in structurally based programs or in many foreign language textbooks. Research suggests that language learning occurs best when learners are engaged in communicative acts (Lightbown & Spada, 1999), or to put it in another way, when learners are engaged in encoding and decoding meanings in acts of communication (oral or printed). Such interactions frequently require modification of input through classification requests or reformulations (Long, 1985). This view has increasingly been labelled the Interaction Hypothesis, with some studies showing a link between interactions and acquisition (Gass & Mackey, 1998; Swain & Lapkin, 1998; Van Lier, 1996).

As a corollary to this insight, one can say that very high levels of proficiency in a SL are unlikely to be developed in times that are normally allocated for foreign languages in school systems.

Practice, as conceptualised here, leads to a great amount of input (and output) that learners experience. It is therefore underpinned by the same research and arguments mentioned previously about the necessity of extensive exposure for the development of proficiency in a second language. This can be problematic in foreign language contexts where language input may be confined to the formal classroom. This does not necessarily have to be the case. Teachers might provide practice through making available to their students stories or other printed material in the SL to be read in or outside the classroom. Other sources of input - and hence practice - are videotapes of selected films, audiotapes of selected songs, stories or whatever might capture the interest of the particular group of learners. Another strategy for foreign language teachers is to encourage the formation of a Second Language Club, the members of which get together to use the language for purposes of communication and opportunities are seized to invite a speaker of the SL to present a talk or interact with its members. In other words, teachers should have dinning through their head the word 'input', 'input','input'.

**Insight 6: Knowing a language rule does not mean that one will be able to use it in communicative interaction or in writing.**

This is one insight that teachers paradoxically know and yet do not seem to know. Anecdotally we know that teachers have had frequent experiences in their classrooms where their students can recite the rule but still break that same rule when speaking or writing. Yet, having known this, having this insight, teachers used to - and I use this deliberately as a way to referring to BCA (before communicative approaches) - teach grammar rules in the hope that they would translate into, what we would now refer to as communicative competence. This insight suggests that the focus in classroom should not be on learning explicit rules of a language, but on activities that are meaning focused. On the other hand, we have seen evidence from research on immersion language teaching that simply focusing on meaning may not draw the attention of learners to the forms in
which meanings are encoded. We have also seen the argument that perhaps the rules that are learned become useful to the learners when they are ready to acquire those particular rules. We are thus led back to our insight number 2, which talked about focus on form.

**Insight 7: Isolated explicit error correction is usually ineffective in SL learning.**

Isolated explicit error correction refers to those instances where a teacher corrects a student but does not focus attention on that particular error. As Spada (1997) in her review on form-focussed instruction concludes instruction was likely to be more effective when there was greater explicitness in the instruction. Isolated explicit error correction, as defined above, does not have the characteristic of explicitness and therefore is not likely to be effective. This insight seems to suggest that to make some changes to the language behaviour of students error feedback may have to be over a sustained period of time. In light of insight #4, however, error correction is likely to be effective only when the students are ready for that bit of information. This might be one of the explanations for a study in which no differences were found between a group which received sustained error correction and one that did not (DeKeyser, 1993), though the study also found some interesting individual variation, including the effect of anxiety.

One form of error correction that is frequently used by teachers is, what is called, 'recast'. A student says, 'Jill go to town', and the teacher says, 'Yes, Jill went to town' in the hope that the student will have noticed the mismatch in the use of the verb by her and by the teacher. But students, it seems, do not always notice the difference. Lyster (1998) has shown that in the immersion language classrooms he studied - that is, in content-based classrooms - it is difficult for students to distinguish between feedback which confirms the content of what has been said, from the feedback meant to provide information on linguistic accuracy or pragmatic appropriateness. This is a caveat for teachers but should not be regarded as deterring them from bringing to the notice of students the mismatch between what they are producing currently and what is ultimately required of them.

**Insight 8: In meaningful contexts learners are able to comprehend much more than can be judged by their ability to produce accurately language of comparable complexity.**

Those who have had experiences with children will no doubt recall the fact that children seem to understand a lot more than what their spoken language might suggest (see, for example, Wanner & Gleitman, 1982). In other words, comprehension far exceeds the ability to produce language of comparable complexity. It has been argued that a similar situation can be found in second language acquisition and that this situation should be exploited in the sense that production should be delayed (Krashen, 1982). In meaningful contexts, SL learners can often guess the meanings by focusing on content words, or using knowledge of the world. For example, in a study reported in Mangubhai (1991), there was a learner who had been quite "fluent" in his understanding of the instructions (the study used Total Physical Response method of teaching Hindi as a second language). In his retrospective report he mentioned that he was able to achieve this fluency because he focussed on the content words only and used the contextual knowledge, if it was needed, to guess the meaning. He was, what was called in the study, an 'input stripper'. By the 15th instructional session, when the sentences had become a little more complicated, and he was not always getting his actions right, he stated that he would have to start paying attention to the little words.

What implications can teachers draw from this insight? This insight suggests that teachers can occasionally use materials (both oral and printed) that may, on the surface, appear quite difficult for the learners but which may still be understood, provided, that the activity or activities associated with such use do not expect learners to get detailed
meanings of the text, but rather the gist of what has been heard or read. The impetus for such uses might lie in the intrinsic interest of the topic combined with the planned activities that require oral interaction or written production based on that particular topic. This is not a plea to use materials that are beyond the ability levels of learners, but rather that, where such materials are used, surprising amounts of comprehension may in fact occur which may provide an input into other planned activities.

**Insight 9: The different rate of learning observed in our students arises out of individual differences.**

In any one class the same curriculum is taught to the same students, frequently by the same teacher, providing, in theory, the same amount of input. Yet the outcomes at the end of a program are quite variable for the learners. It might be true that the same amount of input may have been theoretically provided, but as was pointed out many years ago by Corder (1967) it is what learners attend to, the intake, that matters. Attention to input may be driven by many factors, including the moderating effect of learners' preferred learning styles, the level of motivation, the ability of learners to cope with degrees of ambiguity, the amount of anxiety, some of which might be more learner-specific, and so on.

There are a number of studies which show the (mostly) negative effects of anxiety (Dupuy, 1997; Ganshow & Javorshy, 1994; Saito & Samimi, 1996; Young, 1990), the positive effect of motivation (Gardner, 1985; Noels, Pelletier, Clément, & Vallerand, 2003), and relationship between tolerance of ambiguity and SL proficiency (Chapelle & Roberts, 1986). There are other individual differences that have eventual impact upon the outcomes. In the Mangubhai (1991) study mentioned previously, one of the students wanted to know the meaning of every word from the very beginning of the lessons, while another was quite happy to chunk things and unpack them later, with the result the first student's outcome at the end of the teaching sessions was considerably less than the outcome achieved by the chunker.

As teachers, it is not possible to address many of the things that students bring to the classroom - what is sometimes referred to as the presage factors. However, teachers can try to minimise the anxiety factor in their particular classroom, or to vary classroom activities in ways that might address students' different learning styles, or develop classroom materials and activities keeping the factor of motivation in mind, in ways that Dörnyei (1994) (and others) have discussed.

As research progresses, further insights into the acquisition/learning of second languages will be achieved. These insights need to be translated into classroom practice but this is not an easy matter as practices do not change easily until new knowledge is internalised into the thinking and practices of teachers. How this might occur is the matter of the next section. However, it would be both appropriate and timely to end this section of the discussion on insights from research with words of wisdom from Lightbown (2000, p. 454, emphases added):

No matter how sound the research on which new ideas, materials and techniques are based, pedagogical innovations must be implemented and adapted according to local conditions, the strengths of individual teachers and students, the available resources, the age of the learner, and the time available for teaching

I next want to discuss briefly some insights achieved from the extensive research that has been conducted with teachers about their thinking and their theories of teaching (or practical theories) with which they operate in classroom. There is much that can be said on this topic but I have restricted myself to two related insights which I believe are pertinent for teachers.
Teacher Insight 1: The pour into a vessel view of knowledge does not work.

Personal knowledge is the teacher's filter for interpreting new information. It guides teacher actions in concrete and specific situations (Brown & McIntyre, 1993). However, a teacher is not an island, and therefore personal knowledge should not be interpreted to mean that teachers have their own unique knowledge, not sharing any commonalities with other teachers. On the contrary, teachers' personal knowledge has a number of shared elements with other teachers because it originates from practical experiences with a number of commonalities, formal schooling in the past, initial teacher education or continuing professional training (Calderhead, 1996). However, the interpretation and internalisation of new knowledge is filtered through the sum total of knowledge (and experiences) that teachers bring to the task of learning or putting an idea into operation in classroom. Kennedy (1991, cited in Freeman, 2002, p. 6) summed up this issue quite succinctly when he said that "[t]eachers, like other learners, interpret new content through their existing understandings, and modify and reinterpret new ideas on the basis of what they already know and believe". And teachers are not likely to change their beliefs about second language learning or acquisition by simply being told about other alternatives or different beliefs (see, for example, Pajares, 1992). What guides teachers' behaviours in classroom is discussed under the next insight.

Teacher Insight 2: Teachers' practical theories guide their behaviour in classrooms

Practical theories are viewed as "... notions about how to teach which have been crafted by individual teachers from their own experiences of teaching to suit their own particular work settings. [They are] ... the valued residue of countless hours of practice, trial and error and reflection (Marland, 1998, p. 16, emphases added). Personal practical theories are known by a number of other terms also, including personal practical knowledge (Connelly, Clandinin, & Ming, 1997; Elbaz, 1983). What is important to note is that these practical theories arise out of teachers' experiences and not some theoretical knowledge and that they are contextually developed.

What does this insight entail? What would a teacher reading this article take from this insight? If teachers were to try to put into effect, say, task based learning in their classrooms they would put that approach into action in different ways depending upon their understanding of the approach, their beliefs about its efficacy and their evaluation of its likely success in their particular context. Each of these factors could operate differently for different teachers because each would be filtered through the personal practical knowledge of the teachers. Frequent practice, trial and error and reflection might make the practices more congruent to descriptions given in the literature.

Teacher development can thus be seen as the development of more complex and richer practical theories. Such developments might be triggered by a conference, a workshop or seminar teachers have attended, or courses of study undertaken, such as a masters in TESOL, or indeed by critical events in classroom itself. They, especially study, give teachers tools to test their theories against other theories, to try out new approaches and as a result of these attempts to enrich their own practical theory. In the literature on general education, what teachers come to know what they know, is sometimes referred to as "new scholarship" (Zeichner, 1999).

I have talked about insights about second language acquisition gained from research and insights we have gained about how professional knowledge of teachers develop. These research insights can remain outside teachers' personal practical theories or teachers can try to unpack the ramifications of them for their classroom practice, and in doing so and reflecting upon the results, reframe their own experiences in classroom into a much richer personal practical theory.
I would like to end this article with a quote from a recent article by Johnson (2006, p. 248) who has paraphrased the well known educator, Dewey of the first half of the twentieth century:

…it is through the attitudes of open-mindedness (seeking alternatives), responsibility (recognizing consequences), and wholeheartedness (continual self-examination) that teachers come to recognize their own assumptions about themselves as teachers, about their students, about the curriculum they teach, and about the nature and impact of their teaching practices.

References


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