Using Constructive Alignment to Support Metaliteracy in International Classrooms

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This paper discusses strategies for promoting literacy and metaliteracy development in international and multicultural classrooms. Drawing on the first author's observational research and the second author's expertise in metaliteracy, we present a case study of international postgraduate students in an interdisciplinary department. The authors synthesize their different areas of work to describe how a fusion of metaliteracy, constructive alignment, and learning oriented assessments (LOA) facilitates student engagement with theories of knowledge organization and extensible markup language (XML) data-encoding standards. Our discussion describes curriculum design and redesign strategies and contextualizes observations about student success. The authors' observations provide a basis for proposing methods for using metaliteracy to implement constructive alignment and LOA methods for promoting collaborative and truly diverse learning.

Keywords: inclusive curriculum, international students, learning oriented assessment, metadata, metaliteracy

There is a wealth of research examining metaliteracy (e.g., Fulkerson, Ariew, & Jacobson, 2017; Mackey & Jacobson, 2011, 2014), learning oriented assessment (LOA) (e.g., Carless, 2007; Zeng, Huang, Yu, & Chen, 2018) and constructive alignment (e.g., Black & Wiliam, 2012; Broadbent, Panadero, & Boud, 2018; Gibbs, 2006; Nicol & Macfarlane-Dick, 2002).

However, there is little research exploring methods for combining LOA and constructive alignment, and even less research that uses metaliteracy to evaluate these two pedagogical models. In what follows, the authors argue that combining LOA and constructive alignment promotes the development of metaliteracy abilities, particularly for international and English as a Foreign Language (EFL) students. The authors base their discussion in a longitudinal case study of primarily Chinese EFL student experiences. Our observations of student learning evolved over the course of two years as we reviewed and analyzed the curriculum for a post-

KEY POINTS:

- Metaliteracy can be adapted and used to develop innovative forms of assessment.

- Evaluating curriculum using pedagogical theories like constructive alignment and learning oriented assessment can contribute to innovative lecture, seminar, and assessment patterns.

- Assessment and feedback can play a crucial role in supporting international students' classroom experiences.

graduate module titled *From Information to Knowledge.* As the module convener, the first author discussed learning strategies with the second author, who contributed insights and expertise on metaliteracy and metacognitive learning. In this light, the article contributes to the literature on curriculum and pedagogies for inclusion by exploring methods for using established pedagogical methods to develop innovative and inclusive assessment practices.

The following section introduces theories relating to metaliteracy to explore how constructive alignment and LOA can enhance EFL student success and confidence. We discuss methods for using constructive alignment, LOA and metaliteracy practices. Integrating these theories facilitates reflection on the continued relevance of scaffolding[1] in skills-based and technical learning environments. Throughout our discussion and analysis, we draw on observational research to contextualize the evaluation and critique of curriculum design and its effect on student learning practices. Drawing on two years of observational research at King's College London (KCL) contextualizes our critical evaluations of module curriculum and proposed strategies for promoting more diverse and inclusive literacy and Metaliteracy practices.

Inclusivity and metaliteracy

Metaliteracy is a "pedagogical model that empowers learners to be reflective and informed producers of information both individually and in collaboration with others" (Metaliteracy, n.d., para. 3). As a pedagogical model, metaliteracy "promotes critical thinking and collaboration. . . . It is a unified construct that supports the acquisition, production, and sharing of knowledge in collaborative online communities" (Mackey & Jacobson, n.d., para. 2). Metaliteracy challenges previous conceptions of abilities-based approaches to information literacy (IL) through the recognition of "related literacy types" (Mackey & Jacobson, 2011, p. 62) and an emphasis on metacognition (Fulkerson et al., 2017). In part, it is the emphasis on metacognition that distinguishes metaliteracy from more traditional conceptions of IL. Metaliteracy introduces theories and methods to develop flexible and transferable abilities like information seeking, critical reading, and technical skills. Jacobson and Mackey (2016) state that the diverse range of skills and practices that metaliteracy encompasses is based in "critical reflection necessary to recognise new and evolving needs in order to remain adept" (p. xvi). Metacognition is described by Fulkerson et al. (2017) as "critical self-reflection or thinking about one's own thinking" (p. 24). As such, metacognition, as a core foundation of metaliteracy, is the self-reflective process that assists individuals in identifying when they need to "update their understandings and abilities" to keep up with rapid developments in the information environment (Fulkerson et al., 2017, p. 25).

Flavell (1979) described metacognitive experiences as "any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise," such as "the sudden feeling that you do not understand something another person just said" (p. 906). Metacognition connects not just the cognitive learning domain, as prior iterations of IL, but also the affective and behavioral, which allows for the critical self-reflection to identify one's own strengths and weaknesses and engage in self-regulation (Fulkerson et al., 2017). Through the self-regulating practices encouraged through metacognition in metaliteracy, learners are able to adapt new ways to solve problems and overcome obstacles because they are able to draw and reflect on prior personal experiences and feelings in order to monitor their own learning processes. As such, metaliteracy encourages a "broader conception of knowledge acquisition within disciplinary contexts" (Mackey & Jacobson, 2014, p. 75) and engages learners in collaborative problem solving.

As a framework for assessments, metaliteracy promotes the integration of IL through metacognition. Understanding metacognition as a process that underpins and supports IL

development and practice empowers students to engage with learning materials through creative, emerging, and not always planned uses of technologies and collaborative efforts. As a framework for engaging in information seeking and use, metaliteracy encourages collaborative learning and scaffolded skills development. In the next section of this paper we discuss connections between collaborative learning and scaffolding.

Our discussion of pedagogical practices focuses on how students negotiate linguistic and cultural diversity while they develop learning strategies that synthesize existing knowledge with new skills.[2] Based on this synthesis of knowledge with new skills, students produce strategies for transferring their learning practices to other, possibly non-academic, contexts. Overall, we assert that instead of creating new systems for engaging with diversity—both linguistic and cultural—it is more effective to empower students to transfer and integrate their existing skills into the work they complete in their new learning environments.

Metaliteracy is one strategy for engaging in this kind of collaborative learning because it enables reflection and scaffolding. Mackey and Jacobson's (2014) text goes beyond identifying library-based IL skills focused primarily on the cognitive and behavioral domains by supplementing it with the affective experiences of learners, such as feelings and judgments. The affective experiences engaged in metaliteracy differ from the cognitive and behavioral as they are "affectively charged" (Efklides, 2006, p. 50). That is, the feeling of familiarity or of difficulty with an experience can lead to either recognition and confidence or interruption of whatever activity the learner is engaged in. It is important to note that feelings, of confidence or difficulty, may be flawed in that they are based on feelings of familiarity and the past outcomes of these experiences (Efklides, 2006). For example, objectively difficult tasks may be perceived as easy based on a learner's familiarity with the task. Likewise, the process or task may appear more difficult than it actually is if the format or content is new. This is when the collaborative element of metaliteracy is most important, as it provides an opportunity to engage students in new affective experiences in regard to the subject matter or assigned task.

Our case study discusses a particular instance of students benefiting from collaborative group work while learning Extensible Markup Language (XML), which is a human and machine-readable standard for formatting data so it can be stored and transmitted electronically. In the next section, we present examples of student learning in *From Information to Knowledge*, a postgraduate class that explores theories of knowledge organization through XML standards. We purposefully chose a technically challenging class as a case study for exploring methods to evaluate LOA and constructive alignment, because we feel that students were in a doubly challenging learning environment—the majority of students are learning in a foreign language (English) and every student is learning a new markup language (XML).

Providing students with the opportunity to enhance their knowledge and cognitive experiences through group deliberation on strategies that assists them in their assigned tasks can strengthen their problem-solving abilities and help instill newfound confidence. In many cases, collaboration encourages students to engage in the complex process of translation and transliteration through processes of adapting English materials into frameworks more familiar to their cultural, professional, and previous pedagogical experiences. We discuss more detailed examples in the following sections, but here is a brief example: International students learning new technical skills may feel overwhelmed by the theories

and topics covered in a lecture. This sense of not comprehending materials can compound a reticence to answer questions posed by a teacher. Instead of perceiving a student as unengaged or underprepared, it can be more strategic to provide a range of different environments to solve problems, ask questions, and answer them.

Encouraging students to participate in group deliberations subtly encourages inclusive, reflective learning processes. Instructors can facilitate diverse learning practices that enable students to negotiate their own ideas and experiences with their group mates. More often than not, this process does not require overt statements or direct intervention from teachers; thus planning and supervising group work enable the dynamic and continuous use of disciplinary terminology *and* creative engagement with more than just referencing and citation management. Looking beyond foundational library skills means that a range of disciplines can adopt metaliteracy as a framework for instruction because it uses a synthesis of pedagogical strategies to promote metacognitive learning and, thus, expands the potential meaning of information needs and the roles that discussion and reflection play in resolving them. Most importantly, for this article, our use of metaliteracy does not assume that certain types of students are better prepared or able to work in rigorous academic contexts.

Pedagogical approaches: Constructive alignment and learning oriented assessment

Constructive alignment is a model of curriculum design in which teaching/learning activities and assessment tasks are systematically aligned to "intended learning outcomes" (Biggs & Tang, 2011, p. 11). Constructive alignment achieves this by requiring "students to engage the *learning activities* required in the outcomes" (Biggs & Tang, 2011, p. 11). The process of aligning learning activities with learning outcomes makes constructive alignment an excellent framework for implementing learning oriented assessment (LOA) and to expand the application of metaliteracy. LOA is an alternative method to assessment which evolved from both summative (graded) and formative (ungraded) assessment. LOA is composed of three components: assessment for learning, assessment as learning, and assessment of learning (Zeng et al., 2018). These three areas for assessment create opportunities to use constructive alignment to evaluate the purpose of any assessment materials and to create opportunities to incorporate student feedback on their learning process into assessment materials.

Drawing on Biggs and Tang's (2011) research, constructive alignment is a conscious effort to create a holistic curriculum and thus to implement a metaliteracy framework. For example, constructive alignment presents strategies for articulating explicit connections between a module's learning outcomes, lecture themes, and seminar activities. By clearly identifying connections between teaching materials and learning activities, students and teachers alike have an opportunity to discuss learning as an ongoing practice based on discussion and participation. As with metaliteracy, this creates space to reflect both on how students learn and on why particular activities might encourage active learning and transferable skills development.

By explicitly connecting different aspects of a module's lecture themes to learning outcomes, and learning outcomes to assessments, instructors can develop materials that reinforce key themes, theories, and abilities without being redundant. For example, a

lecture on data value standards followed by activities on subject analysis might encourage students to explore different controlled vocabularies. However, without any kind of reflective feedback on student understanding of semantics and controlled vocabularies, it would be difficult for an instructor to gauge the clarity and usefulness of their lecture materials. Instead of asking students to submit a formal essay, creating forums or in-class evaluations of a subject analysis exercise would provide immediate feedback on student learning—for students *and* instructors. This is an example of constructive alignment (e.g., a lecture's learning outcomes) enabling the implementation of LOA in the form of assessment *for* learning and assessment *of* learning. The combination of constructive alignment and LOA, in this example, is successful because they enable the use of scaffolding to promote student and instructor metacognitive practices.

Carless (2007) proposes LOA as a method for balancing summative and formative activities so that students experience a range of assessment types and receive regular and applicable feedback. In this light, LOA facilitates teachers and students co-constructing assessments and feedback practices, which in turn can help teachers identify areas of strength and weakness in their curriculum based on student participation and feedback. This process of co-construction offers opportunities to scaffold curriculum and encourage students to actively acquire, transfer, and enhance their understanding(s) of the abilities and theories taught during a module. This approach shifts students' focus away from performing certain study abilities and shifts it toward measuring their success against abstract frameworks for success. This shift has the potential to empower them to collaboratively and dynamically use curricular content to actively integrate their knowledge and experiences into teaching and assessment frameworks. This, in turn, enhances the types of work and feedback students are willing to engage in and has the potential to expand their metaliteracy practices because they are able to synthesize new, taught abilities with their pre-existing skills.

Assessment and feedback in diverse classrooms

There is no one way to foster metaliteracy abilities, implement constructive alignment, or draw on LOA. The approach presented in this paper connects these theories using strategies based on observations of international and EFL students. The following case study implements the proposed combination of pedagogical models and presents strategies for teachers and students to co-construct learning experiences. Presenting observational research carried out during the fall 2017 and spring 2019 academic semesters provides a small but detailed series of experiences to demonstrate how constructive alignment and LOA can clarify module learning outcomes and the module's assessment pattern. An analysis and critique of module learning outcomes, classroom dynamics, and assessments outcomes contextualizes observations about student experiences. Later, in our discussion and conclusion, we will discuss how Dr. YYY used metaliteracy to review and revise the assessment structure, lecture structure, and seminar activities.

Institutional and departmental context

The Department of Digital Humanities (DDH) is part of the Faculty of Arts and Humanities at King's College London (KCL). DDH is an academically and demographically diverse

department. Teaching staff and students alike come from a range of academic backgrounds and a variety of countries and cultures. Currently, DDH offers five master's degrees: an MA in Digital Asset and Media Management (MA DAMM), an MA in Digital Humanities (MA DH), an MA in Digital Culture and Society (MA DCS), an MA in Big Data, Culture and Society (MA BDCS), and, starting in the 2020/2021 academic year, an MSc in Digital Economy. The academic year at KCL runs across two ten-week semesters (a total of 20 weeks) and a four-month summer independent research period.

Each degree program uses different methodological approaches to help students engage with theories of information and manifestations of information in digital environments. For example, the MA DAMM program focuses on identifying and describing the value of asset management in media environments like newspapers, magazines, and television. The MA DH program focuses on methods for engaging in computational humanities research and work. The MA DCS and MA BDCS use digital methodologies to investigate trends in social networks and information systems. The MSc in Digital Economy is a new program focusing on the roles that digital infrastructures play in the dissemination and commodification of data.

In terms of demographics, currently over half of the students enrolled are from Asian countries (e.g., China, Japan, Korea, Malaysia, and Indonesia), and English is likely to be a student's second or third language. Currently, China represents one of the largest student demographics in the DDH. While this may seem to indicate a certain degree of homogeneity in student demographics, there is in fact a great deal of linguistic, demographic, and cultural diversity; for instance, students from Beijing, Hong Kong, Guangzhou, and Shanghai will likely have different economic and educational backgrounds. These diverse cultural perspectives have implications for how students learn to use English and position their language abilities in discussions with their peers. Together, geographic and educational backgrounds produce diverse classroom demographics and a range of student expectations for their academic experiences. These factors pose interesting challenges for developing effective methods of delivering timely, relevant, and usable feedback on formative assessments that students can apply to their summative assessments.

Approach to classroom observations

As early career researchers, the authors enrolled in a practice-based course on assessment and feedback offered by the British Higher Education Academy (HEA) at their respective institutions. During the course, the lecturer used constructive alignment and LOA to provide feedback on participants' syllabi and assessment briefs. Based on this feedback, we began discussing the potential pedagogical value in combining constructive alignment and LOA with metaliteracy. Based on these early discussions, we began developing a model for integrating themes in each pedagogical model (particularly scaffolding to enhance student engagement) into a holistic and collaborative model for student and teacher engagement through experiences applying classroom learning in assessments (see Figure 1). While developing this model, the first author evaluated her assessment based on discussions in her HEA course. At the end of the HEA course, the second author proposed using informal classroom observations to test the model developed with the first author. These observations took
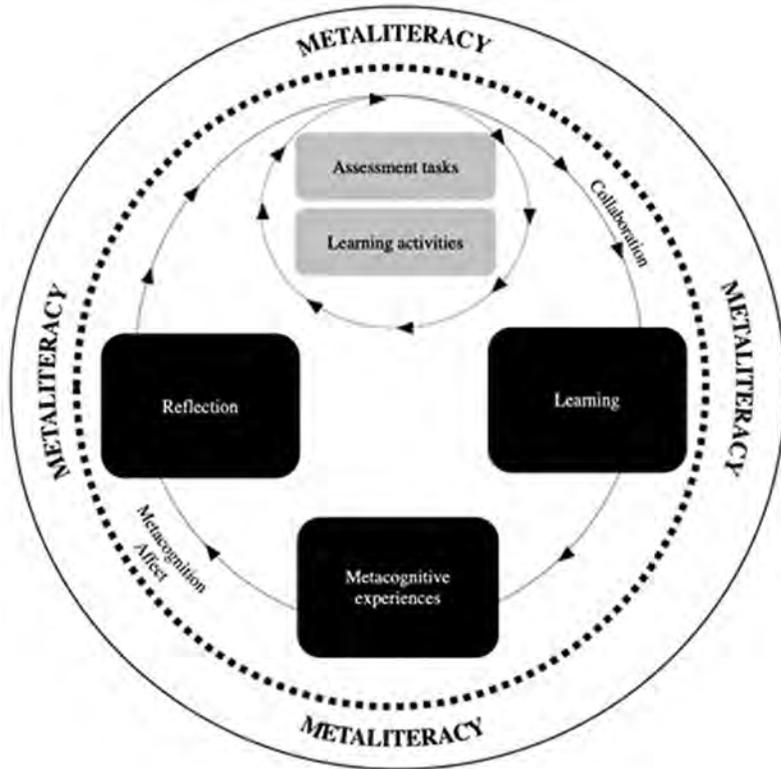
Figure 1: Integration of metaliteracy with constructive alignment and LOA

place over the next academic year, and they were informal and mostly reflective: The second author would summarize student questions and broadly characterize the learning curve in assessments with the first author. Based on these discussions, we began identifying further opportunities for integrating metaliteracy practices into instructional materials for metadata theory and practice, which we will discuss in subsequent sections. practices into instructional materials for metadata theory and practice, which we will discuss in subsequent sections.

Course syllabus and teaching

Typically, post-graduate modules at KCL require the submission of only one graded essay per module. However, in a department like DDH, it is difficult to assess and support student learning in emerging and technically complex areas without multiple opportunities for observing, evaluating, and testing students' technical skills and theoretical knowledge. In particular, in a module like *From Information to Knowledge*, it is important to scaffold learning using formative (unmarked) and summative (marked) assessments so that students and teachers alike can benchmark how well learning materials (e.g., lecture topics, required

readings, lecture topics, and seminar activities) contribute to an emerging understanding of theories and technologies that support information organization and retrieval. Based on this perspective, the following sections discuss the use of constructive alignment and LOA in this post-graduate module on metadata for cultural heritage organizations. The module is optional and open to all DDH students. The current module description states:

> Metadata helps us organize a variety of physical and digital content. This course will prepare students to determine the most effective strategies and tools for the creation, evaluation and application of metadata in library, archival and museum contexts. By completing this course, students will be able to discuss essential metadata schema and accompanying content standards, along with technologies and tools that facilitate their implementation.

This general description aims to attract students based on an interest in organizing information in machine readable formats, or in more technical terms: creating metadata.

To further contextualize the nature of the course, the module currently has three learning outcomes:

1. understand best-practice principles for creating and evaluating metadata;
2. evaluate metadata schema and content standards for cultural heritage institutions; and
3. develop and manage metadata records.

Students learn foundational technical abilities and continuously practice using different metadata standards. It has been an ongoing process to integrate these learning outcomes into reading materials, lecture topics, and assessments, and over the past three years it has offered opportunities to observe student work, reflect on student learning practices, and develop more flexible strategies for promoting student success. In what follows, we reflect on the teaching and learning pattern in *From Information to Knowledge* and discuss how revisions to assessments have leveraged pedagogical theories and metaliteracy concepts.

During the 2016/2017 academic year, formative assessments (in the form of XML records) were optional. In a class of 12 students, only one consistently submitted these optional XML records, and based on this experience, in the 2017/2018 academic year, the second author changed the assessment pattern so that students were required to submit two reflective essays (each contributing 10% to their final grade) and three XML records (each contributing 10% to their final grade). The goal in changing the assessment pattern was to prepare students for a two-part final assessment (which contributed 50% to their final grade), which required them to use an XML authoring and editing software called Oxygen to create an original XML standard and write a short reflective essay, which required that they discuss how they applied their understanding of knowledge organization and information retrieval theories and understanding of XML to their schema design process.

In theory, the number and rate of assessments were designed to encourage assessment as learning by enabling students to continuously apply concepts and practices from lecture to their work in seminar and, ultimately, their individual work. In practice, it was more an assessment of student learning because of the length of time it took to provide feedback and grades for student work. This was mostly because during the 2017/2018 academic year, DDH

required double-blind second marking for any assessment, which made marking a lengthy process: students submitted work anonymously, and then two members of the teaching staff independently marked each submission. While it was possible to first mark work quickly, it took longer for the module's second marker to review work, which resulted in a backlog of feedback. Students commented that this made it difficult for them to use feedback, particularly in the XML records. Early in the semester, students expressed that they felt underprepared to complete their final assessments. Their anxieties about feedback and future success aligns with Efklides's (2006) claims that students compare their current learning abilities with past experiences, and anxieties often stem from feelings of unfamiliarity and uncertainty. Students expressed these concerns early in the term and, as a result, it became important to develop strategies to offer formative feedback and support peer-feedback practices.

Over the second half of the term, while students were learning XML, they could receive informal feedback on group work during lectures, seminars, and office hours. Encouraging students to work cooperatively reduced the number of individual requests to meet to discuss formative records made during group sessions and increased the amount of active discussion during seminars and requests for group tutorials during office hours. This shift enhanced the amount and type of feedback given to students and increased students' ability to engage in self-guided learning as their confidence and technical skills increased. Placing more emphasis on this feedback applied the spirit of LOA to continuous summative assessment pattern (in an American context, this would involve multiple graded assignments). Overall, it became clear that students wanted a more direct alignment between lecture topics, seminar activities, informal group work, and graded submissions.

Biggs and Tangs's (2011) advice on constructive alignment encourages the expression of clear relationships between formative and summative assessments in a module's description, as well as in assessment briefs. Introducing this type of written guidance aids discussions about learning strategies during seminar and encourages students to submit group work for feedback. This strategy applies Black and Wiliam's (2012) and Nicol and Macfarlane-Dick's (2006) advice to combine peer, self-, and instructor feedback so that students actively engage with the learning process. Through this metacognitive action, students develop critical thinking abilities and begin to construct their own learning framework. This is particularly important in international classrooms for two general reasons. First, international students come from a range of pedagogical and institutional settings and may not be familiar or comfortable participating in a Western-style Socratic dialogue. Second, even when students have strong English language proficiencies, immersion in a language can cause anxiety and frustration. Alongside these more general reasons, a third more specific reason exists. Many incoming students do not have a background in humanities disciplines, and while completing their coursework and dissertation research they may require additional support and context from their instructors.

Moving forward: Combining metaliteracy, constructive alignment, and LOA

As discussed in sections on metaliteracy and pedagogical approaches, we propose that by combining constructive alignment and LOA students will develop self-reflective (metacognitive) awareness about their learning practices by enabling reflection on learning

experiences and assessment patterns. To better represent our theory, Figure 1 illustrates how metaliteracy, constructive alignment, and LOA aid the creative co-constructions of information and literacy abilities that empower students through recognition of the meta-cognitive experiences that inform learning.

As expressed in Figure 1, metaliteracy supports learning through the self-regulating practices promoted through metacognition, allowing students to draw and reflect on prior experiences to inform the learning process. In the case of *From Information to Knowledge*, assessment complements and promotes learning, instead of simply grading the outcome of a student's knowledge and skills. The pace and type of assessments can help students pace their learning and identify areas they needed to revise and ask questions about. Although the assessment pattern was not initially designed with international and EFL students in mind, it became clear that it offers an opportunity to allow international and EFL students to engage with their classmates and feel less isolated about their difficulties mastering new materials.

When paired with constructive alignment and LOA, metaliteracy enables the integra-tion of collaborative learning activities and assessment tasks with guided reflection. The reflective aspect of this approach is critical as the purposeful reflection on learning activities and assessment tasks informs the metacognitive experiences of students, thus guiding future learning practices and experiences based on judgments and feelings of learning experiences. Students enrolled in *From Information to Knowledge* have expressed that learning outcomes helped them identify *how* they need to demonstrate the skills they have learned. At the same time, however, students have also expressed that having learning outcomes did not necessarily enable their full engagement with assessment feedback. This presents an area for future re-design in the module, and metaliteracy offers a pedagogical method for using con-structive alignment and LOA to accomplish future evaluations and revisions of the module.

In an assessment-heavy module, feedback plays an important role in easing student anxieties about performance and marks, particularly for EFL and international students unfamiliar with UK higher education learning practices in general, and KCL assessment practices in particular. We argue that there are several reasons for this. First, continuous feedback provides students with specific areas to focus their future work on, which can help them plan out their study skills and learning practices. Second, offering advice on areas to improve written English provides direct questions that students can inquire about during seminars, tutorials, and contact hours. Third, providing many opportunities to express learning and growing mastery of a topic gives instructors opportunities to see what areas students are excelling in, struggling with, or ambivalent about. These three points create space for learning outcomes to contextualize learning for teachers *and* students, and, simul-taneously, assessments create opportunities to engage in discussions about skills, abilities, and student success.

In the context of this case study, we highlight how student feedback on the pace and mode of assessments can enhance their learning experience and engage them in multiple forms of discussion and analysis—both of their learning and of their ability to apply what they have learned. These differing levels of engagement implement LOA and constructive alignment practices because students are identifying how they develop approaches to using

lecture materials to complete assessments, interpret feedback on their work, and strategize methods for using and transferring this feedback in future work. In *From Information to Knowledge*, it is particularly important because all of the students observed were previously unfamiliar with the technical practices central to the module, and English was not the dominant first language in the classroom.

Current solution: Assessment as learning by promoting group work

Throughout the fall 2017 semester, group activities were embedded to encourage student engagement with lecture content and practice asking questions based on project work. In the beginning, students were placed into groups so that a balance of language abilities existed, but this mix did not encourage students to openly discuss their interests and anxieties. Some students expressed that they did not feel confident enough in their English language abilities to discuss new concepts with native English speakers. Other students felt they did not have enough time to practice skills they had questions about and, thus, did not feel they could articulate a question about what they actually needed help with. Allowing students to self-select into groups proved more effective than assigning them to preconfigured groups. During seminars, one group of students embraced splitting their time between sharing lecture notes and working on assigned project work. Observing the benefits of group work helped them develop strategies for using their existing academic practices to align learning outcomes with assessments briefs. Linking the assessments prompt to a particular lecture or reading helped students manage their time during seminar and focus more on specific aspects of an activity. The goal was to promote discussion about the purpose of assessments so that students ask questions while simultaneously developing self-guided learning practices.

Developing environments for group work leveraged the intent of metaliteracy without imposing a particular cultural or linguistic paradigm. Encouraging students to talk amongst themselves about a certain topic or problem provides them with a structured task where they can use their expertise or express their anxieties. This, quite literally, embodies theories of scaffolding. Beyond the students' experiences, structuring group activities is an opportunity for instructors to observe classroom dynamics and reflect on what students are learning and what additional support they might need. Beyond scaffolding, this is an active and ongoing process of aligning learning outcomes with student experiences. This was particularly beneficial in an assessments heavy module like *From Information to Knowledge* where students were anxious about receiving and using feedback. Identifying what students know and how students are helping each other gain confidence and correct errors can improve forms of feedback given and improve assessments prompts and rubrics.

Future solution: Assessment of learning through short reflective posts about seminar work

While discussion during group work offers a means to learn and work in a flexible manner, transferring this learning back into a more formal environment is key—particularly in regard to enhancing metaliteracy abilities. Having students work on XML records during seminar offered them time to prepare for their summative assessments. Providing time to immediately apply concepts and practices discussed in lecture has helped many students

identify problem areas and correct them either based on discussions with classmates or by asking their lecturer questions. Students commented that they would like to know more about work done by other groups. In the past, short group discussions were moderated during the last 20 minutes of class. However, stopping class 15–20 minutes before the end of seminar does not give students sufficient time to engage with a task or project, nor does it facilitate in-depth discussions between groups. Additionally, many students expressed that they were uncomfortable extemporaneously speaking English to a large audience.

So, while group work encouraged collaborative problem solving, the ways in which students shared their work and demonstrated their learning needed to change. In the future, instead of asking students to verbally summarize their work, they will have the opportunity to collaboratively write short reflective posts that combine narrative text and examples of XML. This process of composition will enable them to identify what they have learned and what they are struggling to master and pose questions about their practices. Encouraging students to make use of discussion forums accomplishes this in two ways: students are using technology to communicate and practicing using diverse tools to compose, revise, and distribute their work; and students are translating their understandings—sometimes literally, sometimes metaphorically—from one format (discussion) to another (written). These practices not only prepare students to complete assessments; it also prepares them to transfer their learning across different modalities and social and cultural contexts. Establishing problem-solving practices and monitoring student engagement is another opportunity for instructors to learn from students and adapt module learning outcomes and assessments methods. Engaging with student queries and providing feedback is a dual sensemaking process: Instructors learn about student expectations and students learn about instructor feedback practices, which enhances the role that assessment plays in developing literacy abilities through constructive alignment as well as the goals and objectives of metaliteracy (Metaliteracy, n.d.).

Future solution: Reducing individual assessment weight

Reducing the number of assessments and the weight that each assessment contributes to the final mark will address many of the concerns raised by Harland, McKean, Wass, Miller, and Sim (2015) while still giving students an incentive to produce work of a high quality. In the future, final assessments will require students to revise their four term-time assessments (one essay and three XML records) and submit a portfolio that constitutes 80% of their final grade. Encouraging revision based on multiple types of feedback and placing more weight on revised work will require students to reflect on their original assessments and apply new knowledge and skill to revising them. Overall, this assessment pattern reflects the spirit of LOA while still using a summative assessments model. Not only will students have an opportunity to correct errors, but they will also be able to use more complex concepts learned later in the term to revise their early work. This combination of revision for the sake of correcting errors and revision for the sake of augmenting and enhancing work encourages active and reflective learning. Simultaneously it avoids unduly penalizing students for making expected and common errors common in technical subjects and provides them with positive experiences they can share with their peers.

Challenges and drawbacks

What follows is a distillation of findings from our case study into a more general discussion of the ways in which our framework for learning evolved through a dynamic approach to engaging students in learning increasingly complex technical abilities. Reflection and discussion draw on the principles of constructive alignment to evaluate whether the assessments and feedback pattern in the module follow the principles of LOA. Based on this reflection, we argue that students engage metaliteracy abilities and are able to better contextualize their literacy abilities and successfully develop transferable skills. Following this, we will present a tentative conclusion on how this approach to curriculum design offers opportunities for EFL students to better negotiate the structures and norms of Western academic classroom settings.

As pedagogical frameworks, constructive alignment and LOA facilitate balancing flexibility in teaching with structure and procedure. Supporting students while they complete multiple assessments requires more than writing clear prompts and rubrics. The case study demonstrates that it is essential to respond to student concerns and negotiate student expectations on feedback. Engaging in formal and informal conversations about learning experiences makes it possible to acknowledge student anxieties about their performance, facilitate the development of creative and critical problem-solving abilities, and contribute positive affective experiences to the learning process that students may draw on later (as seen in Figure 1). In international classrooms this is particularly important because students must negotiate a range of experiences—cultural, linguistic, and academic—that affect their approach to engaging with their peers and vocalizing their concerns. LOA and constructive alignment offer neutral pedagogical models that instructors can use to experiment with group work and informal assessments that allow students to negotiate their learning experiences amongst themselves. Metaliteracy is thus engaged as a framework, empowering students to take ownership of their learning and (as previously mentioned) create new metacognitive experiences.

In the case of *From Information to Knowledge*, this provided opportunities for students to use the process of peer feedback and support to successfully engage with technical and theoretical concepts. While it was difficult not to jump in and solve technical glitches or correct students' interpretations of readings, allowing them to work in groups resulted in richer, more dynamic and diverse, and increasingly accurate and personalized responses to summative assessments prompts—both written essays and XML records.

Despite the implementation of scaffolding and students' successful development of metaliteracy, there were still institutional barriers to the sustainable implementation of LOA. While it is outside the scope of this article to discuss these barriers in depth, the timeline for submitting requests to change module assessment patterns proved the most difficult issue to work around. However, an awareness of constructive alignment as a pedagogical tool created room for experimenting with learning outcomes and to engage students in technical practices and discussions about teaching and assessment. These informal practices and discussions improved student experiences and enhanced the role(s) of assessments in the development of metaliterate students. Student feedback on the module consistently expressed concerns about the timeliness of instructor feedback and anxiety about relying

on peer feedback. Developing platforms and methods for instructor responses to peer feedback will offer another layer of engagement with group work and another context for engaging with concepts, methods, and tools discussed during lecture and seminar. Additionally, although module modifications have responded to the most recent series of student criticisms (as previously noted, there is always the chance that an assessments-driven and skills-oriented module will cause student anxiety). As a framework, metaliteracy encourages reflection and the ongoing practice of critical thinking but does not require prioritizing or privileging certain abilities or experiences over others. This is particularly beneficial when teaching digital humanities subjects in international and multicultural classrooms. Facilitating diverse learning experiences through a metaliteracy framework empowers students to share their knowledge and insights while aligning their abilities and interests with a module's taught content. This enables them to gain an understanding of a discipline or topic through their synthesis of multiple viewpoints, thus illuminating the role of sharing in the learning process.

Discussion and conclusion

Using metaliteracy to implement constructive alignment and LOA makes space to incorporate multiple forms of literacy development through effective assessments and applicable feedback practice. As the case study and Figure 1 demonstrate, it is important to actively link stated learning outcomes to curriculum and pedagogy. This process reflects the tenets of constructive alignment and its compatibility with LOA. Together, these models promote student engagement in discussions about lecture themes, particularly while describing rubrics and outcomes for assessments. While this may seem like a straightforward process (e.g., have Q&A sessions, encourage students to raise their hands or call out when they have questions, etc.), there are challenges and risks to carrying this out in international classrooms where there is a diverse mix of learning experiences and cultural attitudes toward classroom behaviors. Integrating Metaliteracy, with particular attention to the metacognitive approach, is a way to negotiate these complexities because lecturers can engage students in discrete tasks that do not depend on English language abilities, thus allowing students to draw on existing problem solving and reflective abilities while adapting them to a new learning environment. At the same time, LOA provides a method for encouraging students to use peer feedback to frame and interpret instructor feedback and their marks. This is another opportunity to integrate metacognitive experiences and metaliteracy abilities into curriculum without having overt discussions about reading, writing, and spoken English abilities.

Overall, by critically reflecting on the curriculum and pedagogy in the module, we argue that pairing constructive alignment with LOA offers opportunities for EFL students to practice metaliteracy abilities. By facilitating discussion and revision, EFL students are able to approach technical abilities with confidence because they are able to balance their expertise with knowledge gained through peer support and feedback. Moreover, this process integrates cultural awareness into the metaliteracy framework and module description. In terms of literacy instruction and benchmarking, LOA encourages EFL students to practice the critical reflective elements promoted through metacognitive elements in metaliteracy theories, and to integrate these practices into their engagement with English language

materials and academic frameworks. This supports integrating cultural awareness into the metaliteracy framework. The authors hope that the strategies and adjustments proposed will accomplish the following goals:

- shift focus away from English language ability to focusing on collaborative work where students negotiate interests and practice abilities through discussion;
- improve student experiences by reducing anxiety about assessments, and to build confidence in their abilities to engage with and transfer abilities learned in the module to other courses; and
- shift focus away from "mastering technology" so that students engage with theories of knowledge organization.

Because one of the primary goals of LOA is to encourage students to actively participate in their learning process, there is a great deal of overlap with the metaliteracy framework. Metaliteracy offers opportunities for students to develop abilities they can transfer across their learning experiences and build confidence in the value of their insights and abilities. This is particularly important in international classrooms, where students are more likely to feel anxious about their language abilities and instructors may (inadvertently) misinterpret these anxieties as a lack of ability or interest.

Using LOA to promote metaliteracy abilities encourages students to engage in the co-construction of learning, which is a means to implement scaffolding. This combination of pedagogical approaches adds nuance to the goals and intentions of Constructive Alignment, which is important in international classrooms. Our discussion of *From Information to Knowledge* is a small case study but demonstrates the potential for effectively teaching in an international classroom and the value of using the metaliteracy framework to pair constructive alignment with LOA in an assessment-intense module. The practices and interactions students developed through group work reflect how these approaches make it possible to implement scaffolding and promote critical and transferable abilities, without requiring that students abandon their previous learning practices or focus on their language abilities to demonstrate learning and competencies.

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Notes

1. We use Lev Vygotsky's (2012) conceptualization of Zones of Proximal Development (ZPD) to define scaffolding. His concept of ZPD and scaffolding outlines strategies teachers can use to design cognitively appropriate activities that encourage students to engage in self-guided or peer-based problem solving (Garhart, 2013).
2. While basic pedagogical instruction for EFL student engagement emphasizes language barriers (tone, volume, and pace of speech), there is less emphasis on the unexpected requirements and challenges of learning in a new culture.