CrossMark

Lang. Teach. (2018), **51.3**, 330–348 © Cambridge University Press 2018
doi:10.1017/S0261444818000137

Research Timeline

Teaching for transfer of second language learning

Mark Andrew James Arizona State University, USA
Mark.A.James@asu.edu

Introduction

An important issue in second language (L2) teaching is transfer of learning. Transfer occurs 'when learning in one context or with one set of materials impacts on performance in another context or with another set of materials' (Perkins & Salomon 1994: 6452). For example, knowing how to play guitar may help a person who is learning to play the piano, or experience playing team sports may help a person who has a job that involves teamwork, or having learned math in school may help a person who is shopping. Questions about whether and how learning is applied in different contexts are central to an understanding of human behavior, and answers to such questions are of practical value to educators. It is not surprising, then, that for over a century, transfer has been 'among the most challenging, contentious, and important issues for both psychology and education' (Day & Goldstone 2012: 153).

Transfer of learning is relevant to L2 teaching in multiple ways. It has been common to view transfer as the influence – often negative – of knowledge of one language on the learning and use of another language (e.g., a Spanish speaker producing an English sentence with Spanish word order, e.g., 'The car red is mine'). Selinker (1972) argued that such language transfer is one of the central processes in L2 learning, and the large amount of research on this topic (e.g., Jarvis & Pavlenko 2008; Koda & Reddy 2008) reflects the observation that language transfer has been 'one of the most fundamental notions in L2 acquisition research' (Johnson & Johnson 1998: 353). Also, besides transfer across languages, attention has been given to transfer within an L2. The central processes of L2 learning described by Selinker (1972) include transfer of training (e.g., eastern European learners of English overusing the pronoun 'he' because their textbooks and teachers almost always used that pronoun) and overgeneralization (e.g., an English learner using the verb 'drive' not just with the word 'car' but also with the word 'bicycle'), both of which involve the problematic application of L2 learning in L2 use situations. This intra-lingual perspective on transfer has been common in research investigating sources of L2 errors (Brown 2014: 260).

Another way transfer is relevant to L2 teaching – and that is the focus of this research timeline – is the positive transfer of L2 learning. Since language transfer, transfer of training, and overgeneralization are often negative, transfer from those perspectives may be seen by L2 teachers as something to try to avoid. In contrast, positive transfer of L2 learning is the

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

basic goal of L2 teaching, and from this perspective, transfer is something that L2 teachers should try to promote. Johns (1993: 283), for example, argued that promoting transfer is one of the most important aspects of any English as a second/foreign language (ESL/EFL) class, and Brown (2014: 95–96) highlighted students' positive transfer of L2 learning (e.g., from the classroom to the world outside) as a key consideration for L2 teachers. In other words, L2 teachers should teach for transfer of L2 learning.

Unfortunately, teaching for transfer of L2 learning poses a formidable challenge. In reviews of learning transfer research, Detterman (1993)* concluded that despite researchers' efforts to promote transfer, lack of success has been pervasive, and Haskell (2001)* noted that failure to achieve transfer has been profound: 'That transfer seldom occurs in any significant way is repeatedly shown in both laboratory research and in the classroom' (p. 47). In research focusing specifically on L2 learning, the challenge of promoting transfer is apparent. For example, even if L2 learners have relatively immediate opportunities to transfer learning (e.g., university ESL students who are taking English for academic purposes [EAP] writing courses concurrently with other academic courses), they may not do so (Leki 1995), or may do so only infrequently (James 2006),* or with some learning outcomes more than others (James 2009).* The challenge is reflected in Tardy's (2006) conclusion, based on a review of studies of L2 genre learning, that 'transfer from one domain to another is, at the very least, difficult for learners' (p. 92).

With this in mind, the timeline below focuses on scholarly work that is particularly relevant to teaching for transfer of L2 learning. The goal was to gather a collection of sources that would offer a global, chronological view of this work. The procedure involved reviewing sources that I was already familiar with through my work on transfer, and searching for other potentially relevant sources, for example in the Education Resources Information Center (ERIC) online database and in surveys of research on transfer (Kolesnik 1957, 1958; Haskell 2001;* Day & Goldstone 2012; Larsen-Freeman 2013).* Since the body of scholarly work related to transfer is large and diverse, I aimed for sources that:

- reflect a primarily positive view of transfer (e.g., as a goal of teaching, not as interference);
- deal with transfer explicitly (e.g., as a primary research question, as a topic of extensive discussion);[1]
- focus on teaching (e.g., a particular L2 teaching methodology or technique, such as task-based instruction);
- represent key developments (e.g., a foundation for subsequent scholarly work; a challenge to or extension of existing ideas).

My main focus was sources that deal with transfer specifically of L2 learning; however, I also looked for sources that are not L2-specific but that represent key developments in the larger body of work on transfer that are reflected in L2-specific work. The result was the collection of 51 sources – mainly L2-specific, but also non-L2-specific – in the present timeline.

* Indicates the citation is to be found within the timeline below.

[1] Many sources can be found that deal with transfer less explicitly. For example, it can be argued that any demonstration of learning actually involves transfer (Perkins & Salomon 2012; James 2014),* and from that perspective, much L2 learning research has implicitly dealt with transfer. However, since this research timeline is meant to serve as a jumping off point for more in-depth critical analysis of this topic, it made sense to focus on relatively explicit connections.

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

This research timeline is limited in that the sources included are a sample from a large, complex body of scholarly work; so, arguments could be made for excluding some of these sources or including others. (For example, the empirical studies in the timeline reflect a variety of research designs; depending on one's views of the relative strengths and weaknesses of types of research designs, questions could be raised about sources from this perspective.) However, this small collection of sources does illustrate general themes in scholarly work on this topic, as follows:

A. Continuing emphasis of transfer of L2 learning as important to L2 teaching. Transfer of L2 learning has been linked not only to L2 teaching in general but also to specific models of L2 teaching, including the audio-lingual method, communicative language teaching, genre-based/content-based/task-based instruction, and L2 for specific purposes instruction.
B. Evolving conceptualization of transfer of L2 learning. Transfer has at times been defined relatively narrowly (e.g., as immediate, and without change to what was learned), and at other times relatively broadly (e.g., as occurring over time, and including adaptation of what was learned). A recent push has been toward viewing transfer of L2 learning in a flexible way (e.g., DePalma & Ringer 2011),* but also in a way that is precise and systematic (e.g., James 2014).*
C. Expanding, increasingly detailed picture of teaching for transfer of L2 learning. Empirical research has examined transfer of a growing range of types of learning (e.g., grammar, vocabulary, pronunciation, fluency, pragmatics, rhetorical structure), over varying distances (Barnett & Ceci 2002)* (e.g., across knowledge domains [e.g., with new topics] across modalities [e.g., from listening tasks to speaking tasks; from fill-in-the-blanks tasks to essay-writing tasks], across physical contexts [e.g., from L2 courses to other courses]). Furthermore, scholarly work has broadened in scope by focusing not only on teaching but also on learners and on transfer contexts. The resulting picture points to the following factors as particularly relevant to teaching for transfer of L2 learning:

    1. contextual similarity (e.g., between learning and testing tasks)
    2. learning of general principles
    3. amount of practice
    4. variability in practice
    5. learner affect (e.g., motivation to transfer)
    6. support for transfer in transfer contexts.

References

Brown, H. D. (2014). *Principles of language learning and teaching: A course in second language acquisition* (6th edn.). White Plains, NY: Pearson.

Day, S. B. & R. L. Goldstone (2012). The import of knowledge export: Connecting findings and theories of transfer of learning. *Educational Psychologist* 47.3, 153–176.

Jarvis, S. & A. Pavlenko (2008). *Crosslinguistic influence in language and cognition*. New York: Routledge.

Johns, A. M. (1993). Reading and writing tasks in English for academic purposes classes: Products, processes, and resources. In J. G. Carson & I. Leki (eds.), *Reading in the composition classroom*. Boston, MA: Heinle and Heinle, 274–289.

Johnson, K. & K. Johnson (eds.) (1998). *Encyclopedic dictionary of applied linguistics: A handbook for language teaching*. Oxford: Blackwell.

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

Koda, K. & P. Reddy (2008). Cross-linguistic transfer in second language reading. *Language Teaching* 41.4, 497–508.
Kolesnik, W. B. (1957). A note on transfer of training research. *Peabody Journal of Education* 34.4, 215–219.
Kolesnik, W. B. (1958). *Mental discipline in modern education*. Madison, WI: The University of Wisconsin Press.
Leki, I. (1995). Coping strategies of ESL students in writing tasks across the curriculum. *TESOL Quarterly* 29.2, 235–260.
Perkins, D. N. & G. Salomon (1994). Transfer of learning. In T. Husen & T. N. Postlethwaite (eds.), *The international encyclopedia of education* (2nd edn.) (vol. 11). Oxford: Pergamon, 6452–6457.
Perkins, D. N. & G. Salomon (2012). Knowledge to go: A motivational and dispositional view of transfer. *Educational Psychologist* 47.3, 248–258.
Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics* 10.3, 209–231.
Tardy, C. M. (2006). Researching first and second language genre learning: A comparative review and a look ahead. *Journal of Second Language Writing* 15.2, 79–101.

MARK ANDREW JAMES is an associate professor of applied linguistics in the English department at Arizona State University. He has taught ESL and applied linguistics courses in a variety of contexts in Canada, Japan, Puerto Rico, and the USA. He is interested in curriculum, teaching, and learning issues in L2 education in general, and his current research focuses on theoretical and practical aspects of learning transfer.

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1901	Thorndike, E. L. & R. S. Woodworth (1901). The influence of improvement in one mental function upon the efficiency of other functions. *Psychological Review* 8.3, 247–261.	This paper is commonly seen as the beginning of empirical research on transfer. Participants practiced estimating the areas of rectangles and then were tested estimating the areas of a larger range of rectangles as well as other shapes. Posttest scores were relatively weak, particularly with different shapes. **Thorndike & Woodworth** concluded that learning does not necessarily transfer, and when it does it is because of contextual similarity (i.e., between learning and testing tasks).	**C1**
1908	Judd, C. H. (1908). The relation of special training to general intelligence. *Educational Review* 36, 28–42.	**Judd** argued that an explanation of transfer based on contextual similarity (THORNDIKE & WOODWORTH 1901)[2] is incomplete. The author described a study in which participants were taught general principles of light refraction and then transferred this learning when throwing darts at underwater targets. The author concluded that to promote transfer, teaching should facilitate the learning of general principles.	**C2**
1964	Rivers, W. M. (1964). *The psychologist and the foreign language teacher*. Chicago, IL: The University of Chicago Press.	This book connected L2 teaching to psychology research, including research on transfer. **Rivers** argued that transfer is the ultimate aim of L2 learning and should not be assumed. The author pointed to a transfer-related limitation of contemporary L2 teaching: the audio-lingual method, with its emphasis on mechanical practice to develop automatic responses, was consistent with a contextual similarity perspective on transfer (THORNDIKE & WOODWORTH 1901); but, to promote transfer beyond similar contexts, L2 teaching needed to also reflect a general principles perspective (JUDD 1908), for example by promoting learning with understanding.	**A** **C1, 2**
1965	Ellis, H. C. (1965). *The transfer of learning*. New York: Macmillan.	**Ellis** helped expand understanding of how to promote transfer by suggesting that besides the most common explanations (i.e., contextual similarity [THORNDIKE & WOODWORTH 1901] and general principles [JUDD 1908]), other factors were also relevant. This included not only other aspects of teaching (i.e., the need for large amounts of practice, and variability in practice), but also learner affect (e.g., anxiety).	**C1, 2, 3, 4, 5**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1965	Politzer, R. L. (1965). Some reflections on transfer of training in foreign language learning. *International Review of Applied Linguistics* 3.3, 171–177.	This article focused exclusively on teaching for transfer of L2 learning. **Politzer** highlighted the importance of transfer, and both contextual similarity (THORNDIKE & WOODWORTH 1901) and general principles (JUDD 1908) perspectives. Pointing to another transfer-related limitation of contemporary L2 teaching, the author argued that pattern practice activities should go beyond simple repetition by asking learners to adapt patterns to different situations (e.g., involving different hypothetical speakers).	**A C1, 2**
1977	Morris, C. D., J. D. Bransford & J. J. Franks (1977). Levels of processing versus transfer appropriate processing. *Journal of Verbal Learning and Verbal Behavior* 16.5, 519–533.	In these experiments, participants learned words in different ways (i.e., focus on meaning vs. form) and were then tested in different ways (i.e., focus on meaning vs. form). Performance was best when test and learning task were similar. Focusing on contextual similarity (THORNDIKE & WOODWORTH 1901) from a cognitive angle, the authors concluded that the efficacy of learning activities depends on the way learning will be tested, and labeled this a *transfer appropriate processing* perspective.	**C1**
1987	Pea, R. D. (1987). Socializing the knowledge transfer problem. *International Journal of Educational Research* 11.6, 639–663.	Besides echoing suggestions about teaching general principles (JUDD 1908) and using multiple, varied examples (ELLIS 1965), **Pea** expanded on ideas about contextual similarity (THORNDIKE & WOODWORTH 1901) by stressing that similarity is not fixed and therefore learner perceptions are critical. Also, the author suggested that whether a learner attempts transfer depends on how appropriate and worthwhile transfer seems to the learner, which points to the relevance of learner affect (i.e., motivation) (ELLIS 1965).	**C1, 2, 3, 4, 5**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1988	Baldwin, T. T. & J. K. Ford (1988). Transfer of training: A review and directions for future research. *Personnel Psychology* 41.1, 63–105.	This review of transfer research from a human resources development (HRD) perspective demonstrated the importance of concern not just for teaching and learners but also for transfer contexts. Besides studies that reflected the impact of contextual similarity (THORNDIKE & WOODWORTH 1901), general principles (JUDD 1908), variability in practice (ELLIS 1965), and learner motivation (PEA 1987), **Baldwin & Ford** reviewed studies that pointed to the relevance of support and reinforcement in transfer contexts. (This broad perspective is reflected is HASKELL's [2001] comprehensive theory of teaching for transfer; also, HRD research on transfer motivation and transfer contexts was a necessary foundation for later research focused on L2 teaching [JAMES 2010, 2012].)	**C1, 2, 4, 5, 6**
1988	Johns, A. M. (1988). The discourse communities dilemma: Identifying transferable skills for the academic milieu. *English for Specific Purposes* 7.1, 55–60.	This was part of a transfer-related debate about the EAP branch of L2 teaching. **Johns** highlighted the need for research to identify knowledge and skills that can be transferred across disciplines. The author also described a potentially effective teaching technique: having students conduct ethnographic research in their other courses, for example by trying to identify 'rules' for lectures. This article therefore reflected a general principles perspective (JUDD 1908), by pointing to the difficulty of identifying principles suitable for teaching, but also by pointing to one way that principles might be taught (i.e., having students themselves search for patterns in transfer contexts).	**C2**
1988	Perkins, D. N. & G. Salomon (1988). Teaching for transfer. *Educational Leadership* 46.1, 22–32.	This article brought together major ideas about transfer in a practical framework for teachers. **Perkins & Salomon** described two main mechanisms of transfer: *low-road transfer*, which is the automatic transfer of well-practiced habits (ELLIS 1965), and is triggered by contextual similarity (THORNDIKE & WOODWORTH 1901); and *high-road transfer*, which is the deliberate transfer of abstract knowledge (i.e., general principles [JUDD 1908]). To promote low- and high-road transfer, the authors recommended two general teaching techniques: *hugging* (i.e., making a learning context resemble transfer contexts) and *bridging* (i.e., encouraging abstraction).	**C1, 2, 3**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1988	Spack, R. (1988). Initiating ESL students into the academic discourse community: How far should we go? *TESOL Quarterly* 22.1, 29–51.	This was another part of the transfer-related debate about EAP teaching. **Spack** argued that discipline-specific writing should be taught by members of a discipline, and that EAP teachers should focus instead on general strategies (e.g., writing from sources), which students can then transfer to other courses. This can be seen as an argument for limiting contextual similarity (i.e., avoiding discipline specificity) (THORNDIKE & WOODWORTH 1901) and focusing instead on addressing transfer from a general principles perspective (JUDD 1908).	**C2**
1990	Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.	In a book that presents genre-based instruction as a potentially effective approach for L2 teaching, **Swales** concluded that the most important question about the validity of this approach is 'whether, to what extent, and under what conditions skills acquired within one genre are transferable to another' (p. 233), and described this as 'a highly significant investigative issue' (p. 234). Therefore, besides linking discussion of transfer to a contemporary model of L2 teaching, this book reflects an expansion in concern from *whether* L2 teaching promotes transfer to *how* this occurs.	**A**
1992	Fogarty, R., D. Perkins & J. Barell (1992). *How to teach for transfer*. Arlington Heights, IL: Skylight.	This book is built on the framework presented by PERKINS & SALOMON (1988) by describing and illustrating a more comprehensive and detailed practical model of teaching for transfer. This model has three components. The first component is finding something transferable to teach. The second component is using teaching-for-transfer techniques (i.e., five hugging techniques; five bridging techniques, e.g., incorporating variability in practice [ELLIS 1965] by providing multiple, superficially different learning activities). The third component is identifying the contexts to which transfer is expected, and assessing this transfer.	**C1, 2, 3, 4**
1993	Detterman, D. K. (1993). The case for the prosecution: Transfer as an epiphenomenon. In D. K. Detterman & R. J. Sternberg (eds.), *Transfer on trial: Intelligence, cognition, and instruction*. Norwood, NJ: Ablex Publishing Corp., 1–24.	Reviewing transfer research, this chapter helped stimulate discussion of the way transfer is conceptualized. **Detterman** argued that research had involved too much prompting of participants (e.g., through instructions or hints), and that the result of such prompting should not be considered transfer because it is not spontaneous. The author concluded that transfer is rare and, like THORNDIKE & WOODWORTH (1901), when transfer occurs it is because of contextual similarity.	**B** **C1**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1993	Snow, M. A. (1993). Discipline-based foreign language teaching: Implications from ESL/EFL. In M. Krueger & F. Ryan (eds.), *Language and content: Discipline- and content-based approaches to language study*. Lexington, MA: D.C. Heath and Company, 37–56.	Describing major challenges associated with content-based instruction, **Snow** pointed out that assumptions might be made that learning in a content-based EAP course transfers to other courses, and there is a lack of clarity about conditions that would promote such transfer. Therefore, Snow linked discussion of transfer to another contemporary model of L2 teaching and further highlighted the need to understand not just whether L2 teaching promotes transfer, but also how.	**A**
1993	VanPatten, B. & T. Cadierno (1993). Input processing and second language acquisition: A role for instruction. *Modern Language Journal* 77.1, 45–57.	**VanPatten & Cadierno** investigated whether input-focused L2 teaching promotes transfer of learning of L2 grammar (i.e., word order). Findings with students learning Spanish showed transfer not only to input-focused tasks but also to output tasks. The authors explained that input processing helps learners to restructure their linguistic systems, which in turn impacts output. Assuming a linguistic system is a system of rules or principles, this explanation reflects a general principles perspective (JUDD 1908), and points to the use of input-focused tasks as one way this might be incorporated in L2 teaching.	**C2**
1995	Segalowitz, N. & E. Gatbonton (1995). Automaticity and lexical skills in second language fluency: Implications for computer assisted language learning. *Computer Assisted Language Learning* 8.2–3, 129–149.	Focusing on the use of computer-based tools to teach L2 vocabulary, **Segalowitz & Gatbonton** highlighted the importance of transfer appropriate learning (related to transfer appropriate processing [MORRIS ET AL. 1977]). They suggested that to promote transfer appropriate learning of new words, computer-based activities should involve students in genuine communication.	**C1**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1997	Cobb, T. (1997). Is there any measurable learning from hands-on concordancing? *System* 25.3, 301–315.	**Cobb** examined the relationship between the use of concordance lines and transfer of learning of L2 vocabulary. New words were presented to EFL students through sets of concordance lines, short definitions, or single sentences; to examine transfer, he asked students to use the words to fill in gaps in a text they had not seen before. Findings showed that transfer was strongest for words learned through sets of concordance lines. Cobb attributed this to the multiple contexts provided by the concordance lines. This reflects the suggestion that variability in practice can facilitate transfer (ELLIS 1965), and points to one way this might be incorporated in L2 teaching (i.e., using concordance lines).	**C4**
1997	LoCastro, V. (1997). Pedagogical intervention and pragmatic competence development. *Applied Language Learning* 8.1, 75–109.	This study investigated transfer of learning of L2 pragmatics (i.e., politeness markers). Students in an EFL course were taught how to elicit opinions and make suggestions, and were subsequently recorded having group discussions in a different course. Results showed that transfer was limited, and **LoCastro** attributed this to the students' small amount of practice (ELLIS 1965) and their peers' lack of expectation for politeness in the group discussion (i.e., lack of support in the transfer context [BALDWIN & FORD 1988]).	**C3, 6**
1999	Bransford, J. D. & D. L. Schwartz (1999). Rethinking transfer: A simple proposal with multiple implications. *Review of Research in Education* 24, 61–100.	Addressing the limited success of researchers to promote transfer (DETTERMAN 1993), **Bransford & Schwartz** argued that transfer has been difficult to find because it has been defined too narrowly (e.g., as an ability to solve a given problem, rather than as an improvement in one's approach to dealing with a problem). The authors suggested that views of transfer be broadened to include learning leading to improved ability for subsequent learning (e.g., being able to ask more useful questions).	**B**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
1999	Currie, P. (1999). Transferable skills: Promoting student research. *English for Specific Purposes* 18.4, 329–345.	**Currie** investigated transfer from a general EAP course to students' other courses. Findings indicated that learning transferred, and the author attributed this to the nature of the L2 teaching activities, which required the students to conduct ethnographic research in their other courses (JOHNS 1988) (e.g., looking for patterns in the way questions were posed during classes). This study therefore helped demonstrate the potential efficacy of this particular way of incorporating a general principles perspective (JUDD 1908) in L2 teaching.	**C2**
2001	Haskell, R. E. (2001). *Transfer of learning: Cognition, instruction, and reasoning*. San Diego, CA: Academic Press Inc.	**Haskell** provided a comprehensive review of research from the fields in which transfer has been a focus of substantial research (e.g., psychology, education [including HRD]), and presented a relatively broad theory of how teachers can promote transfer. The theory consists of 11 principles that reflect a range of teaching techniques (consistent with hugging and bridging [PERKINS & SALOMON 1988]), as well as learner motivation and support in transfer contexts) (BALDWIN & FORD 1988).	**C1, 2, 3, 4, 5, 6**
2002	Barnett, S. M. & S. J. Ceci (2002). When and where do we apply what we learn? A taxonomy for far transfer. *Psychological Bulletin* 128.4, 612–637.	**Barnett & Ceci** argued that limited clarity and systematicity in the way transfer has been operationalized has made it difficult to interpret research findings. The authors presented and demonstrated an analytic framework (i.e., the *transfer taxonomy*) for highlighting relevant details in a given study (i.e., what learning has transferred, e.g., specific facts or procedures vs. general principles; how near or far learning has transferred, e.g., across tasks with similar topics vs. different topics).	**B**
2004	Hardison, D. M. (2004). Generalization of computer-assisted prosody training: Quantitative and qualitative findings. *Language Learning and Technology* 8.1, 34–52.	**Hardison** focused on the use of computer-based tools to promote transfer of learning of L2 pronunciation (i.e., prosody). During the three-week program, students learning French listened to examples and recorded their own speech. To examine transfer, the author tested students on their production of new sentences. Findings showed transfer, and the author attributed this to the numerous examples and large amounts of practice in the program (ELLIS 1965).	**C3**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2005	Kaur, J. & V. Hegelheimer (2005). ESL students' use of concordance in the transfer of academic word knowledge: An exploratory study. *Computer Assisted Language Learning* 18.4, 287–310.	Building on an earlier study (COBB 1997) of the use of concordance lines and transfer, ESL students in this study learned vocabulary by using a dictionary or a dictionary plus online concordancer, and attempted to transfer this learning over a farther distance, to an essay-writing task. Findings showed that students who had used the concordancer outperformed others. **Kaur & Hegelheimer** explained that use of a concordancer allowed students to inductively learn rules about word usage. This reflects a general principles perspective (JUDD 1908), and further underscores the use of concordance lines as one potentially effective way to incorporate this in L2 teaching.	**C2**
2006	Dovey, T. (2006). What purposes, specifically? Re-thinking purposes and specificity in the context of the 'new vocationalism'. *English for Specific Purposes* 25.4, 387–402. .	Pointing to a gap in attention to relatively far transfer of L2 learning, **Dovey** argued that transfer of EAP learning to professional contexts has been overlooked. The author suggested that to prepare students for modern dynamic workplaces, EAP teaching should aim to promote transfer of general capabilities (e.g., to learn quickly through reflection) rather than specific language-related learning outcomes (e.g., knowledge of genres). This reflects a general principles perspective (JUDD 1908), pointing to particular principles that might be targeted.	**A** **C2**
2006	James, M. A. (2006). Transfer of learning from a university content-based EAP course. *TESOL Quarterly* 40.4, 783–806.	Focusing empirically on questions about content-based instruction (SNOW 1993), **James** investigated transfer from a content-based EAP course for engineering students. Findings showed that learning did transfer to students' other courses, and this was influenced primarily by similarities between the EAP course and other courses (THORNDIKE & WOODWORTH 1901), and by support for transfer in other courses (e.g., requirements and affordances for transfer) (BALDWIN & FORD 1988).	**C1, 6**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2007	Cheng, A. (2007). Transferring generic features and recontextualizing genre awareness: Understanding writing performance in the ESP genre-based literacy framework. *English for Specific Purposes* 26.3, 287–307.	In a study of genre-based instruction, **Cheng** showed that an EAP student transferred features of articles he had analyzed (e.g., rhetorical structure) into his own writing. The author explained that the transfer involved the student's awareness of rhetorical context, and stressed that instruction needs to help students understand the idea of genre rather than to know specific genres. This emphasis on awareness and teaching for deep understanding reflects a general principles perspective (JUDD 1908), and the study points to a particular general principle (i.e., an understanding of genre) that can be a focus in L2 teaching.	**C2**
2008	James, M. A. (2008). The influence of perceptions of task similarity/difference on learning transfer in second language writing. *Written Communication* 25.1, 76–103.	In this study, students in a general EAP writing course were asked to do an out-of-class writing task, and findings showed that students who perceived the task as similar to the EAP course (e.g., in terms of subject matter) were more likely to transfer learning from the EAP course, and students who perceived the task as different from the EAP course were less likely to transfer. These findings demonstrated the importance of learners' perceptions of similarity (PEA 1987).	**C1**
2008	Lightbown, P. M. (2008). Transfer appropriate processing as a model for classroom second language acquisition. In Z. Han (ed.), *Understanding second language process*. Clevedon: Multilingual Matters, 27–44.	Like SEGALOWITZ & GATBONTON (1995), though with a broader focus on L2 teaching and learning in general, **Lightbown** highlighted the importance of transfer appropriate processing (MORRIS ET AL. 1977). She suggested that since an L2 will be used in communicative situations outside the classroom, it should be learned in communicative situations inside the classroom; furthermore, if target situations will be complex and challenging, situations in the classroom should be too.	**C1**
2009	James, M. A. (2009). 'Far' transfer of learning outcomes from an ESL writing course: Can the gap be bridged? *Journal of Second Language Writing* 18.2, 69–84.	In this study, students in a general EAP writing course were asked to do a writing task that, unlike tasks in the EAP course, required use of a source text. Findings showed that transfer did occur, but was constrained (e.g., some learning outcomes transferred more readily than others). This suggests that one way contextual similarity (THORNDIKE & WOODWORTH 1901) is relevant is task requirements for using information external to the learner (e.g., a source text), and that this relevance can vary depending on the learning outcome.	**C1**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2010	James, M. A. (2010). Transfer climate and EAP education: Students' perceptions of challenges to learning transfer. *English for Specific Purposes* 29.2, 133–147.	This was the first study of support and reinforcement in transfer contexts (BALDWIN & FORD 1988) in relation to L2 teaching. Interviews with students from an EAP writing course who were concurrently taking courses in other content areas showed that students can perceive in their other courses a lack of support for transfer (i.e., an unsupportive *transfer climate*). The study also pointed to a collection of specific features of other courses (e.g., classmates' negative comments about EAP courses) that contributed to these perceptions.	**C6**
2011	Ahmadian, M. J. (2011). The effect of 'massed' task repetitions on complexity, accuracy, and fluency: Does it transfer to a new task? *The Language Learning Journal* 39.3, 269–280.	In this study of the impact of task repetition, students in an EFL course completed a narrative task (i.e., describing a scene in a movie) once every two weeks for six months. Findings showed that students transferred learning (i.e., increased complexity and fluency) to a different task (i.e., an interview about their language learning experiences). **Ahmadian** attributed this transfer to task repetition, which reflects ELLIS'S (1965) emphasis on amount of practice.	**C3**
2011	de Jong, N. & C. A. Perfetti (2011). Fluency training in the ESL classroom: An experimental study of fluency development and proceduralization. *Language Learning* 61.2, 533–568.	In another study of task repetition and transfer, ESL students completed fluency-building activities (i.e., speaking about a topic for four minutes, then three minutes, then two minutes). For some students, the topic was the same each time; for other students, the topic varied. The former group was more successful than the latter at transferring learning (i.e., fluency) to a new task (i.e., speaking about a new topic). This points to the fact that in L2 teaching amount of practice (ELLIS 1965) can be important – with a given topic of communication.	**C3**
2011	DePalma, M. J. & J. M. Ringer (2011). Toward a theory of adaptive transfer: Expanding disciplinary discussions of 'transfer' in second-language writing and composition studies. *Journal of Second Language Writing* 20.2, 134–147.	Like BRANSFORD & SCHWARTZ (1999), but focusing on teaching and learning of L2 writing, **DePalma & Ringer** suggested that too-narrow conceptualizations of transfer could lead researchers to overlook important data. The authors argued that in research on transfer in L2 writing education, there has been an over-emphasis on the re-use of prior learning and insufficient attention to the adaptation of prior learning.	**B**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

Year	References	Annotations	Themes
2011	VanPatten, B. & O. Uludag (2011). Transfer of training and processing instruction: From input to output. *System* 39.1, 44–53.	Expanding on an earlier study (VANPATTEN & CADIERNO 1993), **VanPatten & Uludag** found that input-focused EFL teaching promoted transfer of learning of L2 grammar (i.e., passive voice) to an even broader range of output tasks (i.e., not just sentence level, but also discourse level). As with the earlier study, the authors explained that input processing helps learners to restructure their linguistic systems; assuming a linguistic system is a system of rules or principles, this explanation reflects a general principles perspective (JUDD 1908).	**C2**
2011	Yayli, D. (2011). From genre awareness to cross-genre awareness: A study in an EFL context. *Journal of English for Academic Purposes* 10.3, 121–129.	In another study of genre-based instruction, **Yayli** showed that EFL learning transferred, and this occurred not only within but also across genres (e.g., emails, complaint letters). This transfer involved vocabulary and grammar, as well as a more general awareness of rhetorical and textual concerns (i.e., general principles [JUDD 1908]). The author attributed this transfer to students' exposure to multiple genres in the course (i.e., variability in practice [ELLIS 1965]) and students' ability to notice cross-genre similarities (i.e., perceptions of similarity [PEA 1987]).	**C1, 2, 4**
2012	James, M. A. (2012). An investigation of motivation to transfer second language learning. *Modern Language Journal* 96.1, 51–69.	This was the first study of motivation to transfer (BALDWIN & FORD 1988) in an L2 teaching context. Findings showed that among students in an EAP course, despite immediate opportunities to transfer learning, motivation to transfer learning was rare. The study also pointed to a collection of factors (e.g., perceptions of opportunity for transfer) that influenced this motivation.	**C5**
2012	Thomson, R. I. (2012). Improving L2 listeners' perception of English vowels: A computer-mediated approach. *Language Learning* 62.4, 1231–1258.	Focusing on listening skills, **Thomson** examined the impact of high variability phonetic training on transfer of learning of English vowels. ESL students listened to examples of vowels produced by multiple speakers in multiple phonetic contexts, and findings showed that students transferred learning to some new phonetic contexts. This reflects the benefit of variability in practice (ELLIS 1965), suggesting that one way to address this in L2 teaching is in terms of the speakers and phonetic contexts in listening materials.	**C4**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2013	Grujicic-Alatriste, L. (2013). A response to DePalma and Ringer's article 'Toward a theory of adaptive transfer: Expanding disciplinary discussions of 'transfer' in second-language writing and composition studies'. *Journal of Second Language Writing* 22.4, 460–464.	**Grujicic-Alatriste** suggested that DEPALMA & RINGER'S (2011) framework for discussing transfer (i.e., *adaptive transfer*) may be too broad and flexible, for example because it does not sufficiently take into account different types of situations in which learning may transfer (e.g., within one course, across courses, from school to work), nor impact of transfer (e.g., whether it leads to penalties in the workplace, like job loss). These suggested gaps overlap with dimensions of the transfer taxonomy (BARNETT & CECI 2002).	**B**
2013	Larsen-Freeman, D. (2013). Transfer of learning transformed. *Language Learning* 63 (supplement 1), 107–129.	This article highlighted transfer of L2 learning as a major issue in the language sciences. **Larsen-Freeman** argued (similar to DEPALMA & RINGER 2011) that transfer should be viewed not as exporting or reusing L2 knowledge intact, but rather as transforming what has been learned. Practical suggestions for teaching include making L2 classroom activities similar to activities outside the classroom (i.e., contextual similarity [THORNDIKE & WOODWORTH 1901]), and providing students with multiple iterations of ideas and activities (i.e., large amounts of practice, with variety [ELLIS 1965]).	**A** **B** **C1, 3, 4**
2013	Saito, K. (2013). Reexamining effects of form-focused instruction on L2 pronunciation development: The role of explicit phonetic information. *Studies in Second Language Acquisition* 35.1, 1–29.	This study examined form-focused instruction and transfer of learning of L2 pronunciation. EFL students who had been provided with explicit phonetic information (i.e., an exaggerated model plus a rule) transferred learning when reading new words aloud. **Saito** suggested that providing explicit information helps learners notice a targeted learning point and then restructure or establish representations. This reflects a general principles perspective (JUDD 1908), pointing to a specific way a L2 teacher might address this (i.e., providing explicit information).	**C2**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2014	James, M. A. (2014). Learning transfer in English-for-academic-purposes contexts: A systematic review of research. *Journal of English for Academic Purposes* 14.1, 1–13.	This was the first application of the transfer taxonomy (BARNETT & CECI 2002) to research on L2 teaching. Analysis of 41 studies in EAP contexts showed, for example, that transfer involved various kinds of learning and occurred across varying distances. This analysis illustrates the need for detailed conceptualizations of L2 learning transfer (GRUJICIC-ALATRISTE 2013).	**B**
2014	Shintani, N. & R. Ellis (2014). Tracking 'learning behaviours' in the incidental acquisition of two dimensional adjectives by Japanese learners of L2 English. *Language Teaching Research* 18.4, 521–542.	In this study of task-based instruction, young EFL students learned adjectives in input-based interactive classroom tasks (i.e., responding to spoken commands). One student transferred this learning on a test (i.e., an information-gap task requiring output), and the authors traced this to the student's earlier learning behaviors, in particular free production of the adjectives. **Shintani & Ellis** explained that these behaviors promoted the establishment of sufficiently strong representations of the new words. This reflects a general principles perspective (JUDD 1908), pointing to another specific way an L2 teacher might address this (i.e., facilitating free production).	**C2**
2014	Spada, N., L. Jessop, Y. Tomita, W. Suzuki & A. Valeo (2014). Isolated and integrated form-focused instruction: Effects on different types of L2 knowledge. *Language Teaching Research* 18.4, 453–473.	In another study of form-focused instruction (FFI), **Spada et al.** investigated whether attention to form (i.e., passive constructions) should be isolated from or integrated with communicative activity. Findings showed that on a picture-cued oral production test, a group of ESL students that had received integrated FFI outperformed a group that had received isolated FFI. The authors linked this to transfer appropriate processing (MORRIS ET AL. 1977), explaining that the oral production test was similar to integrated FFI in that both were relatively meaning-focused.	**C1**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2015	Brown, H. D. & H. Lee (2015). *Teaching by principles: An interactive approach to language pedagogy* (4th edn.). White Plains, NY: Pearson.	This latest edition of a popular book on L2 teaching methodology includes transfer as a foundational principle. **Brown & Lee** suggested that teachers maximize transfer by helping students make connections between what they are trying to learn and what they already know (e.g., by using graphic organizers to show how a new grammar point is related to a previously learned grammar point). Having students make such connections reflects the bridging technique *using analogies* (FOGARTY ET AL. 1992), and therefore a general principles perspective (JUDD 1908).	**A C2**
2015	Green, J. H. (2015). Teaching for transfer in EAP: Hugging and bridging revisited. *English for Specific Purposes* 37.1, 1–12.	In findings from a survey of EAP students, there was a significant correlation between reports of transfer and perceptions that the EAP course incorporated hugging and bridging techniques (FOGARTY ET AL. 1992). However, findings also showed that perceived use of these techniques was responsible for only a small amount of variance in reported transfer. **Green** concluded that an explanation of transfer in EAP education should go beyond teaching techniques to also include factors such as transfer climate (JAMES 2010).	**C1, 2, 3, 4, 6**
2015	Long, M. (2015). *Second language acquisition and task-based language teaching*. West Sussex: Wiley-Blackwell.	**Long** proposed a research program for task-based instruction, and one of the key areas for future research is 'the extent to which task-based abilities are task-specific or transferable' (p. 373). Reviewing findings of research that looked at transfer in task-based instruction contexts, he argued that '[f]urther studies of these issues are clearly of the highest priority' (p. 340), and called for researchers to 'take up the serious challenge the transferability issue presents' (p. 338).	**A**

https://doi.org/10.1017/S0261444818000137 Published online by Cambridge University Press

YEAR	REFERENCES	ANNOTATIONS	THEMES
2016	Benson, S. D. (2016). Task-based language teaching: An empirical study of task transfer. *Language Teaching Research* 20.3, 341–365.	In another study of task-based instruction, **Benson** investigated whether ESL learning would transfer across knowledge domains (e.g., from a task about televisions to a task about refrigerators). Findings showed evidence of transfer across knowledge domains, but only for low proficiency students and only if tasks were similar in terms of language function (e.g., both involved evaluating consumer product information). Reflecting a contextual similarity perspective (THORNDIKE & WOODWORTH 1901), this points to the relevance of the specific dimension of similarity (e.g., knowledge domain vs. language function) (BARNETT & CECI 2002) and of L2 proficiency.	**C1**
2016	Chang, A. C-S. & S. Millet (2016). Developing L2 listening fluency through extended listening-focused activities in an extensive listening programme. *RELC Journal* 47.3, 349–362.	In this study, students in an EFL course completed extensive listening activities (i.e., listening to audio recordings of narrative texts, each about 5,000 words in length, and answering about 200 questions about each recording). Findings showed that students who did six or more of these activities improved their ability to listen to narrative texts, and this learning transferred to conversational texts. This transfer did not occur for students who did five or fewer activities. Like ELLIS (1965), **Chang & Millet** explained that transfer was influenced by the amount of practice students had done.	**C3**
2016	Okuno, T. & D. M. Hardison (2016). Perception-production link in L2 Japanese vowel duration: Training with technology. *Language Learning and Technology* 20.2, 61–80.	In a study of the development and transfer of L2 vowel perception, students learning Japanese completed eight training sessions that involved listening to recordings of various words spoken by various speakers. Some students also received visual cues (i.e., waveform displays). Findings showed that regardless of whether visual cues had been provided during training, improved perception of Japanese vowel duration transferred to students' production of vowels. **Okuno & Hardison** attributed this transfer to students' exposure to multiple speakers and multiple phonetic contexts in the training sessions (i.e., variability in practice [ELLIS 1965]).	**C4**

[2]Authors' names are shown in small capitals when the study referred to appears in this timeline.