Language Learning Materials Worthy of Attention

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At the 2008 Technology for Second Language Learning conference, we were very grateful to have Jim Pusack and Sue Otto of the University of Iowa accept our invitation to appear as invited speakers along with Dorothy Chun (University of California at Santa Barbara) and Sherry Preiss (Pearson Education). The three invited talks provided three perspectives on the complex process of language learning materials development and evaluation. Just three months after the conference, we were shocked and saddened to learn that Jim Pusack died suddenly on December 30, 2008. Jim’s academic career was devoted to exploration of new technologies for developing language learning materials. In fact, his career expresses the importance of language learning materials for students and teachers and asserts an imperative to language educators to develop and seek the most current, interesting, and effective materials possible for our students. It therefore seems fitting to devote this volume of selected papers from the conference to the memory of his career and its contribution to this critical area of our profession.

Jim earned his BA and MA in German from Johns Hopkins University, during which he spent a year studying abroad in Munich, Germany. He worked as a linguist in army intelligence before completing his Ph.D. in German at Indiana University. Later, Jim found a place at the University of Iowa, where he eventually served as Chair of the German Department. As an explorer and developer, Jim left the record of this career in references to authoring tools, advertisements for language materials in professional journals, titles and abstracts of presentations in conference programs, as well as his more traditional academic papers. Today, Jim’s academic papers fit within the larger area of CALL, which now includes a number of journals, edited volumes, and books. But in the 1970’s when Jim began to work in this area, CALL did not exist as an academic area. In this sense, even what we can call traditional papers today, were highly innovative, and in fact, forward looking in an era when faculty in foreign languages wrote papers on literature, for the most part.

By the early 1980s, Jim’s work on CALL began to appear in highly visible outlets such as a special issue of System in 1983. His paper “Answer-processing and error correction in foreign language CAI” demonstrated the sophistication of what he and Sue Otto had been working on throughout the prior decade in Iowa City. At a time when few foreign language teachers had any idea about computers, Jim and Sue were developing an authoring tool that provided error specific mark up of learners’ short constructed
responses. As the ad shown in Figure 1 asserts, Dasher set a new standard for answer processing in language learning software.

Figure 1. Dasher advertisement from the December 1984 issue of CALICO Journal

The following year Jim’s co-authored book, Using Computers in Teaching Foreign Languages, presented an overview of the area of CALL including the early 1980s version of such basics that would appear in any introductory textbook on the topic today: History, natural language processing, interaction and communication, vocabulary,
the four skills, materials design, record keeping, assessment, authoring systems, and so forth. The materials design work that Jim and Sue had participated in prior to 1980 provided the depth of experience required to flesh out the area of CALL, even before the acronym “CALL” became widely adopted in the field.

For more than thirty years, Jim and Sue’s work centered on developing authoring tools and resources for language learning through technology, and therefore they are among the few early explorers of the modern domain of materials development. What they learned upon the route was that combining materials development and technology was a complex and ever-changing enterprise. The story of their work demonstrates this, as it consists of a series of projects that struggled with the challenges to meet the opportunities of the day. As technologies and learning practices changed, Jim and Sue invented new means of meeting the new challenges.

The story begins in 1976 with the Dasher project mentioned above. It was aimed at developing authoring tools that allow foreign language teachers to construct their own interactive learning activities. At a time when most language teachers were completely unfamiliar with computer technology, such authoring tools for developing lessons in vocabulary, grammar, reading and listening were extremely forward looking, as was Dasher’s system for analysis of short constructed responses. Dasher’s capabilities

Figure 2. The authoring environment in Dasher
provided a means for teachers to develop interactive form-focused instruction, and it therefore became very popular for authoring materials to be used in conjunction with textbooks. In fact, such materials were developed to accompany some language textbooks. These could be purchased as a set by teachers who did not wish to author their own materials. This arrangement was a precursor to today’s companion CD or companion website that many publishers offer with foreign language textbooks in the United States. For teachers wishing to create their own materials, Dasher was intended to put this process within their reach. Figure 2 shows the development environment of materials authored using Dasher. Teachers would have to learn some file management procedures as well as how to enter their questions and responses. In addition, most teachers would need to learn for the first time how to turn on the computer, as the first Dasher authoring system appeared before word processing was a common practice. Figure 2 depicts a page where an author is creating a simple “What time is it?” question episode, with multiple correct responses in German. Figure 3 shows what the students would see while working on materials created in Dasher.

Figure 3. A screen of German materials authored in Dasher

The Dasher environment was conceived and built before video technologies became available to foreign language teachers, but when the early prototypes of video
disk technology became within reach, Jim and Sue worked to establish PICS, the Project for International Communication Studies, which served as a clearing house for authentic video for foreign language educators. Funded by the United States Department of Education and the Annenberg Foundation, this project resulted in widespread dissemination of video to language learners who would have otherwise been destined to study with textbooks and audiotapes alone. Figure 4 shows an example of the type of videodisc that was used with early microcomputers in PICS. Between the authoring capabilities offered by Dasher and the PICS materials made available to the profession, by the late 1980s University of Iowa had attained a very high profile in foreign language education nationally and internationally.

![Figure 4. Video foreign language materials developed through the PICS project](image)

In retrospect, Dasher and PICS were just the beginning. The power and capability of the microcomputer as well as its integration with peripheral devices such as a video disk player were increasing rapidly. It was time for another project for Jim and Sue. They started the LLAMA Consortium, which was an acronym for Language Learning And Multimedia Applications, along with a FIPSE-funded project called Building Cultural Fluency: A Multimedia Architecture. These two projects allowed for, in addition to dissemination of materials, the development of authoring tools that would allow teachers to combine multimedia with interactivity. They used a general purpose authoring system, called Toolbook, to develop templates that would allow authors to fuse video and interactivity in a finite number of useful ways.
The advances evident in the Toolbook templates ushered in the modern generation of interactive multimedia. These capabilities, which are seen today in many commercial products, allowed teachers and materials developers to offer learners authentic video listening, which could be interrupted to focus on form. The example in Figure 5 shows the multiple window screen that was used for such materials. The learner was given control over the video in the upper left corner, and could therefore use the control bar to pause for seeking vocabulary help, respond to questions, or repeat sections—capabilities that bring CALL authoring into the modern era where it can be conceptualized from the perspective of comprehensible input, and interaction.

![Figure 5. An example of a screen from materials authored using Toolbook templates developed through the LLAMA Consortium](image)

The materials created using Toolbook templates addressed many of the needs of foreign language teachers and learners, but in the middle of the 1990s the concepts of materials and materials development changed dramatically as the World Wide Web entered the scene. The Web of this era did not have the media and interactive capabilities that had been achieved on microcomputers, but it radically increased the reach of any materials that could be placed on a server, which would be accessible to students anywhere in the world. Moreover, courseware offered on the Web could also take advantage of authentic materials developed for purposes other than language teaching and learning in addition to the live interlocutors that could be found on the Web. With
these new capabilities came a new authoring needs, and therefore Jim and Sue initiated the PageBinder authoring tools project. Figure 6 illustrates a page from the Zulu materials authored in PageBinder. In the top left corner, the student can read a webpage about Zulu beadwork, and, based on comprehension of that, the student is to complete the drag and drop activity.

![Figure 6. Example page from a lesson developed in PageBinder](image)

PageBinder was intended for authoring materials for listening, reading, and culture. It achieved the long anticipated goal of functioning across platforms on computers that did not require specialized workstations, so students could be expected to do their language assignments at any computer with Internet connectivity. Moreover, authors had access to the extensive authentic materials on the Web, which could be repurposed to develop language learning materials, as the example in Figure 7 shows. The author was able to display the metro map of Madrid in the right frame, while the left frame offers an interactive task requiring the learners to respond on the basis of their comprehension of the metro map.

The content from the Web included not only images such as the Subway map but also text, digital audio, and streaming digital video. The interaction types that could be built into these materials were defining categories, sequencing, marking positions on a checklist, indicting opinions, moving text, and moving objects. The latter two of these provide opportunities for authors to develop multiple drag and drop items. An example of the opinion interaction is shown in Figure 8.
Figure 7. Example screen from a task authored in PageBinder

Figure 8. Example screen from an opinion task authored in PageBinder
As the Web was a new communication tool for the world, software tools developed rapidly; Jim and Sue kept pace by undertaking their next generation Web authoring system, called ObjectMover. Like PageBinder, ObjectMover was intended for development of materials for reading, listening, and culture. The authoring tools were cross-platform, browser-based and programmed in Flash. The content could be drawn from the Web, consisting of digital audio, streaming video, and text and graphics. Figure 9 illustrates a page with a drag and drop activity in which students are to listen to a video text about the food and drag the accompanying expressions to the appropriate position on the page.

Figure 9. ObjectMover drag and drop activity based on Spanish terms for food

The drag-and-drop interactions supported by ObjectMover included labeling, ordering, constructing, comparing, categorizing, matching, and assembling. The example shown in Figure 10 illustrates a labeling task in Korean, which requires the learner to drag the appropriate food terms to each of the pictures of bowls.

The many examples using food and cooking might be partly explained by Jim’s interest in cooking. He had recently been studying Italian, traveling during the summer to Italy to improving his cooking and Italian skills. The example in Figure 11, however, shows how ObjectMover was used with segments of Russian conversation. A more complex task, the student needs to read the prompt and then identify which of the videos...
belongs with it. This activity requires learners to listen to the video many times in order to attempt to place it with the correct prompt.

Figure 10. Example ObjectMover labeling activity based on Korean terms for food

Figure 11. ObjectMover in use for a complex Russian conversation task
A look at these projects over a thirty-year period makes it is easy to grasp Jim’s philosophy of CALL authoring tools and language learning materials: Authoring should be easy for the people who know what their students need, and the materials produced should provide language learners with current, interesting, attractive materials. These ideals remain valuable for examining today’s issues in materials development despite the fact that the tools continue to increase in complexity, the authentic interesting content is abundant, and the choices for materials developers are rich.

The papers in this volume continue to explore the path that Jim and Sue charted. The sixth annual conference on Technology for Second Language Learning held at Iowa State University on September 26 and 27, 2008 brought together researchers and graduate students working in this area. The presentations given during the two-day conference, many of which are included in this volume, spanned the issues pertaining to development and evaluation of computer-assisted language learning materials for second language learning.

The first part of the collection, Exploiting Existing Resources, contains two papers that explore the language learning uses of existing content and tools on the Web. Mike Conner outlines the development of a web-based language learning tool that incorporates authentic materials and input from various traditional and new sources. The goal is that learners who use this tool might benefit from multiple types of input for individualized vocabulary learning in context. It appears that the tool could have potential as an efficient one-stop site for language students and teachers to look up vocabulary in multiple sources simultaneously, and thus could serve as an aid throughout many types of language learning activities.

Karina Silva and Jacob Larsen introduce Second Life, a virtual world that is recently gaining in popularity among language teachers and researchers as a tool that can be incorporated into language teaching and materials design. The paper discusses ways to blend Second Life and real life by utilizing the strengths of Second Life to complement the instruction of the four skills in the language classroom. The teaching activities suggested in the paper illustrate the possibilities of Second Life in the language classroom.

In the second section, Research on Activities, the authors report results of research intended to increase understanding of learners’ use of computer-assisted materials. Including assessment under the umbrella of materials, Ruslan Suvorov investigates the effects of three modes of delivery on test-takers’ performances on a computer-based test of L2 listening—audio-only, photograph plus audio, and video. In his study, Suvorov uses context visuals that show the speakers engaged in conversation or giving a lecture. The results revealed that test-takers scored significantly lower in video mode compared to audio-only and photograph plus audio modes. In addition, test-takers who preferred the audio-only test type performed better on that format. The author provides important suggestions for further studies on L2 listening tests, including the use of content visuals. The results of this study suggest the need to further investigate the role of audio and video in learning and assessment in order to construct materials that help learners to succeed in listening.
Based on the positive findings from previous research on the use of individual blogs for language learning, Kimi Nakatsukasa’s paper evaluates the effectiveness of group blogs for teaching ESL writing. As a result of a semester of group blogging, the 16 participants in the study made improvements in fluency and variety of vocabulary. They also perceived group blogging to be a positive learning experience. The author suggests that group blogs may be an effective teaching tool for helping language learners to engage in collaborative writing and learning. The study also raises questions about what constitutes language learning materials on the Web, and underscores the importance of investigating learners’ use of materials.

The final section, **Principled Development of CALL Materials**, includes three papers that probe theoretical and empirical bases for developing language learning materials. Cristina Pardo-Ballester and Julio C. Rodriguez explain how they are using a design-based research as a framework for integrating theory, research and practice to develop and evaluate their online materials for Spanish materials. They explain that a design-based research approach to materials design has the potential of producing learning materials that incorporate relevant findings from second language acquisition research. Such materials have the benefits of being more sensitive to the context of learning and the needs and interests of learners as they show in their example of materials developed for elementary hybrid Spanish courses.

Elena Cotos explains the theoretical approaches that formed the basis for her development of an intelligent discourse evaluation tool called IADE. The interactionist approach, systemic functional linguistics, and skill acquisition theory informed the development of the tool, as did research findings on feedback and Evidence Centered Design principles. IADE uses natural language processing technology to parse introductions in research articles into discourse moves to provide international graduate students with discipline-specific formative feedback on their academic writing.

Carol Chapelle and Ghinwa Alameen explain the rationale behind their development of Web-based materials for learners of French in the United States as well as the way that theoretical principles from second language acquisition were used in materials development. The impetus for the project came from an empirical study showing limited Canadian content in beginning French textbooks, workbooks, and electronic materials. Their project integrates interactive materials targeting local students’ interests as well as the authentic materials provided by Canadian sources on the Web to add to the cultural diversity of French learning materials.

These papers suggest that the tools and resources available to teachers and materials developers today need to be met with the same spirit of exploration and purpose of helping learners that Jim Pusack must have felt when he and Sue began their work with Dasher over thirty years ago. The papers illustrate the diverse areas that pertain to such an exploration, from the technological tools, to empirical research, and theoretical principles. We hope that this collection underscores the primary theme that we see in Jim’s professional career—that language learning materials are worthy of the attention of professionals in applied linguistics.
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REFERENCES