An examination of flipped learning in foreign and second language instructional contexts

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Abstract

In this article, the author explores recent research on the flipped learning approach in second and foreign language contexts. Flipped learning refers to an instructional approach where students engage in learning new material online prior to class, which frees up class time for activities that are more interactive in nature such as class discussions, debates, group or pair work, and student-led presentations. With the flipped approach, the teacher becomes the guide on the side rather than the sage on the stage (King, 1993). The following three guiding questions were used to examine recent studies on this topic and to frame the literature review: (1) What language learning theories support the flipped classroom? (2) Is flipped learning effective for improving language learning outcomes, teacher and/or learner satisfaction, and student engagement and/or motivation? (3) What online tools and applications facilitate the delivery of flipped or blended learning? The findings are synthesized at the conclusion of the article and recommendations are made for second and foreign language pedagogical practices.

Keywords: communicative language teaching, language pedagogy, online tools, second language acquisition

Introduction: The flipped learning approach

In a traditional classroom, the teacher presents new material in a lecture format and students engage in practice activities outside of class. With the proliferation of online tools, learning management platforms, and blended course delivery,

a number of foreign and second language (L2) instructors now employ a flipped learning approach. In a flipped classroom, students are introduced to the new material prior to class meetings using online delivery methods and class time is used to deepen students' understanding through group or pair work, discussion, and/or oral or written practice activities (Higher Education Academy, 2015). Therefore, the flipped learning approach reverses the traditional classroom because students learn the new material on their own prior to class and class time is used for activities that would have been assigned for homework in a traditional classroom. According to King (1993), the teacher becomes the guide on the side rather than the sage on the stage with the flipped learning approach. The flipped classroom is possible due to the use of learning management platforms, recorded online lectures, and other online tools that allow students to learn new content on their own outside of class and at their own pace.

With respect to L2 classrooms, flipped learning allows for more interactive, engaging, and meaningful instruction because classroom time is used to develop communicative goals while learners focus on grammar, vocabulary, syntax, and other linguistic features outside of class on their own (Cowie & Sakui, 2015; Egbert, Herman, & Chang, 2014). Table 1 demonstrates the similarities and differences between the delivery methods of flipped versus traditional L2 classrooms. A visual inspection of Table 1 reveals that the flipped learning approach in L2 classrooms allows students to spend more time during class using the target language because the language forms and functions are learned outside of class.

Table 1: Comparison of traditional and flipped second language classrooms

Activity	**Traditional classroom**	**Flipped classroom**
Lecture: Presentation of grammar	During class	Prior to class
Lecture: Presentation of new vocabulary	During class	Prior to class

Lecture: Presentation of other linguistic features	During class	Prior to class
Lecture: Presentation of culture	During class	Prior to class
Listening and speaking practice in the 3 modes of communication	During class (if time permits)	During class
Class discussion	During class (if time permits)	During class
Pair or groupwork	During class (if time permits)	During class
Written practice	After class (homework)	During class

Class time is then largely dedicated to practice in the three modes of communication: interpretive, interpersonal, and presentational. The interpretive mode refers to students' comprehension of written and/or aural target language input, the interpersonal mode encompasses all person to person synchronous communication in the L2, and the presentational mode denotes all spoken and written target language output that students have had time to prepare, practice, and/or rehearse in advance. The three modes of communication are important factors that teachers must take into consideration when designing, developing and delivering language instruction and assessments.

L2 programs that are proficiency-based adhere to the communicative language teaching approach (CLT). The American Council on the Teaching of Foreign Languages (ACTFL), the Common European Framework of Reference (CEFR) for Languages: Learning, Teaching Assesssment, and other world guidelines and standards advocate the use of CLT, which is a teaching method that prioritizes instruction on the notions and functions of language over target language forms and structures (ACTFL, 2018; CEFR, 2001). While linguistic forms and structures are taught within the CLT paradigm, their purpose is to support meaningful communication in the L2. Moreover, using the target language to deliver instruction, providing opportunities for student engagement in the three modes of communication, using authentic materials,

and creating a meaningful cultural context are also vital aspects of CLT. Therefore, it appears that CLT is well aligned with the flipped learning approach because class time is used to focus on communicative goals while grammar and language functions are deemphasized and learned outside of class.

In this review of the relevant literature on flipped language learning, the author will explore the theoretical framework that underpins the flipped learning approach, recent research on the effectiveness of flipped learning in L2 classrooms, as well online tools and applications that may be effective for flipped language learning. The following will serve as guiding questions for the literature review: (1) What language learning theories support the flipped classroom? (2) Is flipped learning effective for improving language learning outcomes, teacher and/or learner satisfaction, and student engagement and/or motivation? (3) What online tools and applications facilitate the delivery of flipped or blended learning? While research on the flipped learning approach is still emerging across disciplines in higher education, recent studies indicate that this pedagogical approach leads to measurable improvements in course outcomes, greater student engagement, increased attendance, and greater student and teacher motivation (Hamdan, McKnight, & Arfstrom, 2013). Given these promising findings, teachers across all disciplines should consider incorporating this novel pedagogical technique into their daily instructional practices.

Literature review

What language learning theories support the flipped classroom approach?

There are three hypotheses that have shaped the research agenda in the field of second language acquisition (SLA) for the past several decades: Krashen's input hypothesis (1980, 1985), Swain's output hypothesis (1985, 1993. 1995, 1998), and Long's interaction hypothesis (1981, 1983a, 1983b, 1996). Furthermore, the majority of models of SLA include input, output, and/or interaction as vital components for language acquisition to take place (Mitchell, Myles, & Marsden, 2013). According to Krashen's input hypothesis (1980, 1985), languages are acquired subconsciously by exposure to comprehensible input.

He claimed that input is the only necessary factor for language acquisition to take place and that students should be exposed to large amounts of target language input that is just beyond their current level of understanding. Krashen (1980, 1985) asserted that there is no distinction between child first language acquisition and adult L2 acquisition and that innate mechanisms within the human brain build an implicit linguistic system when learners are exposed sufficient amounts of target language input that is comprehensible. He also claimed that learning target language rules and memorizing vocabulary are not helpful during real time oral communication because fluency is hindered when learners mentally edit their output (Krashen, 1980, 1985). Furthermore, he stated that output is not a necessary component for language acquisition to take place and that many L2 students go through a silent period prior to producing any output in the target language (Krashen, 1980, 1985).

Swain (1985), however, found that exposure to large amounts of comprehensible input was insufficient for developing grammatical competence in the target language. Her research with long-term French immersion students in Canada revealed that immersion learners developed native-like phonology and comprehension skills; however, they still lagged behind their native-speaking peers in production skills (Swain, 1985). She claimed that while French immersion learners were exposed to large amounts of comprehensible input during the school day, their production of French was limited to the minimum that was necessary to get by in class, which were often yes/no responses. Swain (1985, 1993, 1995, 1998) asserted that L2 students must be pushed to produce output in the target language in order to process language more deeply, attending to both meaning and linguistic form simultaneously. Swain claimed that output is important not only for the development of L2 fluency and accuracy, but it is also a direct path to acquisition (Swain, 1985, 1993, 1995, 1998). Unlike Krashen, Swain makes no claim about output being the only path to acquisition; rather, she asserts that both input and output are important factors that are necessary for L2 learning to take place (Swain, 1985, 1993, 1995, 1998).

According to Long's (1981, 1983a, 1983b) interaction hypothesis, learners acquire language by talking with others. In other words, during conversations

between native and nonnative speakers, the interlocutors work together to achieve mutual understanding. When misunderstandings occur, the conversation must be repaired through the negotiation of meaning (Long, 1981, 1983a, 1983b). Long (1996) revised and updated the interaction hypothesis to include cognitive factors and he stated that selective attention and processing capacity are what mediate the input that learners receive during conversational interactions. Furthermore, he asserted that providing learners with negative evidence, or what is not possible in a language, is a key factor in the language acquisition process.

With respect to the interaction hypothesis in classroom settings, the teacher or a more knowledgeable peer and the language learner engage in conversational interactions such as explicit corrections, recasts, clarification requests, metalinguistic feedback, elicitation, and repetitions (Lyster & Ranta, 1997). With explicit corrections, learners are told that they made an error and they are provided with a correct reformulation; a recast is when the teacher repeats the student's faulty utterance but corrects the error; with clarification requests, the teacher asks the learner to explain what s/he means without any mention of the error; metalinguistic feedback refers to explicit information on how the rules of the language work with respect to the student's error; with elicitations, the teacher prompts the learner to reformulate the faulty utterance, and repetitions occur when the teacher repeats the learner's utterance including the mistake, but uses tone of voice to highlight the error (Lyster & Ranta, 1997). Long (1981, 1983a, 1983b, 1996) asserted that language acquisition takes place through these types of conversational interactions. It should be noted that research that stems from this perspective has its limitations; namely, the wider sociocultural context is not taken into account and most research on the interaction hypothesis has been limited in scope, largely taking place in Anglophone settings. Moreover, it is presently unclear which features of an L2 will benefit most from conversational interaction.

With respect to the flipped learning, it will be important to determine to what extent this approach allows for the provision of comprehensible target language input, sufficient output practice, and opportunities for synchronous interaction in the L2. Similarly, the tools and applications that are used for the

blended / online portion of instruction would need to be examined with respect to their ability to facilitate input, output, and interaction among students, as these are the key factors that are necessary for students to develop proficiency in an L2.

Is flipped learning effective for improving language learning outcomes, student and/or teacher satisfaction, and student engagement and/or motivation?

Research on the effect of the flipped learning approach on language learning outcomes, teacher and learner satisfaction, and student engagement / motivation is only just beginning to emerge in the discipline of foreign and L2 education. Recent studies in the field support the flipped learning approach over traditional instruction across a variety of domains, which are outlined below.

Flipped learning and language learning outcomes

A number of recent research studies have compared language learning outcomes in flipped versus traditional classrooms, with the vast majority of studies showing greater language learning outcomes with the flipped learning approach compared to the traditional approach (Chen Hsieh, Wu, & Marek, 2017; Hung; 2017; Kim, Park, Jang, & Nam, 2017; Lee & Wallace, 2018). However, one study, Mori, Omori, and Sato (2016), found improved learning outcomes for novice language learners but no significant difference between flipped learning and traditional instruction for intermediate-level students.

Hung (2017) explored the effect of the flipped learning approach on learning outcomes among 43 intermediate- to advanced-level English as a Foreign Language (EFL) university students in Taiwan. The participants had between eight and ten years of previous experience learning English in a formal setting. Participants were divided into two course sections, one that employed a flipped learning approach and another that employed a traditional approach. Data consisted of end of course exams, student questionnaires, and researcher observations. Hung (2017) found that students who engaged in flipped learning performed significantly better than students who engaged in traditional

instruction as measured by the end of course exam, which assessed students' vocabulary knowledge, listening skills, and speaking skills.

Lee and Wallace's (2018) study was similar to that of Hung's (2017) in that the researchers compared flipped and traditional approaches among 79 intermediate- to advanced-level EFL university students in South Korea. The participants had approximately 10 years of formal English instruction prior to the study. Lee and Wallace used final exam scores to measure student learning outcomes and they employed student surveys and teacher observations to measure students' attitudes and engagement in learning. Similar to Hung, they found statistically significant increases in student learning outcomes for the flipped learning group compared to the traditional learning group as measured by final exam scores at the end of the course. Of note, at midterm, there were no statistically significant differences between the two groups. This finding may indicate that time is needed for the beneficial effects of flipped learning to become apparent. However, Lee and Wallace did not find any significant differences between the two groups for grades on writing assignments or oral presentations.

Kim et al. (2017) compared the flipped learning approach with traditional instruction among 51 Korean as a foreign language students at a university in Korea. All of the participants were novice learners of Korean and they had various first language backgrounds, including Arabic, Chinese, Indonesian, Malay, Tamil, Turkish, and Thai. Kim et al. examined students' participation rate, their interactional patters, the quality of students' comments, and their reasoning skills in Korean. Data were collected by recording students' class discussions, which were analyzed using mixed methods. The researchers found that the flipped learners engaged in deeper information processing and higher-order thinking skills. Moreover, the flipped learners produced more cognitive comments and demonstrated more cohesion in their interactional patterns than traditional learners (Kim et al., 2017). In other words, students' in-class discussions were richer and more cohesive with the flipped learning approach compared to the traditional approach.

Mori et al. (2016), however, had more mixed findings on the beneficial effects of the flipped learning approach. The researchers investigated the acquisition of kanji—which is a Japanese writing system that uses Chinese characters—among 46 novice- or intermediate-level Japanese as a foreign language students at a U.S. university. Posttests were conducted after each lesson, which were analyzed quantitatively to compare learning gains between flipped and traditional learners. Instructor reflection reports were also collected and analyzed qualitatively. The results revealed that novice-level students who received flipped learning outperformed their traditional learning counterparts on lesson posttests. However, there were no statistically significant differences between the flipped and traditional learning approaches among intermediate-level students. This mixed finding could be due to the fact that the long-term effects of the two techniques were not assessed in Mori et al.'s study; rather, all of the posttests measured short-term learning of the targeted kanji forms. As demonstrated by Lee and Wallace's (2018) study, flipped learning did not appear to have an effect on short-term learning, but when learning gains were assessed over time, students who were exposed to flipped learning outperformed their counterparts who were exposed to traditional instruction.

Given that few studies in languages and linguistics have examined learning outcomes with respect to the flipped learning approach, more studies are urgently needed before any definitive claims can be made regarding its effectiveness. However, the aforementioned studies largely found a beneficial effect on learning outcomes for the flipped learning approach.

Flipped learning and student / teacher satisfaction

Other studies focused on student and/or teacher satisfaction or on students' perceived levels of comfort with and enjoyment of the flipped learning approach (Hung, 2017; Jaramillo, 2018; Moranski & Henery, 2017; Moranski & Kim, 2016; Mori et al., 2016). While Hung (2017) found no significant difference in student satisfaction between flipped and traditional L2 learners, other researches had more marked findings with respect to satisfaction. Jaramillo (2018) investigated student and teacher perceptions of the effectiveness of flipped learning at the beginning and at the end of an intermediate-level Spanish course among 23 students and one instructor at a U.S. university. The

researcher collected student survey data as well as instructor interviews, which were analyzed using mixed methods. The results indicated that students' perceptions of the effectiveness of the pre-class activities and lectures for developing their basic understanding of Spanish were higher at the beginning of the course compared to the end of the course. Similarly, students' perceptions of the in-class activities and of the overall flipped learning format were significantly higher at the start of the course compared to the end of it. However, Jaramillo noted that students' perceptions were still very high—well above average for all of the scales that were used in the study—at the end of the course. She found that students' perceptions of the efficacy of flipped learning were overly high and did not reflect realistic expectations at the beginning of the course. Jaramillo (2018) asserted that ". . . students struggled to grasp the nuances of the language that were lacking or unclear in the online tutorials. These struggles might also indicate that students faced difficulties learning on their own, self-regulating their learning processes, and developing their communicative competence with the linguistic resources they had at hand" (p. 12). In other words, while students were excited to engage in the flipped learning approach at the beginning of the course, the realities of becoming more self-directed learners and taking responsibility for their own learning dampened their enthusiasm for this approach somewhat by the end of the course.

With respect to teacher satisfaction, Jaramillo found that the instructor's perceptions of the effectiveness of the pre-class activities and lectures were higher at the beginning of the course than at the end of it. This finding mirrored the student results. The course instructor indicated in a post-course interview that the grammar tutorials and pre-class materials may have been insufficient for students to learn the content and to engage in the communicative activities during class. Furthermore, the instructor found that the cultural content in the pre-class activities was too advanced and students struggled to grasp the concepts that were presented. However, the course instructor noted that students came to class more prepared and they made deeper connections between language forms and uses.

Moreover, the instructor's perceptions of the in-class activities were higher at the beginning of the course compared to the end of the course. At the beginning, she expected all in-class activities to be communicative, but in an interview at the end of the course, she stated that she had to spend some time on explicit grammar instruction when students failed to grasp concepts pre-class.
Regarding the instructor's overall perceptions of the flipped learning format, her perceptions were higher at the end of the course compared to the beginning of it. At the beginning of the course, she was concerned that only students with specific learning styles and characteristics—such as self-directed learners—would be successful in a flipped language classroom. However, by the end of the course, she had more favorable perceptions of flipped learning because students, by and large, did come to class prepared and they were able to engage in more active discussion in the target language with their peers during class. The instructor attributed students' increased fluency in Spanish by the end of the course to the flipped learning approach.

Moranski and Kim (2016) conducted a large-scale study comparing learners' perceptions of flipped learning and traditional instruction among 213 intermediate-level Spanish language learners at a U.S. university. The researchers administered an attitudinal survey that queried the following four constructs using Likert scale items: (1) students enjoyment of the lesson assignments, (2) students comfort with the structure of the lesson assignments, (3) students perceived confidence in their content knowledge following the completion of the lesson assignments, and (4) the overall degree to which students liked the lesson assignments. In addition to the Likert scale items, one open-ended question asked participants to state which particular aspects of the lessons that they liked or disliked. The Likert items were analyzed quantitatively and the open-ended item was analyzed qualitatively. Moranski and Kim (2016) found that students in the flipped learning group had significantly more favorable attitudes toward the lesson assignments, the assignment structure, as well as toward their subsequent confidence in the material than learners in the traditional instruction group. With respect to the open-ended item, the researchers found that most of the comments centered on the videos that students viewed prior to the flipped lesson, with the majority of students finding them to be highly beneficial. One student stated, "I liked the

speed because it allowed me to take notes in between and process the information." (Moranski & Kim 2016, p. 841). However, some students did state that they found the videos to be boring or repetitive. The results of this study indicate that with respect to learners' comfort, enjoyment, and confidence in their knowledge of the material, the flipped learning approach was superior to traditional instruction (Moranski & Kim, 2016). This finding supports those of Mori et al. (2016) who—in addition to examining learning outcomes in a flipped learning environment—also examined student satisfaction with the online materials that were used to deliver instruction prior to class meetings. Mori et al. found that while all flipped students perceived the online materials to be helpful and enjoyable, novice students found the instructional videos to be the most helpful, while intermediate-level students preferred to use online flashcards, which were activities that could be completed quickly in a straightforward manner. The researchers suggested that students with lower proficiency levels in the target language may value the online lectures more than those with higher proficiency levels because those with higher proficiency may have already acquired learning strategies that enable them to learn on their own without explicit, step-by-step instruction (Mori et al.). Therefore, the findings of Mori el al. suggest that novice-level L2 students appear to prefer deductive activities such as online video lectures, while intermediate-level language students prefer to learn inductively by completing practice activities such as online flashcards. Moreover, Mori et al. did not find any significant difference between the two groups (traditional and flipped) for time spent completing either the online or printed materials.

Moranski and Henery (2017) investigated the effect of an animated orientation video on students' expectations and comfort with the flipped learning model. The orientation video explained the main tenets of the flipped learning approach and the participants included 193 novice-level learners of Spanish at a U.S. university. An attitudinal survey was administered at the beginning and at the end of the course that measured learners' perceptions about the flipped learning approach. Data were analyzed using mixed methods and the researchers found that the inclusion of an orientation video helped students adjust their expectations and become more comfortable with the flipped learning approach.

Studies on student and teacher satisfaction with respect to the flipped L2 classroom indicate that students may have unrealistic expectations of flipped learning initially (Jaramillo, 2018; Moranski & Kim, 2016), but the introduction of an orientation video that primes learners about flipped learning design and delivery appears to facilitate students' comfort and helps them develop realistic expectations regarding the new learning environment (Moranski & Henery, 2017). Learner orientation appears to be a key factor in facilitating positive student perceptions at both the beginning and the end of the course because students better understand the pedagogical principles and demands of flipped learning.

Flipped learning and student engagement or motivation

A few studies also provide support for the beneficial effect of the flipped learning approach on student engagement and/or motivation in L2 contexts (Chen Hsieh, Wu, & Marek; 2017; Kim et al., 2017; Lee & Wallace, 2018). In addition to measuring learning outcomes in flipped classrooms, Lee and Wallace (2018) and Kim et al. (2017) also examined student engagement. Lee and Wallace found that students enjoyed the flipped learning environment and, more importantly, their teachers reported that they were more deeply engaged in L2 learning compared to their counterparts who were exposed to traditional instruction. However, Kim et al. found that while there were greater learning outcomes in the flipped learning environment compared to the traditional L2 classroom, there was no difference in student participation when they examined transcripts of students' in-class discussions. Even though the participation rate was equal between flipped and traditional learners in Kim et al.'s study, the quality of the contributions was higher for flipped learners.

Chen Hsieh, Wu, and Marek (2017) compared the acquisition of English idioms in flipped versus traditional learning environments among 48 intermediate-level ESL students at a university in Taiwan. Data were analyzed using mixed methods and consisted of pre- and posttests on English idioms, two questionnaires that explored student perceptions, semi-structured interviews, and teachers' in-class observations. Their results revealed that there was a beneficial effect for flipped learning on the quality of students' interpersonal language production. They also found that while student motivation was

higher in the flipped environment than in the traditional L2 classroom, students' comfort with it was mixed because many students expressed a preference for the traditional lecture-based format due to the complexity and conditions required for learning the content independently prior to class (Chen Hsieh et al.). Given the positive effect of the flipped approach on learning outcomes and on student motivation, the researchers suggested that students in flipped classrooms need to learn how to become more autonomous learners and to take more responsibility for their own learning.

Taking into consideration the findings of the aforementioned studies, it appears that the flipped learning approach leads to greater student engagement and motivation than the traditional approach. However, because very few studies have been conducted that measure student engagement and motivation in L2 contexts, more research is needed to corroborate these findings.

What online tools and applications facilitate the delivery of flipped and/or blended learning?

According to Egbert, Herman, and Chang (2014), instructional videos are the central component of the pre-class materials in the L2 flipped learning approach. Furthermore, instructional videos are able to provide students with rich input in the target language, which is essential for the language acquisition process to take place (Krashen, 1980, 1985).

There are numerous online tools and applications for creating and editing videos, but many of them are proprietary and have costs associated with them. For instructors who teach at an institution with a Learning Management System (LMS) in place, many of those have screen recording capabilities. In other words, instructors may upload a PowerPoint presentation, narrate it, record the narration, and save it for playback as an MP4 (video) file using features of the LMS. For those who do not have an LMS in place or if their LMS does not have the recording feature, there are several free online tools that are useful for creating instructional videos such as Screencast-O-Matic, VoiceThread, and Photo Story 3. Both Screencast-O-Matic and VoiceThread have free and paid versions. Photo Story 3 is a completely open access application; therefore,

instructors may download and use it for free and there are versions for both Mac and PC users.

Screencast-O-Matic

This is a computer-based application that allows users to capture and record their screens, edit their recordings, and share them with others. It is an ideal tool for educators who wish to create tutorials, lectures, and/or demonstration videos. The free features allow users to record up to 15 minutes from either their computer screen or web cam. The recordings may be saved as either YouTube videos or as MP4 video files, which can be stored on the user's computer or LMS.

Institutions or individuals may purchase licenses, which provide users with extended features such as unlimited recording length, captioning capabilities, and additional editing and web publishing tools. With the paid version, the length of the video recordings is only limited by the user's available hard disk space. Screencast-O-Matic (n.d.) is a good fit for flipped learning environments because it provides captioning tools to ensure that the instructional videos are accessible for students who are deaf or hard of hearing. Moreover, the web publishing tools that are built into the application are relatively easy to use. Figure 1 provides a description of how Screencast-O-Matic may be applied to the flipped classroom.

Figure 1: Screencast-O-Matic and flipped learning

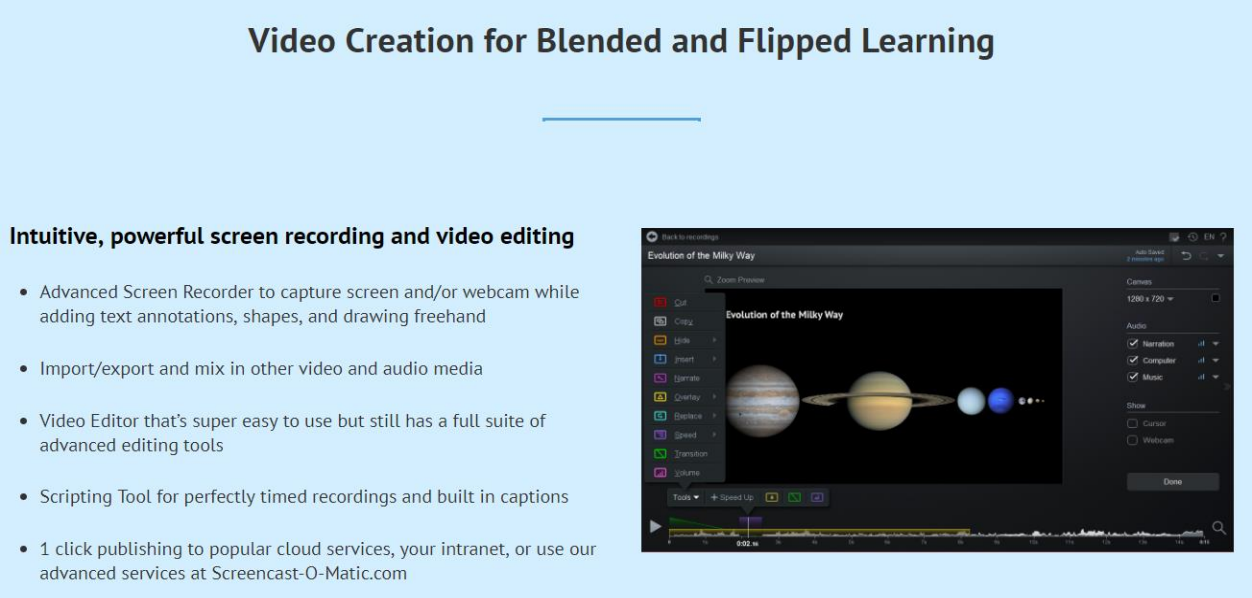
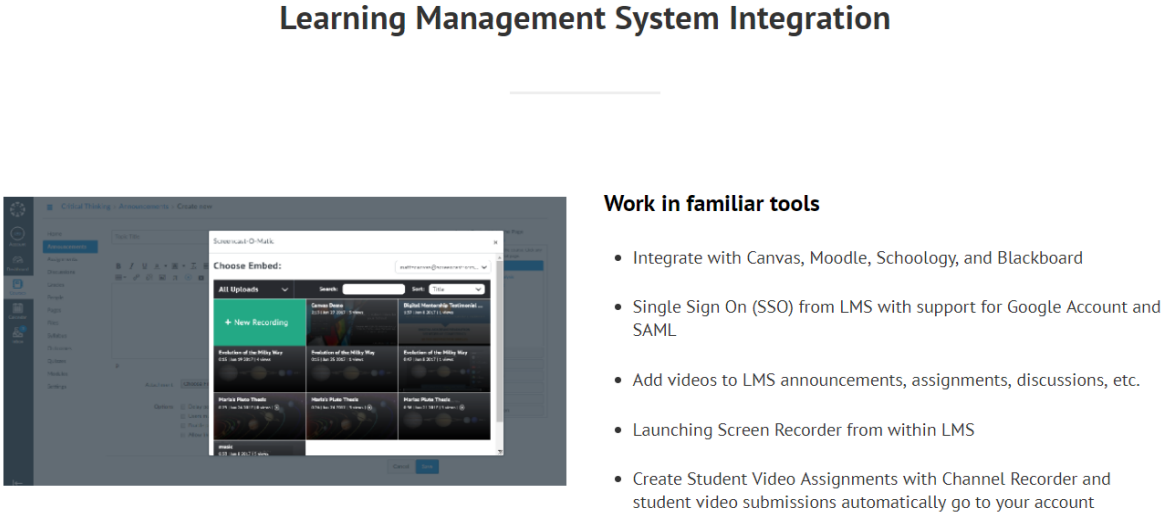


Figure 2 provides a description of how Screencast-O-Matic may be integrated into instructors' LMS platforms. Screen recorders may be launched from within the LMS for ease of delivery.

Figure 2: Integration of Screencast-O-Matic with LMS platforms



Given that Screencast-O-Matic has a free version and that it is able to be integrated into some LMS platforms, it is a good option for creating the instructional videos that are a key component of the flipped learning approach. Furthermore, the video captioning capabilities enable instructors to create instructional materials that are fully accessible to students with diverse needs.

VoiceThread

This tool is a media player that contains a built-in online discussion space. Teachers are able to upload media such as PowerPoint presentations, images, documents, or videos to an online collection that has the appearance of a slide show; however, after the media is added, both instructors and students are able to post comments in which they engage in an on-going asynchronous discussion of the topic. The discussions are asynchronous because students do not have to be on the VoiceThread platform at the same time. Rather, they may post their comments and replies during the days and times that are convenient for them prior to the instructor's due date. During these online discussions, students may ask each other questions, answer them, and critique each other's comments. Moreover, comments may be made with video and audio (using a web cam), with audio (using an external microphone or telephone), or via text (using the computer's keyboard). If users opt to make their audio recordings using a telephone, they are provided with a phone number and pin. Figure 3 provides a screen shot of a VoiceThread slide show with an instructor comment added.

Figure 3: Screen shot of VoiceThread slide show with instructor comment

In flipped L2 classrooms, VoiceThread provides students with a space to engage in asynchronous interpersonal communication in the target language prior to class meetings. The VoiceThread website (n.d.) contains information on how to use VoiceThread in higher education settings.

Photo Story 3

This is an application that is used for digital storytelling, which is the practice of telling stories through the use of computer-based tools. Similar to traditional storytelling, digital stories enable individuals to present their point of view on a specific topic. Digital stories typically contain a mixture of computer-based images, text, recorded audio narration, video clips, and music. This application allows instructors to provide rich comprehensible input for their students while creating a meaningful cultural context through the use of authentic images and target culture music. Figure 4 provides an overview of the capabilities of the Photo Story 3 application.

Figure 4: Overview of the capabilities of Photo Story 3

To create a digital story using this application, the instructor would narrate ten to fifteen digital images in the target language with the option of playing target culture music in the background. This would enable students to learn vocabulary prior to class with the flipped learning approach. The application provides space for instructors to type their script, which can be used to assist the narration process.

The Photo Story 3 application automatically adds effects such as panning and zooming to still images to help capture learners' attention as they view and listen to the narration. Instructors may alter the preset panning and zooming effects to create their own effects. Furthermore, Photo Story 3 enables users to add text, such as titles and captions, as well as other graphics to images, which could facilitate students' comprehension of the target language input that is presented in the narration.

To create a rich multi-layered digital story, instructors may either add target language music to the background or create their own background music using the Photo Story 3 application. Sound options include various instruments and

moods and users may select the tempo, intensity, and volume of the background music with this application.

Photo Story 3 allows users to save their digital stories as project files, which can be edited at a later time, or they may be saved as Windows Media Video (WMV) files, which can be stored on the instructor's computer or uploaded to the LMS. Digital stories may also be sent to others via e-mail if the file size is small enough. Photo Story 3 is available as a free download from Microsoft (n.d.).

Other online tools

Other tools that may be useful for flipped L2 classrooms include online flashcards, online games, and textbook platforms, such as Quia Web (n.d.), where students may practice linguistic forms and structures in the three modes of communication (interpretive, interpersonal, and presentational). Quia Web also enables instructors to create their own quizzes, games, web pages, and surveys, and instructors have the option of sharing their materials with others. Therefore, Quia Web has a repository of over one million online materials and resources that may be incorporated into the flipped L2 classroom.

Quizlet (n.d.) is another useful application that enables instructors to create online flashcards and games to help students learn vocabulary items as well as target language forms and structures. With Quizlet, students are able to create flashcards, practice spelling, engage in learning games, complete self-tests, and collaborate with other learners online.

The research study conducted by Mori et al. (2016) found that intermediate-level flipped language learners preferred to learn inductively prior to class using online activities such as flashcards and games. However, the researchers found that novice-level flipped language learners preferred to learn deductively with online recorded lectures prior to class meetings. Instructors should take these preferences into account when designing the online portion of instruction for flipped L2 learners.

For instructors who wish to explore the aforementioned online tools further, additional links and resources are available in Appendix A. Some of the links

include web-based tutorials on how to use the online tools, while other links include research on the pedagogical rationale for incorporating them in the flipped classroom.

Conclusion

The review of recent research in L2 contexts on the flipped learning approach is promising with respect to learning outcomes (Chen Hsieh, Wu, & Marek, 2017; Hung, 2017; Kim, Park, Jang, & Nam, 2017; Mori, Omori, & Sato, 2017), student comfort and satisfaction (Lee & Wallace, 2018; Moranski & Kim, 2016; Mori, Omori, & Sato, 2016), student engagement (Lee & Wallace, 2018), and student motivation (Chen Hsieh, Wu, & Marek, 2017). Table 2 provides an overview of the findings of the aforementioned studies that compared flipped learning with traditional learning in L2 contexts with respect to learning outcomes, learner comfort and satisfaction, learner engagement, and leaner motivation. Studies that only investigated aspects of flipped learning within L2 contexts (Jaramillo, 2018; Moranski & Kim, 2016; Moranski & Henery, 2017) are not included in the table. Language teachers who attempt to incorporate the flipped learning approach should consider the findings of these studies as they design their instruction.

Table 2: Summary of research comparing flipped L2 learning with traditional instruction

	Greater learning outcomes	**Greater student comfort/ satisfaction**	**Greater student engagement**	**Greater student motivation**
Chen Hsieh, Wu, & Marek (2017)	Yes	No	Not measured	Yes
Hung (2017)	Yes	No	Not measured	Not measured
Kim, Park, Jang, & Nam (2017)	Yes	Not measured	No	Not measured
Lee & Wallace (2018)	Yes	Yes	Yes	Not measured
Moranski & Kim (2016)	Not measured	Yes	Not measured	Not measured
Mori, Omori, & Sato (2016)	Yes / No[1]	Yes	No	Not measured

NB: Only studies in L2 contexts that compared flipped and traditional learning are listed on this table.
[1]Mori et al. found greater learning outcomes for the flipped approach than for traditional instruction with novice-level language students, but not with intermediate-level students.

Thus far, very few studies have been conducted on the flipped learning approach in L2 contexts. More research is urgently needed, especially with respect to flipped learning and student engagement and motivation, as most of

the studies in L2 contexts failed to examine these constructs. Jaramillo's (2018) study was the only one that included teacher perspectives on flipped learning and she found that L2 teachers believe that this approach is effective, not only for self-directed learners, but for all language learners. Her study, however, was limited in scope and more research studies are needed that examine the perspectives of L2 teachers with respect to flipped learning. Due to the limited number of studies on flipped language learning, pedagogical recommendations should be made with caution. However, there is sufficient evidence from research and theory to support flipped learning as a viable alternative to the traditional approach in L2 classrooms. When L2 teachers initially incorporate flipped learning, the findings of Moranski and Henery (2017) suggest that orienting learners to the pedagogical principles and student expectations of this approach are essential for ensuring students' comfort and satisfaction with flipped learning.

Several online tools that could facilitate flipped language learning were presented in this article and L2 teachers may wish to explore these as a means of engaging students in language learning outside of class time. Furthermore, the proficiency level of the learner should be taken into account when deciding upon which online tools to incorporate, as Mori et al. (2016) found that novice learners prefer deductive techniques such as online lectures, while intermediate-level students prefer inductive learning through online activities such as flashcards and games.

Language teachers may employ screen recording tools such as Screencast-O-Matic, VoiceThread, and Photo Story 3 to create online lectures and presentations that could be used to replace in-class, teacher-fronted instruction. This practice would free up class time for more communicative, student-centered activities. Other tools such as Quia Web and Quizlet enable students to practice linguistic forms, structures, and vocabulary prior to or following class. Given that exposure to input and opportunities for output and interaction are of paramount importance for L2 acquisition to take place, online tools and resources that facilitate these vital components of language learning are worth including in L2 teachers' tool kits, whether they employ flipped or traditional instructional approaches.

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