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Coda: An Expanding Research Agenda for the Use of Instructional Materials

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ABSTRACT

The rationale behind this special issue is to underscore the importance of studying instructional materials in context—that is, how materials and textbooks are used by teachers and learners. Research on teaching materials needs to reach beyond traditional 'armchair' analyses and evaluations to appreciate the place of instructional materials in the wider social and educational context, and to do so in a methodologically and analytically principled manner. I begin by comparing and contrasting the concept of 'materials use,' which underpins the contributions to this volume with my own concept of 'materials consumption.' ~~Although there are tensions, even contradictions, between these two terms, which may at first sight seem synonymous, the contributors to this volume share with me the view that it is important to conduct research on materials as experienced by their users.~~ ~~I identify~~ The bulk of the coda identifies and explores various themes emerging from this special issue, including student-generated materials, teacher and learner resistance to materials, practitioner takeaways, and the importance of content and production focused research. I ~~and~~ compare and contrast the articles with high quality research on materials elsewhere, highlighting potentially fruitful avenues of enquiry for the next generation of studies in this rapidly growing field.

Keywords: teaching materials; textbooks; materials use; materials consumption; materials analysis

Commented [A1]: In an effort to help hone the abstract a bit, we have two suggestions. The abstract even for a coda is meant to be a balanced overview of the article itself. Therefore, we request 2 types of changes to the abstract: that 1) this one sentence here be deleted, and 2) some of the details that we've provided in the second to last sentence be included.

Regarding why we think the first sentence needs to be deleted, there are three reasons as explained below:

This and the previous sentence, which are focused on the differences between consumption and use, comprise almost half of the abstract. That is problematic because it is not representative of the focus of the article. Secondly, new information is introduced here in the sentence isn't explicitly revisited in the paper. Thirdly, all of us editors agree that the terms 'consumption' and 'use' do not 'at first sign appear synonymous,' based on dictionary definitions or the literature, for example. This topic of the difference between consumption and use is explained better below, so it is better to leave this issue for the discussion below and avoid the term 'synonym' for reasons of accuracy.

In earlier work (Harwood, 2014a), I proposed a three-way classification to categorize research conducted on teaching materials in general, and on TESOL textbooks in particular. This classification divided research into work on materials *content*, *consumption*, and *production*, each category being defined as follows:

> At the level of *content*, we can investigate what textbooks include and exclude in terms of topic, linguistic information, pedagogy, and culture. Unlike studies of content, which analyse textbooks outside the classroom context, at the level of *consumption* we can examine how teachers and learners use textbooks. Finally, at the level of *production*, we can investigate the processes by which textbooks are shaped, authored, and distributed, looking at textbook writers' design processes, the affordances and constraints placed upon them by publishers, and the norms and values of the textbook industry as a whole. (p.2)

In the definition of materials consumption quoted above, consumption is associated with how 'teachers and learners use *textbooks*,' but I would broaden this out to the use of other materials, to include both commercial and non-commercial materials, ranging from studying how teachers and learners react to and consume best-selling 'global' textbooks at one extreme to the humble teacher-produced handout on the other. This classification remains a useful way of appreciating the range of research that can be conducted on teaching materials. Of the three categories of content, consumption, and production, the research in this special issue is closest to the category of materials *consumption.* Guerrettaz, Engman, & Matsumoto (2021) call the contributions examples of research on *materials use*. In my own work (e.g., Harwood, 2014a, 2017, 2021), I see research on *materials consumption* and on *materials use* as the same thing—research which focuses on how teachers and learners interact with and respond to materials inside or outside the class. However, Guerrettaz, Engman, & Matsumoto

(2021) and the other contributors to this special issue would not see materials consumption and materials use as synonymous terms; rather, they would see research into what I call materials consumption as merely one subcategory of research into materials use, given the diversity of materials they study (e.g., objects found in nature) and in the light of the important role the lens of sociomaterialism plays in their work. As explained in the various discussions of the concept in this special issue, sociomaterialism often seeks to flatten the hierarchy between human and non-human agents, disrupting the notion that humans are in total control of non-human objects like textbooks and other materials. The contributors also speak about non-human artifacts like materials exercising agency. In contrast, my own concept of materials consumption retains the traditional understanding of a human/non-human hierarchy and retains the traditional focus when speaking about agency on human actors, seeing teachers and learners as exercising agency to the exclusion of any agency exercised by the materials. Regardless of these differences, though, there is much common ground between my own concept of consumption and the concept of materials use as understood by the contributors in this volume, in that both concepts are concerned with studying materials *in action* rather than merely on the textbook page or handout.

Focusing specifically on previous research on materials use, I previously observed that there was a paucity of studies on how teachers use materials either inside or outside of the classroom, and to begin to address this lack, three chapters in Harwood (2014b) duly focused on textbook use/consumption: Grammatosi & Harwood (2014), Hadley (2014), and Menkabu & Harwood (2014). However, it is still the case that when we compare the amount of work devoted to studies of materials content with work on materials use, there is far less work done on the latter

Commented [A2]: While we appreciate the revisions discussion here, there is one issue just with the last part of this sentence. The definition of 'use' isn't different from 'consumption' merely because sociomaterialism is the conceptual 'lens' of the issue (i.e., umbrella category of conceptual frameworks of the issue, since sociomaterialism is not a unified approach). There are a range of reasons why the two (use and consumption) would not be viewed as the synonymous. To help bolster this point in a quick and easy way, one reason 'use' is, especially for the purposes of the issue, different from consumption is because of the diversity of objects studied in the issue. One clear example are the Ojibwe forest materials, as explained in our previous set of comments.

Thus, we provide the suggested wording here to help make this revision process a bit easier, we hope. Meaning, one way that the point could be retained easily without inaccurately confounding 'use' and 'sociomaterialism' could perhaps be to add the phrase we suggest, or something similar.

Commented [A3]: While we appreciate the effort to address sociomaterialism, the major concern is that neither material agency nor sociomaterialism is accurately defined here, as explained in the body of our email.

Moreover, the characterisations of sociomaterialism and material agency here seem dismissive of both constructs. This is problematic because these are at the heart of the issue, and the purpose of an MLJ coda is not to dismiss issues at the heart of the issue as a whole.

For example, we have concerns that this phrase "...non-human artifacts like materials exercising agency" misrepresents ontological aspects of sociomaterialism. In sociomaterialism, "material agency" refers to the phenomenon of non-human artifacts *influencing* the social and material world. That is different from saying that materials "exercise" agency similar to the way humans do as is stated here. Sociomaterialism is explicit in its characterisation of material agency as being very unlike traditional conceptions of human agency involving will or conscious intent. Meaning, it is not so radical as you suggest here in most sociomaterialist approaches.

Also, as explained in the e-mail, this issue of material agency is not the defining feature of sociomaterialism. Sociomaterialist approaches, which are varied, do not universally acknowledge material agency. This is evident in the articles of the issue.

The concern is that these sentences misrepresent core concepts of the issue.

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than on the former. The focus in this issue, then, of studies examining materials in use, is most welcome, and in this coda I draw out several themes in a narrative in which I make a case for expanding and enriching research on various aspects of materials and propose a research agenda which I hope teachers, teacher trainers, and researchers interested in instructional materials will find thought-provoking.

THEME 1: A WIDER CONCEPTUALIZATION OF MATERIALS

Sometimes we may equate 'teaching materials' with language textbooks used in the classroom. But the research in this volume vividly reminds us that 'materials' can encompass a wide range of stimuli associated with contexts far beyond the classroom. Guerrettaz, Engman, & Matsumoto (2021) revisit and expand traditional definitions of materials, arguing that our understanding of materials should cover "1) physical entities, 2) texts, 3) environments, 4) signs, and 5) technologies used with the ultimate intention of facilitating language learning/teaching in some sort of principled way." Referencing the wider environment, Guerrettaz, Engman, & Matsumoto's broader definition encompasses the study of out-of-class settings and the role these settings play in impacting teaching materials in general and language learning in particular, perhaps most vividly conveyed in this volume by Engman & Hermes' work on Ojibwe learners, in which elders utilize the land and the wider environment as 'materials' for Indigeneous language learning resources on forest walks. Also relevant to the themes of expanding traditional conceptualizations of materials and of out-of-class learning are the language learning opportunities afforded by technology, as in the augmented reality (AR) game focused on in Thorne, Hellermann & Jakonen (2021). Many learners may be minimally inclined to review the language activities presented to them in their traditional textbook materials out of class, but may be far

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more interested in other resources in the target language, such as online games. The authors of these materials may or may not intend them to be used to foster language learning; regardless, the two very different studies by Engman & Hermes (2021) and Thorne, Hellermann & Jakonen (2021) both highlight the potential of out-of-class learning and the fact that such learning can take place as a result of interacting with a far wider set of stimuli than the traditional teacher-produced handout or commercial textbook.

Yet at the same time as we should accommodate this broader view of materials to include out-of class contexts and resources, it remains the case that in most TESOL/foreign language classrooms around the world the textbook is likely at the center of the curriculum—indeed, the textbook often *is* the curriculum, and high-stakes in-house exams may be based very closely on the textbook (e.g., see AlGhamdi, 2021, for a study of teachers' textbook use in an exam-driven Saudi Arabian tertiary context in which teacher omission of textbook material carried the threat for students of lower grades, given the alignment between textbook content and in-house exams). Thus, methodologically robust studies of textbook use remain important and should constitute a principal aspect of future materials research.

THEME 2: THE STUDY OF STUDENT-GENERATED MATERIALS

In this section and the next, I speak of two exciting areas of investigation for materials researchers which some of the contributions to the current volume focus on.

We normally think of teaching materials as authored by a textbook writer, by some kind of external agent like a local authority or ministry of education, or by the learners' teacher. However, learners can design their own materials, whether these materials are for the use of their peers or for themselves, acting perhaps as resources

for self-study, and Kim & Canagarajah (2021) focus on these student-generated materials (SGMs). Kim & Canagarajah explain their study investigates "how…learners create materials, use them with other resources, and design their own ways of L2 learning to achieve their goals." Student-generated materials are defined as "all artifacts and activities the students use according to their own interests to practice L2 skills." Kim & Canagarajah's study context was a jobseekers' English course in Korea which focused on speaking skills.

One of the potential advantages of SGMs is that they may be able to focus on learners' needs and relate to their designers'/users' lives in a way that traditional textbook or teacher-produced materials cannot. Hence we see one of Kim & Canagarajah's participants, Joon, authoring SGMs to practise interviews and interview presentations, given his preoccupation with finding employment. It is not that textbook materials are necessarily deficient; but textbook writers are in an unenviable position, inasmuch as they are obliged to try to write materials for diverse groups of learners around the world they have never met and will never teach, with learners' hopes, interests, learning styles, likes and dislikes, and levels of motivation likely to vary enormously.

Another recent innovative piece of research on SGMs is Alhajimohammed (2020). Alhajimohammed studied an online university in Saudi Arabia in which classes are conducted virtually and learners are assigned materials and exercises for self-study by their lecturers, all in preparation for high-stakes exams. Because the learners were unhappy with the materials they were given, finding them to be too difficult to understand, uninteresting, or likely irrelevant in relation to the upcoming exams, they began producing their own materials and discussing the lectures and the likely content of the exams via online fora, eventually also sharing their SGMs

through these fora. These SGMs took various forms and had various aims. They included transcripts and summaries of lectures, questions and answer exercises relating to lectures, and focused language practice, as well as various activities featuring both English and Arabic: lists of English vocabulary accompanied by Arabic translations, grammar rules, and translations of English reading passages. Some SGMs were more warmly received than others, the authors of the more acclaimed materials going on to be forum moderators or even to sell their SGMs commercially in bound editions via local print/photocopy shops. Some of these bound sets of materials were so commercially successful that they attracted sponsors and advertisers, and the materials continued to be in demand by subsequent student cohorts. Through her analysis of learners' forum posts and interviews with SGM writers and users, Alhajimohammed shows how these materials writers and their SGMs had a profound influence on some learners who felt unable to follow the lecturers' classes and materials, and who had contemplated dropping out of the program; with help from the SGMs and help from the learner community to prepare them for the exams, they stayed the course and ultimately graduated.

It is understandable if we associate opportunities for learners to produce their own materials with low-stakes, non-exam-driven contexts, as in Kim & Canagarajah (2021). After all, as Kim & Canagarajah (2021) allude to, in exam-driven contexts the focus is normally on the test and on textbooks specifically practising test-like exercises. Such contexts may be thought to lack the time and space for the experimentation and creativity associated with SGMs. However, in Alhajimohammed's study SGMs flourished in a context where learners were highly preoccupied with in-house exams, and the materials were focused on helping peers achieve exam success. It is easy to envisage future work on SGMs focusing on: (a)

students' preferences regarding the form and focus of SGMs; (b) teachers' evaluation of suites of SGMs, thereby enabling researchers to compare and contrast student and teacher beliefs about the appropriate form and focus of this type of material; (c) interviews with SGM designers to uncover their beliefs about language learning and effective materials, enabling researchers to understand why SGMs are designed the way they are; (d) analysis of the quality of SGMs in terms of the accuracy and comprehensiveness of their syllabus; and (e) empirical studies of the effectiveness of SGMs in terms of language acquisition compared with the effectiveness of 'official' materials, such as textbooks and teacher handouts, measured via pre-/post-test designs.

Both the Kim & Canagarajah and the Alhajimohammed studies also remind us of how materials use is mediated by the wider context, in line with the emphasis by Guerrettaz, Engman, & Matsumoto (2021) on the importance of studying the wider environment in research on materials use. Relevant contextual factors when researching materials use can include technology and people available for learners to consult in class (e.g., the internet, the teacher, other learners) but also the extra-classroom environment. In Kim & Canagarajah's study, for instance, external influences can be seen in the two focal learners' career ambitions impacting upon the choice and appeal of their SGMs. Similarly, in Alhajimohammed's study the learners' consumption of SGMs increased because of continual technical problems with downloading the official university lecture materials. More materials research which considers context in its widest sense and its relationship to materials use would be welcome.

THEME 3: TEACHER AND LEARNER RESISTANCE TO MATERIALS

In her study of students' use of smartphones in class, Matsumoto (2021) finds that learners may *resist* the materials or the accompanying task, perhaps by declining to perform the task they have been charged with, or by performing it in a different way. Another classroom-based example which could be seen to constitute learner resistance to the materials comes in Guerrettaz (2021), where we see learners perform an oral pair work activity with little use of the target language, French. Peter Smagorinsky et al.'s (2002, 2004) fascinating longitudinal studies of teachers' use of their curriculum resources show how teachers can exhibit *accommodation, acquiescence, or resistance* towards the materials they are prescribed by their school or local authority; while Lloyd's (2007) study of a novice mathematics teacher, Bridget, finds that over time, Bridget learned the art of "strategic compromise"—to (somewhat) conform to her institution's mandates regarding how the curriculum was to be delivered, while also putting her preferred pedagogical stamp on her use of the materials. Bridget's school emphasized the importance of teachers using their materials to raise students' test scores on state-mandated tests, leading to a tension "between her own ideals of what kindergarten mathematics should be like, on one hand, and her sense of [her school's] expectations for instruction, on the other hand" (p.336). Bridget also wished to incorporate activities into her class that would promote her students' developmental and socialization skills, reinforce their learning via the use of kinesthetic activities, and supplement her textbooks where she felt they lacked sufficient practice exercises. To accomplish all of this, in addition to using her 'official' materials, Bridget drew on other textbooks as well as producing worksheets and authoring activities herself. Similar studies investigating learner as well as teacher resistance to textbooks and to individual exercise types would be a valuable point of reference for materials designers seeking to maximally engage their users in the tasks

they are writing; as Matsumoto (2021) points out, both parties have agentive power, and so focusing on learners' as well as teachers' use of and resistance to materials is necessary.

Two studies from the field of TESOL which surface the theme of resistance to materials are Jou (2017) and Seferaj (2015). Jou's study focuses on student reactions to materials and Seferaj's focuses on teacher reactions. Jou (2017) explores student reactions to a well-known English for Academic Purposes textbook, Swales & Feak's (2012) *Academic Writing for Graduate Students* (AWG). Jou (2017) interviewed MA students on an academic writing course studying in the U.S., asking them to reflect upon their experiences of using AWG, before asking the textbook writers for their responses to students' feedback. Whereas Swales and Feak reportedly designed in to AWG open-ended tasks as "a means to sensitize EAL writers to genre features by having them reflect on different linguistic and rhetorical choices," the open-ended nature of "this feature seems to have made some [learners] concerned about not knowing the answers" (p.19). In her interview, Feak highlighted how disciplinary differences in academic writing conventions mean the textbook authors felt they were unable to provide straightforward answers, and that to do so would be to do a disservice to learners:

> You just can't say that is how it is. That also gives students a sense that writing is like a formula, like calculating the slope of a curve. If I know the formula, then I am gonna get the right answer every time. But writing is not that way. (p. 21)

In another example, students claimed many of the AWG gap-filling exercises were of little value as they were already familiar with the vocabulary being used to complete

the sentences. But the textbook authors explained how their objective was to raise learners' awareness of larger rhetorical patterns and units of discourse into which this vocabulary fitted. In both these examples where students resisted or were critical of the activities, it is clear that the teacher's handling of the exercises in class is key to clarifying aims and being able to use the materials skilfully to lessen or eradicate resistance.

The second study reviewed here surfaces teacher rather than student resistance to materials. Seferaj (2015) studied four Albanian high school English teachers using Western-produced global textbooks in their local context which adopt a communicative approach to teaching. Using repeating classroom observation cycles, questionnaires, formal and informal interviews, and email exchanges with the teachers, Seferaj uncovered multiple instances of teacher resistance on the part of both novice and experienced teachers to the communicatively-oriented suggestions on implementing the textbook activities in the teachers' guide. For instance, Miss Evis, a highly experienced and well-qualified teacher, resisted implementing textbook fluency activities, explaining that these activities led to classroom management and disciplinary issues and caused difficulties because students were not used to participating in student-centered learning. Bearing in mind her students' pedagogical expectations, as well as other contextual factors, such as learners prioritizing exam success rather than the wish to become fluent oral communicators in English, Miss Evis' classroom pedagogy was therefore "mainly traditional" (p.171), adapting the textbook material into more teacher-centred activities.

The studies reviewed in this section underline that there is no room for complacency on the part of textbook writers and materials designers as to how their products will be received; as Jou (2017) argues, "we need more 'bottom-up'

consumer/user research rather than only relying on 'top-down' product analysis by experts" (p. 23).

THEME 4: THE TAKE-HOME MESSAGES OF MATERIALS USE RESEARCH FOR PRACTITIONERS

The studies in this volume emphasize that when users interact with materials, the results can be unpredictable and contingent (see also Guerrettaz & Johnston, 2013). As Thorne, Hellermann & Jakonen (2021) put it,

> …the use of identical learning materials (tasks, textbooks, assignments, syllabi) do not result in identical, or in many cases even similar, processes or learning outcomes…

This is indeed undoubtedly the case whether we look at this claim from the perspective of teachers' use of materials or learners' reception of them: give the same teaching materials to ten different teachers or to ten different classes of learners, and teachers and learners will react to and consume the materials in different ways (see Thompson & Senk, 2014 for empirical confirmation of variations in teachers' use in their study of mathematics teachers using the same geometry textbook). Let us first consider the case of teachers. Some teachers will stick more rigidly to the script the materials designers envisage they should follow; others will play fast and loose with the activities, for instance omitting or reordering them, changing the intended aims and target language points—or even abandoning the materials altogether, replacing them with alternative materials that are more in accord with the teacher's preferred pedagogical approach and/or more in accord with their perceptions of what their learners need or will respond to (for examples of teachers' varying patterns of

materials use and (in)fidelity to what was envisaged by the materials writers, see Bolster, 2015; Gok, 2018; Grammatosi, 2019; Grammatosi & Harwood 2014; Gray, 2010; Menkabu & Harwood, 2014; Richards, 1998; Seferaj, 2015; Shawer, 2010; Wette, 2010; Zheng & Davison, 2008). As Thorne, Hellermann & Jakonen (2021) put it, "each 'occasion of use' is situated in, and potentially catalyzed by, a particular social-material context," and this context will inevitably affect the ways in which the materials are used by teachers.

When we turn to learners, the picture is similar. Some learners may stick closely to an oral discussion task the materials designer envisaged, whereas others may respond to the task differently, as in Sert & Amri (2021). In their study, a class of Swedish secondary school learners who were given a discussion task by their teacher based on a film they had watched helped each other understand different items of unknown vocabulary, depending upon the students' existing lexical knowledge; hence different learning opportunities arose from group to group despite the fact that the same materials were being used by each group. Sert & Amri draw on Hellerman & Pekarek Doehler's (2010) notion of "learning potentials" to account for this variation in task processes and outcomes. For his part, Hasegawa (2021) accounts for the unpredictable nature of students' interactions when assigned a task by the materials designer by differentiating between *task-as-workplan* and *task-in process* as follows:

> …borrowing Breen's (1987, 1989) conceptual distinction of task-as-workplan and task-in-process, Seedhouse (2005) discussed how task-as-workplan, conceptualized as the pedagogical blueprint created by the teacher/task designer, is never identical to how task-in-process, viewed as participants' actual operation of the blueprint, is done in peer interaction. In other words,

the teacher's control embedded in a task-as-workplan does not necessarily

transmit to actual learner operations during task-in-process.

As Matsumoto (2021) argues, learners use their agency when interacting with the

materials, and as a result may stray far from the material writer's aims—for good or

ill in terms of their learning. Furthermore, other studies outside of this special issue

find that seemingly equivalent tasks can elicit different language output from learners

(e.g., de Jong & Vercelloti, 2016).

What implications, then, does the research in this volume have for teachers

and teacher trainers engaged in the day-to-day life of the classroom when we consider

this overarching theme of unpredictability/contingency in relation to materials? The

finding that different learners and different teachers react in various ways to any given

suite of materials is certainly important—it serves as a valuable warning that

materials can never be 'teacher-proof' or 'learner-proof,' that materials cannot be

guaranteed to do what their designers intended, may not be consumed in the ways

envisaged, and may not be as pedagogically effective as the writers hoped for. And so

these messages should filter through to pre- and in-service teacher development

courses on using materials and textbooks. Teacher trainers on these courses will need

to emphasize the multiple ways in which materials can be used, adapted, and received

by their users. Trainers should also emphasize the importance of adopting a flexible

approach to materials use, showing how skilful teachers make many pre-lesson and

in-lesson decisions as to how to tailor the materials to best fit the unfolding

interaction between learners and the materials minute by minute and activity by

activity in the classroom (e.g., Alvermann, 1987; Ben-Peretz, 1990; Remillard,

2018b; Richards, 1998).

It is also worth noting that Hasegawa (2021) and Thorne, Hellermann & Jakonen (2021) make it clear that unpredictability can be designed in to the materials intentionally; as Thorne, Hellermann & Jakonen neatly put it, the designer can introduce 'structured unpredictability' via 'intentionally under-specified tasks.' And so not all of the variation in materials use will be unplanned or unanticipated by the skilful designer/teacher. Methodologically rigorous studies of materials use involving close observation and analysis of how the materials are used will enable researchers to empirically evaluate the effectiveness of this structured unpredictability and provide materials writers, teacher practitioners, and teacher trainers with robust data as to the materials' effectiveness.

Yet if we place too much emphasis on the unpredictable and the contingent when we talk about materials use, we risk giving the impression to teachers and teacher trainers that we have no meaningful take-home message to offer. Teachers want to know which materials are effective in general, which activities and tasks are effective in particular, and how these resources are to be used in the most effective manner. The work of SLA researchers like Frank Boers (e.g., Boers & Strong, 2016) who are empirically testing the effectiveness of different types of language learning tasks will be of interest to materials writers and teachers as they make decisions about which materials to use and how best to implement them (see also other chapters in Tomlinson, 2016).

CONCLUSION: THERE'S MORE TO MATERIALS RESEARCH THAN STUDIES OF USE OR CONSUMPTION

I have emphasized throughout my discussion that, as Guerrettaz (2021) and Guerrettaz, Engman, & Matsumoto (2021) claim, there is clearly a need for more

research on materials use. Teaching materials printed on the textbook page, on the teacher-produced handout, or which are part of the wider environment, like Engman & Hermes' (2021) 'materials' found in the woods, only truly become pedagogic artifacts and affordances when in use; without enactment by teacher and learners, their potential strengths and weaknesses lie dormant, unrealized. This in turn limits the value of varieties of materials evaluation which do not take use into account. Similarly, a teacher training module on exploiting materials will be impoverished if it only involves trainees analysing instructional materials on the page or handout rather than when they are in use inside and outside the classroom. As Guerrettaz, Engman, & Matsumoto (2021) argue, "*use* is not a peripheral concept or an add-on to the existing field of materials development and evaluation. Rather…, situated use is central to how the field of…materials research…should understand this concept."

Nonetheless, although empirical study of materials use has been neglected and the call for further research on use in this volume is to be welcomed, *other types of robust, empirical research on materials—studies of content and studies of production—should also be encouraged*, and I duly close this coda by returning to my content/consumption/production classification with which I began in a call to widen and enrich the research taking place on materials.

Focusing first on materials evaluation studies of content, these remain important since it is crucial to evaluate the soundness of the materials on the level of the printed page or handout. These evaluations can focus on various aspects of the materials—for instance, information the materials provide about grammar and the comprehensiveness of the language syllabus included in the materials (e.g., Walková, 2020), the cultural dimension of the materials, such as the representations of different nations and cultures in textbooks (e.g., Risager, 2018), and the handling of pragmatics

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by materials, such as the soundness of information and exercises about how to complain or commiserate in the target language (e.g., Boxer & Pickering, 1995). In order to arrive at a more informed evaluation of the soundness of materials content, one research design which has frequently been used is to compare and contrast corpora of textbook language and L1 user language (e.g., Conrad, 2004). What the studies of content cited in this paragraph have in common is that, to a greater or lesser extent, they find the materials they analyze wanting—the information or coverage they provide is partial, inaccurate, or unsatisfactory in some way; hence the need for continuing investigations into materials content and for researchers to call writers and publishers out where they find the quality or soundness of the materials unsatisfactory.

There are also aspects of materials content which are far less commonly investigated, such as the teachers' guides/notes which are designed to complement textbook students' editions. To what extent is the guidance provided in line with applied linguistics research findings? To what extent do teachers' notes seek to impart knowledge to inexperienced or less knowledgeable teachers? To what extent do guides act as training aids, a function they have been said to have the potential to enact (Hutchinson & Torres, 1994)? The findings of a study of teachers' views on guides in a TESOL context in Kenya (Kiai, 2013) are not encouraging, in that many unfavourable opinions are expressed by the teachers towards their textbook guides. Indeed, we saw from Seferaj's (2015) work reviewed previously how teachers' guides do not necessarily transform teachers' pedagogical understandings, and here is another teacher from that study, Miss Ada, claiming that the developmental role fulfilled by the communicative textbooks in her Albanian context is minimal as the

teachers' guides do not provide enough of a rationale for opting for a communicative rather than a traditional pedagogy:

> We are asked to use student-centred textbooks, so that we can modernise our teaching. But the question is "How much are textbooks helping us to change?" In my view, not very much (laughter). So, in short, textbooks tell us what to do and, sometimes, how to do it, but they do not tell us why we have to teach in the way they predict. For example, new textbooks suggest that we ask the students to encounter, say, the simple past in a passage, before we even explain what the simple past is. In my view, we should give the rules first, so that students use their grammar to improve their reading comprehension. […] if [textbooks] showed us the reasons why they are following a certain approach we might understand the approach better, I guess, and follow it eventually. (pp.186-187)

In sum, Seferaj (2015) found that the textbooks and accompanying teachers' guides did not have the 'agent of change' effect that Hutchinson & Torres (1994) speak of:

> [T]he four teachers did not radically change their teaching approach while using Western-published textbooks in their classes. (p.198)

Furthermore, unfortunately research on the use of mathematics textbooks even shows that teachers' guides can *negatively* impact on classroom instruction. Focusing on a single, highly experienced elementary school mathematics teacher in the U.S., Remillard (2018a) shows how the teacher failed to understand the textbook's approach to the teaching of mathematics in the unit in focus and ended up confusing her students by her delivery of the materials. Part of the reason for the confusion was that the teacher's guide was not sufficiently explicit in spelling out the rationale behind its approach. As we see from Remillard's study, researching how teachers use

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(or disregard) the teachers' notes and the reasons for their conformity or resistance to following the guidance adds depth to the initial content analysis of the guides—but the content analysis is needed to begin with in order to determine 'what is there' in the materials (cf. Littlejohn, 2011), how (in)valid the guidance appears to be, and what pedagogical approaches are recommended, before going on to investigate the extent to which different teachers conform to the guidance in their classes and their reasons for doing so. In short, then, there remain plenty of potential insights which studies of materials content can provide.

The second type of study we should not neglect is that which focuses on materials production. Although studies of materials use have been neglected, materials production research, that is, research investigating "the processes by which textbooks are shaped, authored, and distributed, looking at textbook writers' design processes, the affordances and constraints placed upon them by publishers, and the norms and values of the textbook industry as a whole" (Harwood, 2014a, p.2) is surely the most neglected type of materials research. This 'production' research can investigate commercially produced textbooks marketed globally and the learning packages accompanying a textbook series, such as multimedia materials. But studies of production could also encompass locally produced materials, or more humble teacher-produced materials not for publication. Focusing on commercial textbook production, it is important to critically examine production norms of the publishing industry. In contrast to mainstream education studies (Thompson & Senk, 2014; Ziebarth et al., 2009) which show how textbook series may benefit from long and extensive piloting processes in authentic classroom environments, we are told by TESOL publisher insiders that piloting may not be seen as necessary or cost-effective (see Amrani, 2011). I have been unambiguous in my criticisms of the position on

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piloting that Amrani puts forward elsewhere (Harwood, 2014a, 2017) and in the interests of advocating for the production of pedagogically effective materials, such thinking downplaying the necessity of extensive trialling and piloting must be challenged. The field would also benefit from detailed first-hand accounts by textbook writers as to the industry practices they are obliged to work with; the few in-depth accounts in the field of TESOL which exist currently (e.g., Feak & Swales, 2014; Timmis, 2014) are not always encouraging. To complement this work focusing on commercial materials, production studies of locally produced materials would be valuable. Using research designs like Dawn Atkinson's (2013, 2020) involving designers' talk-alouds to investigate materials writing processes, the focus could be on the authoring processes of teams of materials writers producing local/in-house materials or 'lone wolf' teachers creating bespoke materials for an individual class. Gaining permission from industry insiders to engage in production studies of commercially produced materials will clearly be anything but straightforward; and the value of situating production studies in non-commercial contexts, focusing on locally published or teacher-produced materials, should not be discounted. In this vein, an additional innovative type of production study is exemplified by Bouckaert (2017), who explored the ways in which authoring materials fosters teachers' professional development via a case study approach focusing on Dutch EFL teachers, deploying reflective logs, lesson observations, pre- and post-observation interviews, and analysis of the materials themselves which the teachers produced. Guerrettaz (2021) and Hasegawa (2021) both study teacher-created materials in their research in this issue, but their focus does not include an examination of teachers' reflections on or analysis of the materials they authored, and further materials studies focusing on teacher development would be welcome.

In closing, then, this volume presents researchers with various possibilities for further enriching research on materials use. Studying materials inside and outside the classroom and in their wider social and environmental contexts, as well as the interactions which result from the use of materials, are all important aspects of research into materials use. When we also consider the potential for enriching future content- and production-focused research by broadening and strengthening our methodological arsenal of instruments and research designs, the scene is set for the next generation of studies.

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