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Exploring the Principles Applied During the Production of an Open Writing Textbook

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Abstract

Despite coverage of materials development principles in the applied linguistics literature, principled

production of open textbooks has not received attention. To address this gap and demonstrate the

interdisciplinary potential of materials development research, the authors drew upon concurrent

verbalization and interview data they collected while composing their first coursebook, a freely available

open textbook designed for first-year university writing courses that enroll English L1 and L2 learners, to

discern how they applied principles. Qualitative content analysis of the data indicated the novice

textbook writers focused on learning objectives to negotiate textbook relevancy and currency concerns,

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Keywords: materials development principles, textbook production, open textbook authorship,

concurrent verbalization, novice textbook writers, interdisciplinary research

EXPLORING THE PRINCIPLES APPLIED   2

An Open Textbook Production Project

Open textbooks—open educational resources (OERs) that are free to use and oftentimes modify

and rerelease due to their licensing permissions (United Nations Educational, Scientific and Cultural

Organization, n.d.)—have become more visible in tertiary education contexts in recent years (Jenkins et

al., 2020: 1). Nevertheless, inquiry into their construction remains limited, a situation that may leave

those new to open textbook writing wondering how to proceed, as Author and Author (2022a, 2023, in

press) acknowledged. To help redress the issue, the authors report on their production of *Textbook Title*

Removed for Blinding (Author and Author, 2021), an open corequisite coursebook produced for first-

year university writing classes that enroll English L1 and L2 learners. Though the authors designed the

book for use in face-to-face general education classes at their home institution, situated in an

anglophone context, they also made it openly available through the *Open Textbook Library* and *OER*

Commons, digital access points for open teaching materials, for wider consumption.

Corequisite remediation offers underprepared university students in the United States

embedded supports, such as learner training and increased course contact time—for example, through

paired college-level and developmental courses—to fast-track their progress to graduation (Daugherty

et al., 2021). Accordingly, the authors developed their textbook for corequisite course combinations of

introduction to technical writing and writing fundamentals. It intermixed workplace and academic

writing content with study skills material, and they used concurrent verbalization (thinking aloud) and

interviews to document the creation of four of its chapters.[1]

This article is among a small suite of papers emanating from the coursebook-development

project,[2] and herein, the authors focus on applications of design principles to the open textbook in order

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[1] Appendix A lists titles of the textbook chapters written during data collection.
[2] Author and Author (2022a, 2023, in press) also described the research project and utilized the same data set as this paper but reported on different findings. The project was approved by the University of Montana's Institutional Review Board (IRB #102-19).

to address the following research question: how is principled materials development realized in the

work of two novice (inexperienced) coursebook authors during open textbook construction? Qualitative

content analysis of the project data revealed that the authors navigated textbook relevancy and

currency concerns by concentrating on learning objectives; prioritized relatability when creating

material; and utilized varied repetition and layering to construct modular chapters. This paper begins

with a discussion of principled materials development in the applied linguistics literature before

narrowing in on the rationale for associating this rich body of scholarship with the open corequisite

writing textbook.

Views of Principled Materials Development

Various materials development researchers and practitioners in the applied linguistics field have

appealed for the use of a principled approach to textbook production to strengthen the language

learning and teaching opportunities afforded by these pedagogical artefacts. Principles, in this vein of

literature, are conceptions that center textbook content creation, and Tomlinson's contributions in this

area (e.g., Tomlinson, 2010, 2012) have focused on promoting learners' cognitive and affective

engagement and connecting second language acquisition research to pedagogic materials development.

Timmis (2022) also addressed principles for language teaching materials development by connecting

them to relevant research and stressed that materials should encourage extensive reading; provide

writing scaffolds, models, and stimuli; and draw from a mix of approaches to writing instruction.

Furneaux (2022) similarly highlighted the value of reader-centered (sociocultural), cognitive (process),

and genre-focused (product) approaches to writing instruction when discussing materials development.

When Hadfield (2014: 352) reported on the construction of a teacher's resource book, she listed the

explicit principles that inspired its activities and emphasized the complexity of materials production, a

factor that may likewise initiate "'tacit frameworks'" of principles as writers respond to emergent

demands. Hadfield (2014: 352) underscored the "messy, recursive" nature of materials development, an

observation born out in Author's (2020) research. Indeed, the two expert (exceedingly skilled) ELT

textbook authors in Author's (2020: 490, 493) study, who thought aloud whilst writing, likened the work

to "sculpting" and "putting on layers and layers" as they endeavored to address design principles and

ideas for their coursebooks born of contextual circumstances and their field-specific knowledge and

experiences.

As a testament to the complexity of principled materials development, the applied linguistics

scholarship has also addressed compromises that may accompany coursebook projects as authors

contend with situational realities, commercial publishing conditions, and the needs and preferences of

stakeholders. Gray's (2002: 159) research indeed exposed the publishing stipulations that can constrain

the scope of topical content in commercial ELT textbooks, restrictions around "politics, alcohol, religion,

sex, narcotics, isms, and pork." Timmis (2014) reported on his experiences of materials writing and

addressed the degree to which he and coauthors attenuated their principles in response to emergent

demands in the form of materials feedback. Timmis (2014: 241) faced opposition to certain textbook

topics (e.g., drug and alcohol use) on the grounds of cultural appropriateness and concluded that when

writing language teaching materials for commercial publication, some level of compromise is to be

expected to accommodate research-informed principles and contextual exigencies.

A Study of the Principles Applied During Open Textbook Production

Taking up Harwood's (2017) call for more interdisciplinary emphasis on materials

development—a cause also seemingly championed by Lee and Catling (2017) who cited literature on

language teaching materials development when writing about geography textbook production—and

Tomlinson's (2010) entreaty for principled materials design, this paper examines principles applied to

the development of an open writing textbook via their instantiations. Though the principles do not

center directly on promoting language learning, they do intersect with the applied linguistics literature

on materials development, as well as concepts central to writing instruction and open textbook

construction and use, and thus is the rationale for bringing the areas of emphasis together here. After

all, Ziebarth et al.'s (2009) research into mathematics materials development illustrates that principles

are similarly applied to materials projects outside of language teaching, in what Harwood (2017: 265)

refers to as "mainstream education." Furthermore, writing is taught in language classrooms, so the open

textbook's pedagogical focus may hold interest for language teaching practitioners and researchers. And

like writing in language courses, text in mainstream writing classes is assessed on "linguistic accuracy,

but also the degree to which the text fulfills task requirements and genre norms, the relevance of the

content, and the clarity and accuracy of expression and of organisation/cohesion" (Furneaux, 2022:

251), again pointing to commonalities. Harwood (2017: 265) stated that materials development

researchers working in the language teaching field tend to focus exclusively on the work being done by

other TESOL researchers; this study aims to break from that mold by concentrating on a textbook

development project in an adjacent field.

The Authors, Their Design Principles, and Their Textbook Plan

These authors were new to textbook writing but had engaged in materials development

throughout their teaching careers. Author, referred to as TWS (Textbook Writer Author), held a master's

degree in technical communication and had worked in the field for 15 years before starting a full-time

faculty appointment. She had accumulated 11 years of experience in teaching and creating lesson

materials for university-level writing and sociology classes when data collection commenced. Author,

referred to as TWD (Textbook Writer Author), had a master's degree in journalism, a Ph.D. in applied

linguistics, and 15 years' experience in teaching and designing lesson materials for university-level EFL,

EAP, and writing courses when data collection began. Both authors had taught writing corequisites and

were familiar with their learning outcomes.[3]

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[3] Appendix B lists the corequisite course outcomes.

At their project's inception, the authors established design principles that centered and inspired their textbook-writing efforts. They stressed the value of study-skills-focused content, for instance, since students in corequisites may benefit from guidance in honing productive learning and self-regulatory strategies and in navigating higher education environments (see, e.g., Daugherty et al., 2021: 3; Richardson & Dorsey, 2019: 46).

TWS and TWD also prioritized the inclusion of substantive chapter material since some corequisite courses are semester-long or stretch over two terms (Richardson and Dorsey, 2019: 52). They wanted to provide sufficient content so their book could be used for these differing configurations.

Reflecting corequisite course outcomes and Furneaux (2022) and Timmis' (2022) recommendations for materials development, the open textbook authors' principles also encouraged coverage of reader-centered writing techniques that foregrounded the importance of a document's audience and purpose; extensive reading, critical thinking, and writing opportunities to engage students; and exercises focused on writing processes and genres that could serve as jumping-off points for classes. Ancillary packages containing comprehensive materials for university faculty can increase commercial textbook prices for students in the United States (Buczynski, 2007), and the authors hoped to draw instructors away from using them by supplying lesson and assignment primers.

Following Frydenberg and Matkin's (2007) recommendations for open textbook production, TWS and TWD's principles also specified modular chapter construction so teachers could custom configure material to address needs, preferences, and learning objectives. Hence, the authors built each chapter as a stand-alone piece, whenever possible, with content to inform its deliverable, and they minimized references to other chapters.

The modularity meant TWS and TWD could incorporate varied repetition to revisit concepts, such as ethical source use, in the textbook. When discussing coursebook development, Timmis (2022: 42-43) likewise endorsed varied repetition as a reinforcement technique.

To maximize flexibility of textbook use, TWS and TWD also sourced content from publications with Creative Commons licenses, copyright terms that permit open sharing, to showcase genres, styles, and document layouts, and they considered its inclusion a design principle. By incorporating Creative Commons material directly into the book, they could minimize hyperlinks to keep the text current and usable.[4]

TWS and TWD also counted relatability as a design principle, and they built case study and other material into the book that featured male and female characters of different ages with differing backgrounds and circumstances who operated in academic and workplace roles. By doing so, they sought to provide content with which textbook users might connect.

Lastly, TWS and TWD listed technical writing characteristics amongst their design principles. Technical writing strives to be clear, concrete, correct, concise, complete, coherent, and courteous; values consistent, comprehensible document design to heighten usability; and targets specific readers for pragmatic purposes (Author & Author, 2021: 6-7). The authors endeavored to address these defining qualities through relevant chapter coverage and modelling in their textbook writing and designing practices.[5]

Before composing content, TWS and TWD assembled a scope and sequence to plan their textbook's 43 chapters, identify assignment and scaffolding work, and connect chapter material with corequisite course outcomes. As full-time university writing instructors, they would need to fit textbook writing around other responsibilities, and when compiling the blueprint, they apportioned the chapter workload according to their interests, strengths, and experiences with teaching and composing various genres to make progress toward coursebook completion, as several textbook authors in Prowse's (2011: 153-154) research suggested. By composing chapters independently, TWS and TWD could write at their

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[4] Author and Author (2022a) further addressed the principles discussed in this paragraph.
[5] Author and Author (2023) further discussed the principles mentioned in this paragraph.

convenience, and since the chapters followed a modular design, they did not have to rely on each

other's deliverables to make headway on the textbook.

Data Collection and Analysis[6]

To track the construction of their open textbook in real time, TWS and TWD used concurrent

verbalization as their primary data-collection method, and they thought aloud while each developing

two textbook chapters: ones written at the beginning and end of textbook production. They read about

the method and reviewed concurrent verbalization transcripts from Author (2013) to prepare for the

sessions. The nearness of concurrent verbalization to textbook writing activity offers the opportunity to

capture detailed data, as studies such as Author (2020, 2022) have shown, and the authors self-recorded

their think-aloud protocols (TAPs), the products of concurrent verbalization sessions, to fit textbook

production and data collection around their teaching and other commitments. Other writing process

studies, including Author (2020) and Berkenkotter (1983), have similarly used participant-recorded TAPs

to encourage productive writing output. The technique gave TWS and TWD the freedom to work on the

textbook when and where they chose, and it enabled capture of extended writing sessions that occurred

over day and nighttime hours. To triangulate and supplement the TAP data, they also conducted pre-

and post-concurrent verbalization interviews[7] to explore each other's chapter perceptions, textbook

plans, composing practices, and writing preferences.

TWS and TWD used qualitative content analysis to code the 897 pages of transcription

comprising their data set (Author and Author 2022b). Thus, they worked inductively when scrutinizing

the transcripts to partition them into meaning units—words and word groups that conveyed

meanings—in order to detect areas of analytic prominence. Project funding limits precluded the hire of

research assistants, so they coded the data individually and met twice to systematize their codes; during

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[6] Author and Author (2022a, 2023) expanded on the research design.
[7] The interview questions can be found in Author and Author (in press).

those meetings, they compared the codes they applied to transcript sections rather than the entire data

set (considering its size) and defined coalescing themes. Data analysis revealed how relevancy, currency,

relatability, and modularity considerations were addressed during open textbook construction.

Content Relevancy and Currency Concerns Arose During Open Textbook Production

In the applied linguistics literature on materials development, taboo topics discussions center on

commercial textbook production and the restrictions publishing staff may impose on projects (see, e.g.,

Gray, 2002), but this study reveals such considerations may also arise during open textbook

development. TWD indeed encountered a taboo topic whilst composing a chapter entitled "Writing to

Persuade" when she attempted to explain arguments and their components. As she thought aloud while

defining the word *claim*, she made a veiled reference to the fragmented political climate in the United

States and how she wanted to retain focus on the material at hand by prioritizing relevancy:

> [8]"A claim communicates a standpoint a particular stance on something…[9]Taking this definition
>
> into account some claims cannot be argued…in…Academia or the workplace…Facts…for example
>
> cannot be argued because…they are indisputable…Meaning…They are true in all
>
> instances["]…It's…kinda hard…to define a fact…in…modern times…with the way…some people
>
> seem to see facts as being disputable…I'm not gonna get bogged down in that.[10]

TWD endeavored to optimize the usefulness of textbook content, and she concentrated on explications

of the chapter's key terms rather than controversies surrounding their interpretation. When she

composed a chapter on academic integrity, she again focused on vocabulary while introducing

infographics, which "combine text visuals and numbers to communicate dense information in quick and

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[8] Double quotation marks in the block transcript excerpts indicate the author is reading back existing content or is voicing textbook material while typing it.

[9] Ellipses represent the omission of superfluous material (e.g., repetitious language).

[10] The authors present TAP and interview extracts to illustrate applications of principles, although the former outnumber the latter herein. Both types of excerpts can also be found in Author and Author (2022a, 2023, in press).

easy to read formats" as she put it during concurrent verbalization. After defining the term, TWD said

she would direct textbook users to an example of the genre produced by Turnitin that classified types of

plagiarism, and she thought aloud about a potentially controversial aspect of the material as she

explained what the company does:

> I don't want to get involved in controversies about whether people support the use of
>
> Turnitin…I'm just trying to define what the company is…I don't want to derail the focus here for
>
> the students…"To help you understand what constitutes plagiarism review another infographic
>
> produced by Turnitin a company that sells text matching detection software and conducts
>
> research on academic integrity topics"…I'm happ[y] with that because…it's linking…text
>
> matching with…academic integrity without…inserting a viewpoint.

Here again, TWD sought to keep the focus on learning objectives instead of potentially emotive

distractions. The commercial ELT textbook writer in Author's (2022) study anticipated readers' reactions

to the material she produced and carefully negotiated controversial topics, and the transcript excerpts

herein evince that open textbook authors also encounter taboo subjects and must establish ways to see

their texts through to publication and use.

Content relevancy considerations came to the fore during the open textbook's production, but

so did concerns about the currency of coursebook material, as is the case in commercial textbook

projects (see, e.g., Author, 2022), and TWD and TWS tailored their chapters in response. To illustrate, as

TWD wrote the "Choosing Integrity" chapter during concurrent verbalization and incorporated a blank

text box[11] so learners could brainstorm types of academic integrity violations, she mentioned efforts to

keep textbook content up to date:

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[11] Samuda (2005: 245, citing J. Ridgway, personal communication) referred to such engagement features as "structured stationery."

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"what activities violate the ICAI's [International Center for Academic Integrity's[12]] definition of

academic integrity. Record your answers below"…I'm gonna add…another piece of structured

stationery to allow them [the students] to…record their responses and…since issues around

academic integrity are…ever evolving…this opens it up so…it won't become dated.

Here, TWD articulated the connection between coursebook currency and usability and tailored content

to facilitate the open textbook's future use. She reiterated the rationale later during the same TAP as

she reviewed existing Creative Commons resources for inclusion in the open textbook. The resources

presented scenarios describing possible academic integrity violations, and TWD indicated she would

adapt the source material and interleave it into the chapter rather than hyperlink to it, in accordance

with the textbook's design principles:

I'll…do what I can with the other questions cuz I don't…want to insert a URL here…I'm trying to

insert…the fewest…URLs I can so…the textbook…has a…decent shelf life and…things don't get

outdated and change.

The data extracts presented in this paragraph reveal how currency considerations impacted the open

textbook's development and provide insight into the motivations behind seemingly straightforward

page design choices.

Textbook Chapters Featured Content Users Might Relate To

The technical-writing-focused aspect of the open textbook occasioned thoughtful decisions

about portrayals of female and male characters during chapter construction, particularly since women

are largely underrepresented in science, technology, engineering, and mathematics fields (Bello et al.,

2021), and the authors invited learners to engage with the book by addressing relatability in purposeful

ways within its chapters. To demonstrate, when TWS wrote the "Integrating Graphic Elements" chapter

during concurrent verbalization, she configured a true-to-life story of a student intern's experience with

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[12] This organization promotes academic integrity education.

operating a worksite vehicle to establish context for the chapter's deliverable, an incident report with a

visual, and she purposefully made the scenario's lead character a female: "I picked a…name for

a…character I…purposely chose a…woman's name in an engineering field." The author's choice of a

female personality for the scenario signaled an effort to highlight the presence of women in the

engineering workforce; in addition, TWS made the character a student, a person with whom learners

might relate. As TWD thought aloud while integrating case studies into the "Choosing Integrity" chapter,

she likewise expressed her intention to feature an equal number of female and male characters: "I'm

gonna give this student a name just like with the other case…the previous person was a male so let's

make this person a female." As these transcript selections illustrate, the authors aimed to make

textbook content relatable by introducing male and female characters who functioned as students. They

also included sample texts in chapters to model writing styles and genres for students, as Furneaux

(2022: 252-253) and Timmis (2022: 34-35) recommended. TWD mentioned this approach during

concurrent verbalization while composing the "Writing to Persuade" chapter:

> I've been trying to include…at least one…sample text in each of the chapters…so students
>
> have…a sample to work with but also…as a pedagogical artifact for exploration looking at the
>
> genre looking at formatting looking at style.

To heighten the book's pertinence for its target learner audience, the authors incorporated exemplars of

student work when feasible, as TWD articulated during the same concurrent verbalization session: "I've

been trying to use student examples…to give the students…a real flavor for…actual student writing." The

data extracts provided herein evidence the authors' attempts to create a learning tool that prioritized

relatability and reflected students' perspectives.

Though TWS and TWD developed an open textbook for "mainstream education" (Harwood,

2017: 265), they took English L2 learners into account and integrated content to strengthen the book's

germaneness for this audience. They wrote characters with various backgrounds and circumstances into

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vignettes to make English language learners visible within the textbook's chapters but also went beyond

that step during textbook construction. To illustrate, when TWD thought aloud while composing the

"Writing to Persuade" chapter, she expressed her motivation for preparing sentence frames as tools for

acknowledging counterarguments: "EAL students…in particular…benefit from…these templates…to give

them a sense of…how some of this stuff is done…in chunks." She thus incorporated several such

templates into the chapter as exemplars for sentence development, a modelling approach Timmis

(2022: 34-35) highlighted. During the same TAP, the author avoided using an idiom and explained her

rationale as she created a writing process activity that involved listing and mind mapping, which was

meant to scaffold creation of the chapter's deliverable, a researched argument essay: "I'm gonna say list

everything you can think of about the topic…I'm hesitant to use off the top of…your head…Because it…is

an idiom which…EAL students can struggle with." When TWD selected plagiarism scenarios for the

"Choosing Integrity" chapter to prompt students' reactions, she again mentioned English L2 learners

during concurrent verbalization:

> this…talks about a situation where a student doesn't understand source information but still
>
> uses it…that's a situation while teaching I have run into…particularly with English as an
>
> additional language students…it's something…good to…make students aware of.

Taken together, the examples in this paragraph convey a focus on open textbook usability with English

language learners' needs in view.

Modular Textbook Construction Sparked Varied Repetition and Layering of Textbook Content

The open textbook followed a modular configuration so teachers could tailor reading and

writing assignments to course configurations, outcomes, and their learners' needs, and this principle

offered a stimulus for integrating "varied repetition" (Timmis, 2022: 42) into the book as a

reinforcement technique to support the development of core writing skills and knowledge. TWD

remarked on the approach during concurrent verbalization as she commenced the "Writing to

Persuade" chapter: "because we're doing this modular design with the chapters…I've tried to

incorporate…varied repetition…particularly with these last chapters…stuff…needed to be repeated

for…pedagogical…reasons…like…evaluating source information…and incorporating sources." Here, as

TWD considered the textbook's use, she articulated her pedagogic motivation for revisiting central

concepts in various ways while building chapters. Later during the same TAP, the author addressed

varied repetition with respect to the open textbook's target learner audience and mentioned a resource

she used to achieve that objective: "A lot of…writing centers…are producing…handouts…they're not

overly lengthy and…are at an appropriate level for the students…they're Creative Commons and…I was

incorporating them into various chapters...because of this modular design." Shortly thereafter, as TWD

discussed the production of the "Reporting Research Outcomes" chapter, she described how she applied

information from the writing center handouts to her work:

> it was…bricolage…adding layers and layers…I incorporated a few [handouts]…so again
>
> there's…varied repetition…for instance…how you go from research to synthesis which…I
>
> addressed in another chapter too…because of our modular approach and because these
>
> students…Need to be reminded of…essential skills that are used in different contexts
>
> with…different types of deliverables…also…the variety of delivery…is not a bad thing.

Similar to the expert ELT textbook writers in Author's (2020: 490, 493) study who compared coursebook

development to "sculpting" and "putting on layers," TWD employed a layering technique to infuse

varied repetition into chapters while keeping in mind the textbook's modular design principle. She

indeed mentioned layering several times during the TAP:

> tonight's session…is gonna be…layering work…expanding things…and then layering as far as…an
>
> activity…in this chapter…creating a list or a mind map…to help brainstorm ideas for a researched
>
> argument…I'm trying to not just talk about these…approaches but actually have the students
>
> put them into practice.

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TWD thus referenced the layering technique both when presenting material and when integrating

writing process exercises into chapters to reinforce key information and skills through a modular

configuration. However, she also emphasized the challenge of layering during the concurrent

verbalization session:

I described it [chapter construction] as…bricolage…it was putting on layers…and building the

chapters up and…thinking back to the 'Writing Essays'[13] chapter…it took me about three

days…to…get down my input there. And then…there were…things…I wanted to revisit…[from]

earlier chapters like…evaluating sources…that's where…the time came in was…getting those

materials together…and…into the chapter so…they flowed together…with my own content.

As the transcript excerpts illustrate, layering may be construed from both writing process and product

angles. As a process, layering points to the recursiveness of writing sessions (see also Hadfield, 2014),

during which TWD built out chapters by engaging in iterative cycles of writing activity to refine and

enhance existing chapter content. When doing so, she also added material to the chapter products by

layering it in (incorporating it) amongst other material. Though layering added time and complexity to

the open textbook project, it helped TWD address the modular design principle established for the

book's production.

TWS also referenced the modular design principle during textbook development, particularly as

she strove to address academic integrity in her chapters and underscore its importance through varied

repetition. In the interview preceding TWS's first concurrent verbalization session, during which she

discussed her plans for creating the "Integrating Graphic Elements" chapter, she mentioned ideas for

bringing academic integrity discussions to the forefront:

I'd…address…the…originations of graphic elements…because…students are able to access online

images…and use it as an illustration in a piece of writing…So the question becomes then how do

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[13] Titles and headings are enclosed in single quotation marks in the transcripts.

> you properly give credit to who created that original piece of work…I can see…academic
>
> integrity being…a part of every one of the chapters.

During the TAP that followed, the author again touched upon academic integrity as a unifying thread

running through all the chapters:

> with regard to academic integrity…it would…be possible to do something…in every chapter…like
>
> citation for example that's…gonna crop up all the time and it's not like you can tell these
>
> students too many times how important it is.

In TWS's dataset, academic integrity represented a practical instantiation of the modular design

principle, and the author emphasized the value of reinforcement, via "varied repetition" (Timmis, 2022:

42), to the open textbook's target learner audience. The modular design principle established at the

onset of the open textbook project thus anchored textbook content creation for TWS.

The modular design principle encouraged varied repetition *among* chapters, but TWS also

employed it *within* chapters to reinforce critical information for learners. To illustrate, while writing the

"Integrating Graphic Elements" chapter, TWS articulated her plan for using checklists to reiterate key

vocabulary mentioned in the chapter, and she compared the varied repetition technique to a world-of-

work application:

> the checklists…get key concepts repeated for the students much in the same way…
>
> we…encourage students to repeat…key information in different places within their documents
>
> because of the reality that…executives look for executive summaries in…business situations
>
> [they] rarely read the entire proposal cover to cover…different people look for different
>
> sections…they expect to contain the information they want.

TWS's explication of the varied repetition technique reflected her knowledge of genre expectations and

her classroom approaches to teaching workplace writing. Moreover, this transcript passage speaks to

the convergence between a textbook development principle and the underlying rationale for its

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practical application—a connection that might have remained tacit, as Hadfield (2014) discussed, had it

not been for the use of concurrent verbalization during textbook-writing episodes.

Conclusions and Implications for Materials Development Research and Practice

Harwood (2021) and Tomlinson (2012) have appealed for increased empirical investigation into

materials development, and the current study answers these calls by exploring design principles via their

enactment during open textbook construction. In particular, the research reveals how two open

textbook authors negotiated chapter relevancy and currency concerns to focus textbook content on

learning objectives; prioritized relatability when writing textbook material; and infused varied repetition

into chapters by using layering processes and instituting a modular configuration. The findings discussed

herein substantiate Harwood's (2010: 17) claim about the complex nature of principled materials

development and spotlight the intricacies involved in textbook production decisions.

By deconstructing writing episodes, this study offers an intimate view of open textbook

production, exposing the motivations for textbook features that may seem commonplace. For instance,

according to the existing materials development scholarship, coursebook authors are regularly advised

to consider character range when writing textbook content (Richards, 2014: 27), but without

explications of how textbook development principles are applied in practice, such characteristics may

seem axiomatic to textbook construction, or, worse yet, trivial. Studies of textbook production such as

this one help dispel these misconceptions by pinpointing the factors that contribute to the

distinguishable shape of the textbook genre.

While some readers may question the focus of this investigation since it concentrates on a

textbook development project outside of language teaching, the authors contend, in concurrence with

Harwood (2017: 273), that such research illustrates the cross-disciplinary applicability of empirical

inquiry into materials production and showcases the rich and varied potential of further work in this

area. Lee and Catling (2017) found areas of consonance between geography and language teaching

materials production; in a similar vein, the current study highlighted, for instance, how taboo topic

considerations may shape textbook content outside the language teaching and commercial publishing

realms. The findings also extend Timmis' (2022: 42) contention about the usefulness of varied repetition

to language learning materials: specifically, they demonstrate the technique can also be used to

reinforce course concepts, such as the importance of academic integrity to university coursework. The

transferability of findings can also be perceived in the layering approach used during open textbook

construction, and, in this respect, the research intersects with expertise study of commercial ELT

textbook production (i.e., Author, 2020). In short, the findings of materials production research have

generalizability beyond the parameters of commercial language teaching publications; the current study

indeed shows how such findings can be applied to the creation of an open writing textbook designed for

"mainstream education" (Harwood, 2017: 265).

Norton and Buchanan (2022: xix) have commented on the scarce presence of coursebook

writers in the materials development literature; the current offering helps counterbalance the situation

by focusing on the writing and research efforts of two novice textbook authors. Accounts of open

textbook development, such as this one, provide teachers-come-textbook-authors the chance to relay

their experiences and disseminate them for other budding authors to potentially benefit from—a

circumstance that may lead to additional materials writing and research efforts as the latter commence

projects of their own. Harwood (2021: 182) has called for studies of non-commercial teacher-produced

materials, and open textbooks offer rich possibilities in this respect since their authors are not bound by

the same publishing practices and copyright terms commercial coursebook authors are: in short, their

projects offer opportunities to deconstruct how textbooks are produced away from publisher oversight.

There is certainly room to expand the breadth and depth of materials development literature to focus

on seeds of emergent activity, such as open textbook production in which teachers, authors, editors,

page designers, publishers, and researchers may be one and the same. With these overlapping roles,

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there are bound to be excitements, challenges, negotiations, and compromises, making open textbook

development, regardless of disciplinary focus, fertile ground for investigation.

Limitations and a Call for Further Research

The dataset utilized in this study was substantial, but the scope of findings and extent of data

covered are limited to what can be discussed in a single paper. The authors were discerning when

choosing which data extracts to present as evidence of principles in action and accept that their choices

may not convey the full extent of their recursive writing practices (glimpsed through layering) or the

degree to which they attended to principles during hours-long writing episodes. They recognize the

limitation and acknowledge their literature review is also selective in its coverage of principled materials

design. Despite the limitations, this research makes headway in uncovering how principles are applied to

the production of an open textbook and in answering Harwood's (2017) call for more interdisciplinary

work in the area of materials development. The limited range of findings and literature discussed herein

support the need for additional research into how principles are realized during textbook-writing

sessions as a way to encourage the construction of open textbooks for writing, language learning, and

other courses.

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Appendix A

Textbook Chapters Produced During Data Collection

TWS:

- "Integrating Graphic Elements"

- "Identifying Secondary Sources"

TWD:

- "Choosing Integrity"

- "Writing to Persuade"

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3   **Appendix B**
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6   **Corequisite Writing Course Outcomes[14]**
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8   The students will:
9
10   • Consider and successfully address audience, purpose, context, and genre.
11
12   • Develop strategies for writing, including planning, organizing, drafting, editing, and reflecting.
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15   • Design and present documents that are appealing and easy-to-follow/scan.
16
17   • Revise documents until they are effective, clear, complete, concise, and correct.
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19   • Conduct research and demonstrate critical thinking through evaluation and use of sources.
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21   • Integrate source information into documents in an ethical manner.
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54   [14] The course learning outcomes for WRIT 100 Composing Mindfully: Writing Fundamentals and WRIT 121
55   Introduction to Technical Writing as taught at Institution Removed for Blinding can be found at
56   https://ccn.mus.edu/search/ (Montana University System, n.d.).
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