Emergent Information Gap Tasks for (Digital) Language Classrooms

A resource for teachers and teacher educators

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Introduction to KONECT Teaching Materials
M. Dooly

There has been considerable talk about the future of research and practice in education. Occasionally the discourse tends to the euphoric, sometimes it strays more to the dystopic. Public debates often explore how educators can and should meet society’s demands in the globalized, interconnected geopolitical situations of today. Voiced concern about learners (as future ‘global’, ‘digitalized’ citizens) regarding what skills and competencies that they must have and what knowledge they are constructing (or not), both formally and informally, are prevalent in frequent public debates. However, no matter where one stands on the issues of debate, there is a general consensus that education will be transformed in the next decades in order to accommodate the rapid technological, sociopolitical, geographical, and environmental changes the world is experiencing, not to mention the many changes on the human level that we all live on a daily basis.

Of course society – and subsequently education- have always undergone continual change. Nonetheless, the past decades have brought about an almost vertiginous sense of change. Twenty years ago Appadurai (1996) described these changes in model of ‘transcultural flows’ that theorizes five different domains of transcultural movements: ethnocapes (involving flow of people); mediascapes (flow of information); technoscapes (flow of technology); financescapes (flows of finance); and ideoscapes (flow of ideology or ideas). These changes have an impact on how the world is perceived: for millineums social life was largely inertial; traditions marked and influenced learning and individuals perceived a relatively finite set of possibilities for their future.

Now education must find a way to encompass, address and embrace all of these shifting ‘scapes’. This can be disconcerting. As the online journal ‘Education Week’ has pointed out, “When it comes to predicting the future of work, top economists and technologists are all over the map”. And faced with this uncertainty, teachers, administrators and policy makers inevitably feel consternation and anxiety. Educational research, carried out in conjunction with teachers and students, can provide key answers to how to shape the future of learning.

The KONECT project (EDU2013-43932-P) set out to gather and analyze innovative approaches to education in primary and secondary education in several countries in order to draw up guidelines and teaching materials that are based on transnational, technology-enhanced, multilingual, interdisciplinary and issue-based teaching and learning. These materials are compiled in this set of teaching modules. The modules can be used as stand-alone materials or as whole sets and range across a wide array of themes and approaches, with the nexus of a focus on preparing students of today with

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some of the required competences for tomorrow (or to repeat a now familiar phrase, preparing them with 21st century competencies).

The modules do not follow a set format given that the subjects are very diverse and do not necessarily have to be addressed in a similar fashion. Moreover, in a nod to one of the recognized 21st century competencies; creativity, we have opted to allow each of the teacher/author’s ‘voice’ and personality to come through in the texts. And of course, these materials are aimed as guides, not as top-down models of how these topics should be dealt with in different classes around the world.

In the spirit of knowledge-sharing, the materials are open educational resource and are available in at least two of these four languages: English, Spanish, Catalan and Chinese (choice made by the individual authors). We hope that other teachers around the world find them useful for their own contexts and we would enjoy hearing about how others have used these materials in their own classrooms.3

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Reference:

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Modules in the KONECT Teaching Materials

Module 1: Teaching critical digital literacy to combat fake news. A resource for teachers and teacher educators. Ron Darvin, University of British Columbia


Social interaction has been long considered a catalyst for second/foreign/additional (L2) language learner development. Most researchers, practitioners, and further involved stakeholders have sought after ways for promoting interactional development in an L2 although they have pursued different theoretical, epistemological, and methodological approaches. Similarly, approaches to teaching in and of social interaction have raised diverse opinions. As a potential solution to this controversy, task based language teaching (TBLT) have increasingly gained importance and been treated as an optimal way to provide opportunities for L2 interactional development by engaging the learners in real-life-like task-oriented interaction. Accordingly, proponents of TBLT have developed sets of task design principles to promote learning outcomes by delivering various types of pedagogical tasks (Ellis, 2003). However, the strong emphasis on task design and the understanding of tasks solely as work plans to be implemented by the learners exactly as designed by the task designers have brought up an underdeveloped focus on the interactional unfolding of task accomplishment, which partly diverges from the original idea of promoting interactional development through tasks. Therefore, the gap between task work plans and task engagement processes have largely remained unattended and a great interactional domain in which diverse social interactional resources are deployed by the learners for task completion purposes have been explored to a lesser extent (Seedhouse, 2005; Dooly, 2011; Balaman & Sert, 2017a; Sert & Balaman, 2018; Balaman, 2018).

The use of tasks in language education has also gained prominence due to the emphasis on developing interactional skills transferrable to real-life situations. This has been widely recognized as the main principle for effective task design. Similarly, online tasks have been adopted to provide opportunities to learners for developing digital literacies to better (e-)function in technology-mediated settings thus for increasing their future participation in the 21st century knowledge society (see KONECT project rationale statement; also Dooly, 2010; Dooly, 2015; Dooly & O’Dowd, 2018). Against this background, this module presents the modification of an established task type (i.e. information gap tasks) for promoting process-oriented interactional efforts of learners
by leaving the gap to emerge rather than imposing it to the learners thus enabling a shift from the task work plan (i.e. assigning information gaps to learners) to task process (i.e. facilitating the emergence of information gaps and encouraging minimization of emergent gaps). By doing that, this new task also sets out to facilitate the emergence of interactional competencies indispensable to technology-mediated 21st century real-life situations. Previous research has shown that emergent information gap tasks have been very useful for L2 interactional development and explicated an alternative understanding to structured task design principles (cf. Balaman, 2018). With this in mind, the paper will initially provide a brief review of information gap tasks in L2 pedagogy literature and establish links with emergent information gaps. Following that, some examples from previous implementations will be given to show how these tasks facilitate interactional development in and through online interaction. Finally, two emergent gap information task design ideas will be provided to show how these tasks can also be used in face-to-face L2 classrooms.

**Information Gap Tasks**

Information gap tasks have long been used by many researchers and practitioners for facilitating task-oriented interaction and eliciting communicative outcomes. They have been integral parts of diverse task typologies in TBLT literature (cf. Crookes, 1986; Prabhu, 1987; Pica, Kanagy, & Falodun, 1993; Richards, 2001; Nunan, 2004). Based on Doughty and Pica's (1986) work, the information gap tasks were adopted by many to deliver one-way, two-way, and multi-way tasks through pre-determined information flow patterns. This required the task designers and deliverers to impose information bits to the participants so that they can engage in interaction to reach a whole for task accomplishment purposes. To briefly explain how information gap tasks are implemented, one-way tasks orient to the delivery of the target information to an unknowing participant while two-way and multi-ways tasks require two or more participants' equal access to and sharing of different parts of the target information. Doughty and Pica (1986) promote the use of two- and multi-way information gap tasks for group interaction. Similarly, Pica, Kang and Sauro (2006) also emphasize the importance of information gaps and refer to the link between their inclusion in task design and successful task outcomes. However, as has been the case for most of the
studies putting the emphasis on task design for eliciting communicative outcomes, the focus has been on task engagement processes to a lesser extent. Considering that the information gaps should be practiced in interaction so that they can be resolved in situ and take the task participants to completion, an underdeveloped focus on how these mechanisms work during the task seems to shadow the widely-accepted effectiveness of information gap tasks. Furthermore, imposing information bits to the participants is also potentially problematic as it is informed by treating knowledge as a transmittable and receivable entity. However, research on epistemics in interaction has provided robust evidence to that knowledge is dynamic in nature and it is co-constructed by participants’ engagement in social interaction (cf. Heritage, 2012, 2018; Goodwin, 2013; 2017; Balaman & Sert, 2017a, b). To this end, the compatibility of information gap tasks with L2 interactional outcomes seems to remain questionable due to a potentially problematic treatment of knowledge exchange in interaction. Against this background, a new task type has been proposed to ensure a recalibrated focus on task engagement processes and to attend to dynamic and situated nature of knowledge co-construction in L2 task-oriented interaction (Balaman, 2015; 2016).

A Brief Description of Online Emergent Information Gap Tasks

Emergent information gap tasks occurred mainly as a task design idea to maximize social interactional exchanges during online task engagement processes. The emergence of information gaps was also previously mentioned in task-oriented interactions in L2 classrooms (Jakonen & Morton, 2015). However, it was initially framed as a task type for my PhD project to deliver a number of online tasks using a specific task interface (Balaman, 2016). I started working on the interface design in 2014, initiated the project in 2015, presented earlier findings in 17th International CALL Conference in Tarragona, Spain (Task Design and CALL) and was awarded for the best PhD presentation (Balaman, 2015), examined the situated learner achievements and reported findings in my dissertation (Balaman, 2016) and in subsequent publications (Balaman & Sert, 2017a, b, c; Sert & Balaman, 2018; Balaman, 2018). I will try to briefly describe this task design idea in this section which will also lay the ground for the presentation of cases based on its implementation in the following section.
With the voluntary participation of 20 students (5 groups with 4 participants in each), the project aimed at improving L2 interactional competencies of the participants based on group interaction oriented to the tasks (three tasks each week) uploaded to the task interface (Figure 1 & 2 below) over a period of 20 weeks. Rather than imposing any pre-determined roles and knowledge-related responsibilities to the participants, the task interface was designed in a way to facilitate the emergence of information gaps dynamically and later to require the minimization of these gaps for task accomplishment purposes. Accordingly, the task interface includes three on-screen clues which are provided to the participants so that they can discuss the implications of these clues and find a particular keyword as the task solution. As illustrated in Figure 1, the first clue is the title of the question (i.e. Big Apple Times) located at the top of the interface while the second textual clue is located in the right column on the task interface (i.e. today's ad). The (audio)visual clue is provided within the central frame of the interface (i.e. the FrontPage software visual). The participants are expected to visit the task interface, engage in online interaction using Google Hangouts, discuss the clues, and combine them or discover their relationship with each other in order to find a specific keyword as the correct answer (i.e. tiffany). For the example task in Figure 1, the participants should find out that Big Apple refers to New York thus referring to New York Times. Combined with the visual clue, the reference of the task is the front page of the New York Times paper that day. Finally, with the textual clue (i.e. today's ad) the participants are expected to find out the advertisement on the front page of New York Times and submit it as the correct answer (i.e. the task solution).
When the participants have a candidate answer, they should submit it to the task interface, click the submit button, and receive the positive (i.e. Your answer is correct) or negative (Wrong answer!) feedback from the interface. When one of them receives a positive feedback, that participant also earns a tick visible on the current status chart (Figure 2). For a team to proceed to the next questions, all participants have to submit the correct answer thus earning a total of 4 ticks. When they find the correct answer to the last question, the interface takes the team to the task summary page which provides a log reporting the time that they spend on each question. The current status chart also shows the progress of other groups therefore the task engagement process also has a competitive nature.

The task engagement process is also shaped by a task rule that the participants were informed previously. This pre-determined task rule is “do not tell correct answer to your teammates”, which aims to encourage further engagement in social interaction for task accomplishment. The participant who finds the answer first becomes responsible for adding new clues and facilitating task completion by drawing on a number of diverse interactional resources. Considering that the task interface takes the team to the next question only if all participants submit the correct answer, the knowing participants’ repeated hinting is the only possible way for task accomplishment.
Task Implementation

Based on the Big Apple Times task (Figure 1 & 2 above), the following extract and the subsequent brief analysis present an example of how online emergent information gap tasks are talked into being by the participants in situ. Also note that the analytic bit following the extract only aims to provide an example to how information gaps emerge from the participants’ engagement with the task without any imposed roles/responsibilities. Please refer to Balaman (2016) for a detailed conversation analytic treatment of the extract (pp. 173-179).

Extract. *Big Apple Times (excerpted from Balaman, 2016; pp. 172-173)*

1. NUR: you found the a- answer?
2. DEN: yes.
3. ZEH: yes.
4. DEN: are you on the web page of new york times?
5. (1.6)
6. NUR: uh huh
7. DEN: and then go under (0.4) the page
8. (1.1)
9. the very first under (.) of it
10. (2.9)
11. and there will [be
12. NUR: [i'm on the new york times website now (0.7) okay?
13. DEN: yes
14. NUR: then?
15. DEN: and you should go: (0.6) below.
16. (1.3)
17. NUR: [okay
18. DEN: [you should go under
The extract starts with NUR’s confirmation check oriented to identify the co-participants who have managed to find the correct answer. With responses from DEN and ZEH, it is made observable to the participants that there is a knowledge gap among them which needs to be attended to for task completion. Therefore, the emergence of the information gap is what moves the interaction forward for collaborative accomplishment. Following that, from line 4 to 26, the task participants engage in a screen-based hinting sequence (cf. Balaman, 2018) in the form of page description led by one of the knowing participants, DEN. They draw on the context (i.e. a website) to minimize the emergent information gap. It is also observable in the extract that the minimization process unfolds with stepwise epistemic progression of the unknowing participant, NUR and she finally reaches a part on the website which might possibly include the task solution in line 26. The other knowing participant, ZEH also takes the initiative and points to the emergent information gap in line 28 by providing an alternative resource for minimizing the gap. DEN undertakes the same action and leads the unknowing participant, NUR to another screen-based resource which includes the correct answer. Therefore, the participants draw on a number of interactional resources to minimize the emergent information gap by attending to turn-by-turn unfolding of the task-oriented interaction. It should also be noted that their treatment of the task is also mediated by the task environment as they refer to their screens over the course of hinting. They also avoid telling the correct answer directly in line with the task rule, which evidences the interactional role that the rule plays in the task setting. Considering that the participants were not assigned any pre-determined roles, it can be claimed that
emergent information gaps can also create further interactional affordances as they require a maintained focus on the management of emergent roles and resources for the purpose of minimizing emergent gaps thus accomplishing the task collaboratively.
Materials set 1: How to use emergent information gap tasks in language classrooms

Author: Ufuk Balaman

The project described in the previous section was mediated by a specific task interface that encourages the emergence of information gaps and later minimization of these gaps. The participants attend to knowledgeability status of each other minute-by-minute. Although the task interface is online and mainly suitable for geographically dispersed participants’ task engagement, the task design rationale behind it can be transferred to face-to-face language classrooms. For the purpose, I will present two emergent information gap task design ideas that can be implemented repeatedly by modifying the materials used. As for the target implementation audience for both ideas, language learners at B1-B2 level and pre-service language teachers could find these ideas useful for improving their 21st century knowledge co-construction skills. It is expected that these task design ideas will (1) promote knowledge co-construction by drawing on accessible printed and technology-mediated materials and (2) increase awareness oriented to knowledge co-construction processes.

Task Design Idea 1

Design

• Determine three clues (title, audiovisual, textual) similar to the on-screen clues on the task interface.
• Print out the three clues.
• Make sure that the clues can lead the students to a particular keyword.
• Prepare alternative clues to add to the three main clues.

Implementation (adaptation from online to in-class)

• Form groups of 3/4 students.
• Distribute the printouts to the students.
• deliver the task instruction (e.g. “Please combine the clues and try to make sense of how they relate to and add up to each other and lead you to a single-word correct answer. Once you have a candidate answer, write down your answer on a piece of paper and show it to the instructor but NOT to your teammates. If it is wrong, you can share it with your group but if right, you should start providing hints to facilitate task completion”.

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• Encourage students to use their phones and further available digital tools present in the classroom environment in order to communicate their clues.
• Announce it to whole classroom when someone finds the correct answer,
• After a certain amount of time, add new clues at the end of each five minutes if you see that the students are having difficulties finding the correct answer,
• Stop when all members of a group find the correct answer even if the other groups are still working on the task.

Post-Task Activity (optional)

• Ask each group how they reached the correct answer.

Task Design Idea 2

Design

• Engage in designing this task after the implementation of Task Design Idea 1.
• Prepare a portfolio of printout visuals.

Implementation

• Form groups of 3/4 students.
• Refer to the implementation of Task Design Idea 1.
• Deliver the task instruction (e.g. “Please design a task with three clues. You can choose a visual from the portfolio and combine it with a title and textual clue. You need to make sure that these clues lead to a particular keyword.”).
• Choose a group to deliver their task to the other students.
• Apply the implementation step in Task Design Idea 1 from this point on (see above).
• Assign one member from a focal group (e.g. task designers) to observe the task participants.
• The observers should only watch the task engagement, check candidate answers, add new clues when necessary, and try to understand how the task participants complete the task.
• Choose another group to deliver their task to the other students and reinitiate the task implementation and observation processes.

Post-Task Activity (optional)

• Ask each group how they reached the correct answer.
• Ask the observers to talk about their observations.
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