

The Teaching Toolbox: Reconciling Theory, Practice, and Language in a Teacher Training Course

Those of us who have had the opportunity to teach content-based courses to English language learners have likely experienced the satisfaction that arises from having clearly defined subject matter through which language can be taught, along with an added dimension of relevance that ties our students not only to the language of the course, but to the topics under discussion. However, it is equally likely that this approach to language teaching has also presented challenges as the teacher strives to find the proper balance between the content and the language of the course. When the course in question consists of pre-service, content-based teachers who also happen to be language learners, the struggle to balance the instruction of content—including theory, subject matter, and practical skills—with language can be a daunting task.

In South Africa, where English is rapidly becoming the preferred language of learning and teaching (Rademeyer 2010), teacher trainees

learn how to plan and present effective content lessons in science, math, and other subjects using English as a Medium of Instruction (EMI). For example, Education teacher trainees at North-West University are all required to complete a two-semester course on using EMI that aims to provide them with basic competence in the English language skills required to teach in the content classroom, along with knowledge of pedagogical techniques and a general understanding of second language acquisition. The majority of the students in this course are English language learners themselves who completed their schooling in Afrikaans-medium institutions. Additionally, the majority of the courses they take in their subject areas are taught in Afrikaans, which means that some of them are only using English in an academic setting for two 45-minute sessions per week. Therefore, in addition to subject matter material, the EMI course must include a serious focus on developing

both English language proficiency and pedagogical methods. This article addresses some challenges inherent in conveying successful content language teaching methods and offers five sample activities that focus on making the methodology explicit, which will be invaluable when the students enter their future careers as language teachers.

Teachers as models

Modeling is an excellent way to ensure that theory, methodology, and language support all receive sufficient attention within a single 45-minute lesson. As teachers of language, we constantly serve as models by illustrating appropriate language use, demonstrating activities as we give instructions, and showing students how to complete assignments. In any classroom setting, but particularly in the language classroom, it is not enough to simply transmit information; we must *show* students what we mean and what we expect them to do (Colombo and Furbush 2009).

In a teacher training course for English language learners, the modeling of language teaching strategies can be integrated quite seamlessly. Modeling takes on added meaning when the purpose of the demonstration is not simply to show students how something is done, but to support their language development, content knowledge, and acquisition of methodology. Berry (1990) suggests that teacher trainers fuse skill and methodology instruction for their students by making sure they emulate “the methodology they are promoting amongst their trainees” (100–101). As a language teacher, I realize it is imperative to make an effort to clearly model those language teaching methods that I wish my students to use successfully in their classrooms.

The importance of being explicit

To demonstrate a variety of language teaching strategies in my class, I incorporated (1) visual aids and a variety of graphic organizers, (2) scaffolded listening activities and opportunities for group work, (3) a variety of jigsaw activities to teach vocabulary and reading, (4) models for student assignments, and (5) peer feedback, checklists, and opportunities for drafting. However, I quickly discovered during my first semester that mere modeling and pointing out strategies does

not necessarily lead students to recognize and implement the strategies on their own. What was missing was an explicit connection between classroom activities and the theories and strategies students were reading about and discussing. When they submitted their final set of lesson plans for the course, it became clear that a number of the students were not making that connection on their own.

This phenomenon is explained in part by what Lortie (1975) refers to as the “apprenticeship of observation,” which occurs because students spend approximately 13,000 hours in the classroom, ostensibly “observing” their teachers throughout their education (61). Students who go on to study education will already have spent thirteen years in the classroom, and it is likely that they will apply what they have seen their own teachers do; in other words, whatever was observed during their first thirteen years of schooling has the potential to overshadow what is being modeled in their training courses. Although simply modeling effective language teaching strategies might have an impact on pre-service teachers, there is also a chance that they may simply end up imitating one or two strategies that they have observed in the limited time allotted for the course without really understanding why. There is good reason, then, to be especially explicit about the *way* we teach if we want the pre-service teachers in our courses to master both the content we are presenting and the ways in which we are presenting it.

Being explicit about what we expect our students to take away from a lesson is a crucial component of language teaching. Kumara-vadivelu (2003) highlights the importance of making our intentions clear and the value of minimizing the mismatch between teacher and student expectations on what is to be gained from a particular lesson. Making the goals and expectations of both teachers and students completely transparent helps reduce those mismatches and provides an added element of clarity for students who may be struggling with the language used to teach the course. As Berry (1990) suggests, teacher trainers who expect their students to learn something from *how* they are being taught should incorporate “an awareness-raising activity, wherein trainees actively focus on their experiences” (101). Incorporating such a memorable activity helps ensure that the students understand that it

is not only the content of the lesson that is important, but also the way in which that content is presented.

The teaching toolbox

In order to make explicit the connection among the theory, subject knowledge, material being presented, and language, I implemented the *teaching toolbox* technique, in which teachers at all stages collect ideas, strategies, and methods throughout their teaching practice in order to adapt and implement them in the classroom. During my own training, I kept a notebook where I listed observations of teaching styles, interesting ideas, and activities that I encountered in my courses. During the course I used the workbook, which contained a designated teaching toolbox section as well as a collection of activities, projects, rubrics, and supplemental materials designed and compiled by the faculty to supplement the prescribed material. Students regularly referred to the toolbox and were encouraged to reflect on lessons and to add any useful strategies or activities they encountered in class. I set aside class time to allow students to discuss the activities and strategies that I had used and to contemplate how they could be implemented in the students' own classrooms. Taking time to discuss these pedagogical elements as students add them to their toolbox strengthens the connection between what the teacher is doing and what the trainees can do in their own classrooms.

Five sample activities for the teaching toolbox

Following are five toolbox activities that simultaneously communicate information about teaching methodology, impart subject area content, support language development, and model language teaching strategies. All of them are designed to provide language learners with opportunities to develop their speaking, writing, reading, listening, and vocabulary skills. The content in each activity can be easily adapted to different contexts (level, age, proficiency). Group work is an essential component of the activities, as it allows students to interact in English, practice the language before presenting to the class, and build their subject-specific vocabulary. A common denominator for the following activities is the time set aside for students to reflect on the rationale for using

a particular strategy and brainstorm about how the activity could be adapted for use in their own content-based language classrooms.

Toolbox activity 1: Jigsaw reading

This activity, in which students practice summarizing information and work on oral communication skills, is a great way to cover large amounts of reading material in a short period of time. Students collaborate and interact with their peers as they check their understanding of the reading with one another, and they also practice teaching information to their fellow group members. Jigsaw reading can be used with any topic and entails reading articles or textbook chapters with distinct sections that can be divided among students. Because it is such a versatile activity, it is easily adapted for different levels and areas of study.

The grouping strategies for any jigsaw activity will vary depending on the size of the class and the diversity of reading levels. It is possible to select and assign contextually relevant texts at a variety of reading levels. If the text(s) selected are too long to be read during class, they can be assigned as homework at the end of the previous lesson, and the activity can simply commence at Step 3, below.

Language objectives: Developing reading skills, presenting oral summaries, and improving listening skills

Materials: Several reading passages on the same topic or theme, or one longer passage with natural breaks that have been clearly marked and labeled; I simply number the sections before making copies for my students. The text can also be cut into sections so that students only read the part they have been assigned.

Time: One class period if the reading is done in class, 20–30 minutes if the reading is assigned beforehand; the required time varies depending on the length of the reading passages.

Procedures:

Step 1: Divide students into groups according to the number of sections that need to be read. For example, if the text has been divided into six sections, there will be six students in each group.

Step 2: Hand out the articles and assign a different section to each student in the group. Provide the students enough time to read through their section twice.

Step 3: Ask students to form expert groups. For example, all of the students in class who

read section one should form a group to discuss that section. Large classes may require multiple expert groups for each section. Students in each expert group summarize their section, answer questions that have been assigned or that they have formulated during their reading, highlight main points, check their understanding of the text, review new vocabulary, and practice the information they will present when they return to their original groups.

Step 4: Students return to their original groups, where each member explains his or her section of the reading to the rest of the group.

Step 5: Once it becomes clear that the students have mastered the content of the text, ask them to reflect on the activity that was used to deliver that content. Describe how the jigsaw activity will support readers in their own classrooms. In groups or as a class, ask students to review the steps of the activity and brainstorm ways in which they would apply it in their own classrooms. For example, in a social science lesson in South Africa, a jigsaw reading can be done using texts on the different historical figures who played a role in the anti-apartheid movement.

Toolbox activity 2: Word bank

“The word is the most basic unit of a written text” (Hedgcock and Ferris 2009, 81) means that vocabulary is integral to reading comprehension and is the foundation on which a great deal of classroom knowledge is built. Language learners and native speakers alike must learn the specialized terminology of their field, such as *photosynthesis*, *mitosis*, *reproduction*, and *adaptation* in the science class; *integer*, *factorial*, *denominator*, and *polygon* in the mathematics class; and *metaphor*, *plot*, *onomatopoeia*, and *climax* in the English literature class.

One of the aims of our teacher training course is to ensure that students “use appropriate language, terminology and concepts of subjects and learning areas effectively” (Department of Higher Education and Training, Republic of South Africa 2008). Attaining this level of competence includes building a broad vocabulary base in the trainees’ subject areas. If our students are to effectively teach through EMI, they must have a firm grasp of the pertinent academic vocabulary and be capable of passing it on to their own students.

The word bank activity serves a number of purposes in the teacher training course. It is used to test the students’ knowledge *about* vocabulary (e.g., word parts, polysemy, collocation) as well as their knowledge *of* key vocabulary used in their subject areas. The activity also provides students with practice materials that will motivate their future students to participate in class and to build their own language skills.

Language objectives: Augmenting content-specific vocabulary and building knowledge about vocabulary that can be applied to future learning contexts

Materials: Dictionaries, photos from magazines or the Internet, index cards, and textbooks from the students’ subject areas

Time: 15–20 minutes in class, or several days outside of class, depending on the homework schedule

Procedures:

Step 1: Present the concepts of *polysemy* and *collocation*. Find out if the students are familiar with the terms or if they can guess what the terms mean by using their knowledge of word parts.

Step 2: Briefly explain the concept of *polysemy* and provide students with examples that are relevant to their subject areas. For example, the word *party* describes either a celebration or a political party. Likewise, the word *power* has different meanings when it is used in mathematics, electrical engineering, and political science contexts. Allow students several minutes to work in pairs and brainstorm more examples from their subject areas.

Step 3: Briefly explain the concept of *collocation* and provide students with examples that are relevant to their subject areas. For example, the terms *thesis statement* and *sentence fragment* in the English class, *prime number* and *greatest common factor* in the mathematics class, and *global warming* and *cellular respiration* in the science class contain words that customarily appear with each other to describe a given concept. Allow students several minutes to work in pairs and brainstorm more examples from their subject areas.

Step 4: Inform students that they will be adding to the brainstorming lists to create a word bank that can be used as a resource in their classrooms and as a model should they choose to have their learners complete the same activ-

ity. The remaining steps can be introduced in class—with an accompanying model created by a student or the teacher—but can also be completed as homework.

Step 5: Students select five examples of polysemy that appear in their subject areas and are appropriate for their grade level. They create a flashcard for each term with a picture on one side and a brief definition of how the term is used in different contexts on the other side, as demonstrated in Figure 1.

Side 1	Side 2
Picture (cut out from a magazine, downloaded from the Internet, or drawn by the student)	1. party: a social gathering for a celebration or special purpose 2. party: a group of people with common political interests, such as the Democratic Party

Figure 1. Word bank entry for polysemy

Step 6: Students select five examples of collocations from their subject areas appropriate for their grade level. They create a flashcard for each term, with a picture on one side and a brief explanation of how the term is used in their subject area on the other side, as demonstrated in Figure 2.

Side 1	Side 2
Picture (cut out from a magazine, downloaded from the Internet, or drawn by the student)	global warming: an increase in the average temperature worldwide (definition from dictionary.com)

Figure 2. Word bank entry for collocation

Step 7: Students select fifteen examples of content-specific terms that appear in their subject areas and are appropriate for their grade level. They create a flashcard for each term with a picture on one side and both a dictionary definition and student definition on the reverse side, as demonstrated in Figure 3.

Side 1	Side 2
Picture (cut out from a magazine, downloaded from the Internet, or drawn by the student)	1. tibia: the inner of the two bones of the leg that extend from the knee to the ankle and articulate with the femur and the talus; shinbone (definition from dictionary.com) 2. tibia: the leg bone located between the knee and the ankle

Figure 3. Word bank entry for content-specific terms

When students are encouraged to put some real effort into this assignment, and the importance of the lesson is reflected on and reinforced, they end up creating a beautiful, practical, and useful resource for their future students.

Toolbox activity 3: Jigsaw vocabulary

The jigsaw vocabulary activity, a variation on Activity 1 above, can be used to divide up vocabulary work so that groups have a chance to look at particular terms in depth and practice their presentation skills. My class worked with concepts pertaining to academic literacy to build their pedagogical vocabulary (e.g., *schemata*, *top-down knowledge*, *bottom-up processes*, *automaticity*, and *lexicon*). As with the jigsaw reading activity, the vocabulary activity is versatile and just as appropriate to use with university students in a teacher training course as it is for eighth-grade learners in a mathematics course. The key is getting the students in the teacher training course to realize that connection for themselves. Setting aside time for them to discuss the activity and add it to their toolbox provides them with the opportunity to make that connection.

Language objectives: Building vocabulary, practicing discussion skills, and developing informal presentation skills

Materials: Vocabulary list

Time: 15–20 minutes

Procedures:

Step 1: Divide students into groups and provide each group with a list of the pertinent vocabulary items. Each group is assigned one vocabulary item from the list and is responsible for researching this one item and teaching it to the rest of the class.

Step 2: In their groups, students use the course textbook (or handouts, articles, or notes) to create a student-friendly explanation of their assigned term. Students must also come up with an example of how their term is used in the content classroom. For example, if the group has been asked to work with the concept of *schemata*, they may choose to describe how a series of photographs of pizza and apple slices, followed by a brief discussion of division, can be used to activate students' pre-existing knowledge regarding the concept of fractions in a mathematics class.

Step 3: Each group presents the explanation and practical example of their assigned term to the

rest of the class. As each group presents, the rest of the class takes notes, filling in the definitions for each item on the original vocabulary list. **Step 4:** At the end of the activity, students are given time to reflect on the steps that must be taken to implement this activity in their own classrooms and to brainstorm topics and example vocabulary items from their particular subject areas that can be used when adapting this activity for use in their lessons.

This activity can also be embedded in a lesson on theories about vocabulary learning, the processes that are involved, the importance of vocabulary for language learning and content knowledge, and the role of vocabulary in developing academic literacy. It can be extended by asking students to include all the terms collected during the activity in a word bank or vocabulary log, yet another language teaching strategy that can be implemented in their own classrooms.

Toolbox activity 4: Graphic organizers

According to Colombo and Furbush (2009), “Diagrams, teacher drawings and illustrations, and graphic organizers can be powerful tools to make complex content more comprehensible to ELLs” (179). The following activity exposes teachers to a wide variety of graphic organizers appropriate to their subject areas while simultaneously requiring them to reflect on the content knowledge needed to teach a particular topic in their subject. Examples of graphic organizers and diagrams for this activity include problem-solution outlines, compare-and-contrast matrices, Venn diagrams, concept maps, spider maps, cycle diagrams, flow charts, T-charts, and anticipation-reaction guides.

Language objectives: Using graphic organizers to make content more comprehensible, practicing discussion skills, developing informal presentation skills, and developing listening skills

Materials: A copy of selected graphic organizers for each student or a transparency or slide that can be projected for the whole class; each graphic organizer should be accompanied by a brief description of its purpose and how it is incorporated into lessons.

Time: 35–45 minutes

Procedures:

Step 1: Distribute or display the handout on graphic organizers and briefly discuss the

use of graphic organizers in the content class. Find out if any of the students have seen or used graphic organizers before and have them brainstorm about the ways graphic organizers can make content more comprehensible to English language learners.

Step 2: Select one graphic organizer and model how it is used in the content class. Demonstrate, for example, how a flow chart can be used to present the steps used in solving a proof in geometry.

Step 3: Divide students into groups according to the subject they are going to teach and assign one of the graphic organizers to each group. As a group, students select a topic in their subject area and create an example of how their designated graphic organizer can be used to present the topic to their students. In my classes, the natural science teachers used matrices to compare and contrast plant and animal cells. The mathematics teachers used a cycle diagram to demonstrate the process that learners should go through when attempting to solve word problems.

Step 4: When groups have completed their examples, each group chooses a representative to present the group’s work to the rest of the class.

Step 5: Provide students with time to reflect on how using the graphic organizers made the content clearer and how they can be utilized to simplify and clarify concepts for their learners.

Toolbox activity 5: Lesson plan mix-up

Lesson planning is an integral part of courses for pre-service teachers. In this activity, students are introduced to the concept of *backwards design* (i.e., starting with the end or “desired results” in mind) and the steps required to plan a content lesson that incorporates both subject matter and language learning (Wiggins and McTighe 2005). Students improve their language skills as they work on sequencing, and use persuasive language and reasoning to reach a group consensus regarding the order in which a sample lesson is planned and presented. The activity also allows students to practice using the language in small groups before being asked to present their results to the class as a whole, creating a sense of safety for those students who may still be shy about using English in front of their peers. Finally, the activity reaches those learners who require more hands-on practice

to enhance their understanding of the content or the language through which it is presented.

Although this activity is constructed around the concept of backwards design, it can easily be adapted to accommodate whatever approach to lesson planning is embraced by a particular teacher training program.

Language objectives: Using persuasive language to reach a group consensus and developing informal presentation skills

Materials: A handout with the steps in the lesson planning process, a sample lesson in which the order of the steps has been mixed up, and large copies of each step of the sample lesson that can be posted on the board or wall and rearranged by the students

Time: 30–40 minutes

Procedures:

Step 1: Distribute the handout on the planning process (see Figure 4) and introduce students to the concept of backwards design. (I like to use the road trip metaphor: If you don't know where you're going, how can you plan your route? Planning a lesson is just like planning a road trip. You have to know your aims—What do you want the students to have accomplished by the end of the lesson?—before you can plan the assessment tools and individual activities that will lead them there.) Have the students refer to their handouts as you elicit each step from them. Once they have reviewed each step and asked any questions regarding the process, students discuss how the order of the steps will change when the lesson is actually presented. They should realize that while planning starts with

outcomes and assessment and ends with the introduction, the actual presentation of the lesson will be reversed.

Step 2: Divide students into groups and distribute the mixed-up sample lesson (see Figure 5). Students should cut the lesson into strips and, referring to their planning handout, rearrange the strips in the order in which each step should be planned (see Figure 6).

Step 3: Post the enlarged copies of each step of the sample lesson (Figure 5) on the board and assign one step of the lesson planning process (Figure 4) to each group. Ask a representative from each group to come up to the board and place the group's step of the sample lesson in order according to the planning process. Review and discuss the results as a class, answering any questions the students might have about how the actual lesson sample corresponds to the planning stages. (See Figure 6 for the key to the activity.)

Step 4: Repeat Steps 2 and 3, but ask students to arrange the lesson in the sequence in which it ought to be presented. Once again, review the results and refer back to the distinction between the order in which a lesson is planned and the order in which it is presented.

Step 5: In their groups, have students review the steps of the activity and brainstorm ideas for how it can be implemented in their own classrooms. For example, an English teacher can use the activity to arrange the plot of a story, a mathematics teacher can use the activity to have students arrange the steps in a geometry proof, and a history teacher can use it to arrange the events in a timeline.

Conclusion

If we plan our lessons right, the opportunities for student achievement throughout our teacher training classes are threefold: (1) students are supported in their use of the English language, (2) they acquire content knowledge about language education, and (3) they internalize how to apply skills and strategies in their own classrooms. Incorporating effective learning strategies into our lessons provides students with clear examples of what they may be reading about in their textbooks. Taking the time to discuss the rationale for the strategies and reflect on how they are used allows students to make them an integral part of their own teaching tool-

1. Refer to aims and outcomes as mandated by the government or school.
2. Plan specific lesson outcomes for both content and language.
3. Plan assessment for both content and language; include tools, method, and instruments.
4. Plan student activities for both content and language.
5. Plan teaching strategies that correspond to each student activity and support language learning.
6. Collect and create resources that support both content and language.
7. Plan an introduction activity that incorporates both content and language.
8. Formulate an “essential question” (Colombo and Furbush 2009) that contextualizes the lesson.

Figure 4. Steps in the planning process (adapted from Reyneke and Uys)

box. Although I have yet to master the skill of maximizing every moment of my teaching time, I believe setting aside the time to make explicit the connection between what we, as language teachers and teacher trainers, do in our classrooms and how our learners can adapt and apply those strategies in their own classrooms, takes us one step closer towards making the most of the often limited amount of time we have with our students.

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A	How has the peppered moth adapted to a changing environment? Whole group discussion.
B	1. Informal assessment: Observation of accuracy of vocabulary use. 2. Formative assessment: Memo for the worksheet. Assess content and accurate use of the lesson vocabulary (e.g., <i>natural selection, evolution</i>). 3. Formative assessment: Rubric to assess content of the poster and language during the presentation.
C	1. Match key vocabulary items with definitions by moving the words and definitions on the board. Orally present definitions to the class. 2. Read a passage about the peppered moth and answer the questions that follow. Students take turns reading the questions aloud and answering aloud. 3. Use data in a table about the peppered moths to create a graph charting the change in their color. Present the graph to the class.
D	Learners’ notes, vocabulary cards, peppered moth reading passage, comprehension questions, data table, poster paper, sample poster, rubric
E	Students will understand concepts related to biology and the environment. Students will use grade-level vocabulary when speaking and writing about environmental science.
F	1. Review/teach key vocabulary (e.g., <i>camouflage, evolve, adaptation</i>). 2. Read aloud and ask students to follow along. Call on students to read the questions aloud. Contextualize: provide background/historical information about the industrial changes at the time. 3. Provide an example of a graph. Review knowledge about graphs. Allow students to do group work. Facilitate, answer questions, and provide feedback.
G	Teacher asks students to share what they already know about evolution and natural selection and reviews key vocabulary. Learners provide examples of evolution and natural selection that they have encountered in their lives.
H	Students will work in groups to create a graph that represents changes in the colors of the peppered moth and will present their findings in a three-minute presentation to the class. Students will accurately use the lesson’s vocabulary in their presentations.

Figure 5. Mixed-up science lesson

Key	
E:	government aims and outcomes
H:	lesson outcomes
B:	assessment
C:	student activities
F:	teaching strategies
D:	resources
G:	introduction
A:	essential question

Figure 6. Key to mixed-up lesson