

Assignment 3: Position Paper/Literature Review

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Introduction

As technologies have emerged over the last century, from lead pencils to VCRs, educators have attempted to harness them with the goal of improving student academic outcomes (Salaberry, 2001). Early attempts at integrating digital technologies were often centred on teaching students how to use technologies, rather than as a tool for learning (Thouësny & Bradley, 2011). Educators in K-12 learning environments still struggle to harness the potential of digital technologies in the classroom (Vallance, Vallance & Matsui, 2009). This is equally true of second and foreign language educators.

Computer-assisted language learning (CALL) and second language acquisition (SLA) studies are highly complementary fields (Chapelle, 2007). Early CALL proponents recognized that digital technologies provide “the capabilities for presenting authentic whole texts contextualized by images and other graphics, for trial and error attempts at learning, for branching, for circuitous forms of learning, and for recycling of the material in a myriad of ways” by learners (Stepp-Greany, 2003, para. 13).

SLA and CALL researchers and educators recognize that digital technologies must serve to reinforce and to support sound pedagogical practices, not to replace them (de Cássia Veiga Marriott & Lupion Torres, 2009). They require guidance in order to do so, however (Salaberry, 2001). This literature review aims to explain the latest and most effective approaches to L2 education, to provide direction on effective instructional design methods based on these theories, to review the digital tools best suited to L2 instruction, and to offer insight into the future of CALL in general.

Theories of Language Acquisition

The following theories of first language acquisition theories and approaches feature frequently in SLA literature.

Audio-Lingual

The historically dominant model for language learning instruction has been the behaviourally-based audio-lingual approach, which emphasizes the memorization and

recall of vocabulary and grammatical structures (Kelly, Kennell, & McBride, 2007). This approach enables learners to recall words and utter stock phrases, but the successful application of that knowledge creatively in real-world situations often proves difficult. Knowledge gained “through decontextualized tasks and activities often remains ‘inert’ and learners cannot readily transfer understanding to novel contexts” explain Ozverir, Herrington and Osam (p. 484, 2016).

While the audio-lingual approach may not result in effective language mastery, it remains highly relevant to L2 educators. When preparing individual units, instructional designers must address requisite vocabulary and concepts before tasking students with extension activities as the “automatization of lower order skills” leads to greater success in higher order tasks (Narcy-Combes, 2010, p. 223). This may involve the rote memorization and explicit instruction of terms and language constructs using matching games or flashcards, for example. Instructors may also wish to delay extension activities where necessary until basic vocabulary and concepts in the target language have been mastered by students.

Social Constructivism

The goal of social constructivists is to facilitate learners in their attempts at organising new knowledge into comprehensible schema or cognitive structures (McLeod, 2015). The instructor’s role in this approach is to scaffold the learning context in ways that prepare learners to undertake tasks that are challenging without becoming frustrated. Lev Vygotsky referred to this ideal learning environment as the *zone of proximal development* (Vygotsky, 1978).

For instructional designers, this means carefully considering learners’ existing abilities when assigning tasks, guiding learners towards the knowledge they need to complete a task, and choosing tasks and activities that are meaningful and engaging to learners while still pushing them to greater language proficiency. Educators should also encourage learners to create new materials using the target language, rather than simply consuming them (Hsueh, 2011; Rüschoff, 2009), ideally in collaboration with their peers (Kelly, Kennell, & McBride, 2007). This approach also helps students to recognize their learning

styles and to develop life-long autonomous learning skills (Vallance, Vallance & Matsui, 2009).

Communicative Approach

Derived from the work of Noam Chomsky, this approach involves a great deal of social interaction and negotiation of meaning on the learner's behalf. The communicative approach posits that effective interaction and communication in the target language is the ultimate goal of language learning (Kelly, Kennell, & McBride, 2007). This approach dispenses with explicit grammar instruction altogether, focussing instead on meeting learners' self-identified communication needs and objectives (Ozverir, Herrington & Osam, 2016).

The communicative approach poses a dilemma for instructional designers who may feel they must choose between encouraging effective communication or tackling grammatical accuracy. For K-12 L2 educators, the answer lies somewhere in between, as curricula generally insist on certain structural competencies at each grade level, while otherwise placing the focus squarely on the application of the target language. Instructional designers should write and clearly communicate actionable objectives to their students, enabling them to focus their efforts only on certain elements of grammatical accuracy while otherwise freeing them to work on meaningful communication (McKenna, Zarestky & Anzlovar, 2018; Hsueah, 2011).

Stages of Second Language Acquisition

Many of the dominant theories of second language acquisition are those proposed by Stephen Krashen and various collaborators. In his Natural Approach, Krashen suggests that students learning a second language move through five predictable stages: Preproduction, Early Production, Speech Emergence, Intermediate Fluency, and Advanced Fluency (Krashen & Terrell, 1983; Robertson & Ford, n.d.; Hill & Miller, 2013). In this model, novice students spend much of their time absorbing input from a variety of sources, achieving only limited output at first and increasing it as they progress.

Although K-12 educators must adhere to provincial curricula when planning lessons, they have a great deal of flexibility in determining the order in which modules, units and learning objectives are tackled. Krashen's stages of language acquisition provide an excellent framework for sequencing course materials and activities on both micro and macro levels.

In the earliest stages of a new module or activity, instructional designers should choose learning materials (audio, video, texts) that are comprehensible and accessible to learners in the target language and that address needed vocabulary and concepts. Instructional designers should remember that learners may be relatively silent in the earliest stages of L2 instruction as they build the skills and the confidence necessary to begin attempting creative language production. Learners can only turn their attentions to successfully producing meaningful output once enough input has been absorbed and mastered (Rüschoff, 2009).

Literature Review Themes

A number of themes emerged during the review process. These topics can help guide instructional designers in their choices of L2 learning materials and activities.

Authenticity & Experiential Learning

Learners should be presented with instructional materials and activities that are relevant and meaningful to them, ideally those “relating to real-world problems and projects” (Kelly, Kennell & McBride, 2007, p. 19). Solving authentic problems motivates students to not only develop a solution independently, but to identify and address their language deficiencies in the process (Ozverir, Herrington & Osam, 2016). SLA activities should also involve a “process of individual interpretation and meaning making based on experience” (Kelly, Kennell & McBride, 2007, p. 19). Instructional designers should include activities throughout a course that enhance L2 acquisition by activating learners’ prior experiences and by building on their existing knowledge.

Autonomy & Agency

Although instructors may have to choose materials for students at times (particularly with novice learners or young children), learners should be empowered wherever possible to take ownership of their education by choosing topics and activities that are appealing to them and by independently seeking out information in the target language that meets their individual learning needs. Again, this approach motivates learners to be “active and productive agents” (Rüschoff, 2009, p. 44) in the learning process.

Cultural Competency & Awareness

Authentic learning scenarios and interactions are rooted in the target language’s culture (Pachler, 2009). Learning about the subtleties of a target language’s cultural origins increases engagement with the material and builds cross-cultural competency (Li, Yao & Hong, 2016; Rüschoff, 2009). Instructional designers who create opportunities for comparison and contrast between a target culture and the students’ own culture helps them to more quickly construct schema for the new language (Kelly, Kennell & McBride, 2007). This approach requires a great deal intercultural awareness on the part of the educator as well (McKenna, Zarestky & Anslovar, 2018).

Interaction & Community Building

Interaction is central to effective language learning, and involves more than communication between instructors and students (Li, Yao & Hong, 2016). Peer discussion, evaluation and remote connections to native language speakers are valuable sources of practice in the target language (Hsueh, 2011). Effective interaction, in both synchronous and asynchronous formats, is enabled by a variety of digital technologies. Instructional designers must therefore integrate many avenues for interaction, both online and face-to-face, when building L2 curricula.

Cognitive Load

Cognitive Load is a concept frequently cited in literature on SLA (Narcy-Combes, 2010; Li, Yao & Hong, 2016; and many others). L2 instructional designers must always be cognizant of the extra effort required of students to work effectively in a second

language. One option is to ensure that course materials and instructions are written accessibly, by reducing lexical density for example, in order to render them more comprehensible to learners (McKenna, Zarestky & Anzlovar, 2018). Another excellent recommendation is to provide learners with digital recordings of lessons and other materials that they may review as often as required to encourage comprehension (Stepp-Greany, 2003).

Modes of Course Delivery

Learning outcomes in blended and hybrid environments have been shown to eclipse those of either face-to-face or strictly online modalities (Prokhorets, Plekhanova & Scherbinina, 2015; Huot, Lemmonier & Hamers, 2008; Kelly, Kennell & McBride, 2007). A number of blended and hybrid typologies are applicable in K-12 L2 settings, such as the Rotation, Flex, Self-Blend, Replacement, and Enriched Virtual Models (Prokhorets, Plekhanova & Scherbinina, 2015). Many of these typologies assume a certain mastery of the target language, high technological proficiency, and self-discipline, rendering them unrealistic options for many novices and for younger students (Ziegler & Feucht, 2012). These models also assume that students and their families have uninterrupted access to Web-enabled devices and stable Internet connections at home.

Variations of the Rotation Model are best suited to most K-12 learning environments as they assume students' physical presence in the classroom on a daily basis, they allow instructors the flexibility of integrating online components according to the abilities and interests of the students, and they can be adapted based on the availability of needed equipment. These models meld the best aspects of face-to-face interaction with the enhanced access to resources and tools of digital technologies, resulting in greater student satisfaction (Hsueh, 2011; Li, Yao & Hong, 2016).

Digital Technology Media and Tools

Digital media and resources, carefully integrated by instructional designers, offer students numerous opportunities to personalise their learning by reviewing authentic materials from a variety of sources, by accessing course content as many times as needed at

convenient times, and by remotely interacting with instructors, peers and even native speakers of the target language (Salaberry, 2001; Narcy-Combes, 2010). The following media and resources are recommended by SLA researchers for inclusion in L2 instructional design. Most include collaborative features that recognize the importance of peer collaboration and the affirmative power of self-publishing for a public audience (Stepp-Greany, 2003).

Table 1: Digital Media and Tools for Enhancing SLA (with examples)

<p>↑ less creative ----- more creative</p>	<ul style="list-style-type: none"> • Video authoring • Podcasting • Concept mapping (popplet.com) • Digital presentations (PowerPoint or powtoons.com) • Wikis • Web logs (blogs) • Discussion forums • Chat and instant messaging • Virtual worlds (Second Life) • Massively multiplayer online games (World of Warcraft) • Simulations (phet.colorado.edu) • Educational software and reference tools • Digital textbooks
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Conclusion

This literature review presents a number of ideas and practical suggestions for instructional designers developing courses for second and foreign language students based on the most prominent SLA theories and research into digital technology integration. Although they have been explored within the context of K-12 learning environments, these suggestions apply to higher and adult education settings as well. A number of topics emerged during the review suggesting future trends and avenues of exploration for L2 instructional designers:

The Future is Mobile

Web-enabled mobile device saturation is already very high in parts of Asia, and North Americans uptake isn't far behind (Hsueh, 2011). Traditional computer purchases have slowed and stalled as a result and the term CALL may soon be obsolete (Beres, 2011).

Students who don't have access to a personal computer at home may still be accessing the Web through mobile devices. Instructional designers are increasingly integrating mobile assisted language learning (MALL) into their courses and some have already begun developing frameworks to guide this integration (Power, 2018).

Professional Development

Keeping abreast of new technological innovations and research into pedagogical best practices necessitates ongoing professional development strategies (Wang, 2005; Hsueh, 2011). It is incumbent upon instructional designers to seek out professional associations and learning networks and to create professional development communities within their own institutions whenever possible (Vallance, Vallance & Matsui, 2009). Administrators can assist in this process by freeing up time and financial resources for educators pursuing such professional development opportunities (Hsueh, 2011).

Need for Research

While research into the benefits of SLA pedagogy and digital technology implementation are promising, it can be hard to tease apart “factors such as age, aptitude, attitude and motivation, personality, cognitive style, and the complex interplay between these variables across learners and time” when measuring academic outcomes (Kelly, Kennell, & McBride, 2007, p. 14). More research is needed to determine the most effective approaches for selecting and sequencing content and activities in L2 instructional design as well as for identifying digital tools that best improve student language proficiency.

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