What higher education is still primarily concerned with when it comes to teaching communication skills, is the teaching of cognitive-academic language and related textual genres. In society and the workplace, however, these genres have limited relevance. Teachers, for example, primarily communicate with people outside of the professional in-crowd: they communicate with pupils and also parents, often with various ethnic backgrounds, and they make use of new media and technologies in order to do so. In a two-year project, funded by the KU Leuven Association, a multidisciplinary team is developing a toolkit to help all teachers and students in higher education with conceptualizing and developing strategic, multimodal communication designs for real-world situations. The project aims at bringing together relevant insights from the fields of ICT, graphical design and communication, and making these insights available for teachers and students. In this paper, the results of several pilot projects and testing sessions are discussed. In general, the toolkit seems promising in helping teachers to create an educational environment in which students are offered opportunities to prepare themselves for communicative life outside the walls of higher education.

KEYWORDS: communication; literacy; multiliteracies; task-based; user-centred
Introduction

Ever since the pioneering publication *Multiliteracies. Literacy Learning and the Design of Social Futures* by the New London Group (Cope & Kalantzis, 2000), it is widely acknowledged that the idea of literacy has undergone a true sea change over the last 50 years. Literacy has come to mean much more than the ability to read, speak and write a normative variant of the standard language. In the 21st century, in which the audience is protean and the sign assumes many guises, to get one’s message across, one should be able to adapt one’s register to the intended receiver, and, moreover, make thoughtful use of the range of media that are made available through today’s technologies (Anstey & Bull, 2006).

This concept of literacy confronts research as well as education with a challenge. The educator is now expected to teach, all at once, the strategic implementation of word, image, sound and lay-out in a range of well-chosen media. The communication researcher is challenged to explain how verbal and nonverbal aspects of communication are being processed (Mayer, 2009), and the sociolinguistic researcher is challenged to explain how a learning environment might be created in which students get and take opportunities to prepare themselves for communicative life outside the (high) walls of higher education. It is especially this last question we try to answer in this paper.

1. State of the art: Who is afraid of language varieties?

What higher education is still primarily concerned with, when it comes to communication, is the teaching of cognitive-academic language skills, needed for successfully completing academic careers. The academic register, academic genres and formal norms (spelling, grammar) take pride of place. This approach, echoing renaissance ideas of nation building and fear for language varieties (Van der Horst, 2010), reduces language competence to the mastery of standard language, which is often further reduced to the written academic word.

This one-sided approach institutionalizes two reductions vis-a-vis the world of communication outside of the school walls. First, while academic genres are typically textual, the success of communication *extra muros* often depends on the integration of verbal and non-verbal elements into a multimodal design. Second, the communicative context of the academic texts is rigid – the student always addresses the specialist-teacher, and always with the aim of demonstrating his knowledge and insights – while in the real world, variable audiences are addressed with variable goals.

When professionals unquestioningly rely on the academic “default” variant in complex, real-life situations, communication breaks down. In 2010, for instance, LOGO, a Flemish organisation for the prevention of breast cancer, sent a letter to all women between 50 and 69 years of age living in a low-income neighborhood with a high immigrant population in Antwerp, Belgium, inviting them to come to the “mammobiel”, a truck driven to several locations where women can have themselves screened for breast cancer. Women in that target group do not tend to go to a hospital for a check-up, so a stimulus communication campaign was considered necessary. But the letter turned out to be unsuccessful in drawing
these women to the “mammobiel”. And yet it was a letter written to meet all formal standards of the genre of letter writing: it deployed the dignified register typical to letter writing, it contained no spelling mistakes, it was grammatically entirely correct, it was well-structured and observant of all the formatting rules. After some reflection, the organisation developed a new information campaign. Now, it distributed a richly visual brochure, explaining the process step-by-step in plain language. In contrast to the letter, the brochure was attuned to the target group, using appropriate language and providing visual support.

In Flemish higher education, all too little attention is paid to this second type of communication. That point could be argued for all professional groups that communicate with target groups outside of the professional in-crowd, like social workers and ICT professionals. Teachers are by no means an exception: they communicate with parents as well children or youngsters and they develop (multimodal) teaching materials for different groups of pupils. In teacher training in Flemish higher education, however, students spend a lot of time learning spelling and grammar while little time – if any – is devoted to learning how to design user-centred communication.

2. Towards user-centred (communication in) education

The analysis that contemporary education does not prepare students for multimodal communication practices but “produces illiterates” was already articulated in 1996 by Kress & Van Leeuwen: “the skill of producing multimodal texts [...], however central its role in contemporary society, is not taught in schools” (p. 17). The very same rift between school and society was addressed by the New London Group in 2000. Cope & Kalantzis explain the necessity of adding the prefix multi to the word literacies to liberate the latter from its entrenched, renaissance significations. They also point out the necessity to reform pedagogy: “[...] we argue that literacy pedagogy must now account for the burgeoning variety of text forms associated with information and multimedia technologies” (Cope & Kalantzis, 2000, p. 9).

Thirteen years ago, a loud and clear call was sounded, yet higher education appears to have not been up to the challenge. It seems unfair, however, to blame communication teachers in higher education for teaching 20th century skills rather than 21st century skills. These teachers are themselves the product of an educational system that goes back to the renaissance. In this system, language is not seen as something that arises between people but as an ontological object beyond themselves. As the linguist Koen Jaspaert states, “it is believed the language we use is a decoction of the ‘idealistic’ language in the bookcase. Of course, it is the other way around.” (Jaspaert, as cited in Verbeylen, 2013, translated from Dutch).

Consequently, textual disciplines are neatly separated from disciplines related to design, visual semiotics and technology. Teachers do/did not learn, unless by

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1 Of course, spelling and grammar are important too for (multimodal) communication designs, but they are just a few out of many, often more fundamental aspects of communication.
chance, how to develop a well-considered multimodal design. It is from a desire to help higher education to venture beyond the confines of the academic-textual discipline that the project “Bee-com a 21st communicator” emerged. The pun in the project title refers to the approach that bees take to communication. Although bee dances appear to be chaotic, there are recurrent patterns in it, comparable to the process of designing a communication product. In this two-year project (2011-13), funded by the KU Leuven Association, a multidisciplinary team is developing a low-threshold, didactic instrument to help all teachers and learners in higher education with conceptualizing and developing communication designs for real-world situations.

Essentially, what the project aims to do is to bring together the fields ICT, graphical design, user-centred design and strategic language use, filter out these fields’ relevance for basic competencies in 21st communication, and make their insights available for teachers in higher education. At the same time, the project aims to put into practice insights into the didactic dynamics that lead to powerful learning environments, such as task-based teaching (Van den Branden, 2006), collaborative and interactive learning (Chiu, 2000) and providing scaffolding for self-directed learning processes (Hogan & Pressley, 1997).

3. Approach

The OOF fund of the KU Leuven Association made the equivalent of roughly 1 FTE available for the execution of the project, which was used to bring together a multidisciplinary team (see page 119 for the details). The set-up for the project approach is inspired by the plan-do-check-act cycle for educational or managerial improvement.

3.1 Planning phase

The planning phase consisted of two steps: a pre-study and three pilot projects. The pre-study aimed to build a stronger understanding of what the competency to communicate in the 21st century actually implies. The goal was to draw up a competence matrix on the basis of field research. Competency was defined as the “real and individual capacity to strategically deploy knowledge (both theoretical and practical), skills and attitudes when interacting with concrete, everyday and changeable situations in one’s professional, public and private life” (De Meerler, 2006, translated from Dutch). The approach that was followed was to interview around 20 professionals all of whom have hands-on experience with 21st century communication, either as a real-world specialist or as a teacher in higher education. The interviews were semi-structured, using a set of questions as a guideline.

The pilot projects were conducted in three different branches of higher education: in teacher training, health work and informatics. The aim was to gain a bet-
ter understanding of the learning needs of both the students and teachers. In each case, the students were given a task describing a realistic problem, related to their field, for which they had to find a solution by designing a communication product. The project team coached the students in conceptualizing the designing process and completing the task. Continuous observations were made as to the learning needs, and were later complemented by online questionnaires for the students and focus group sessions with the teachers.

3.2 Doing phase

Using the observations, feedback and the competence matrix as a touchstone, the project team developed a didactic instrument. The criteria set for the didactic instrument were challenging, close as they were to being mutually exclusive. First, the instrument should be open-ended and well-structured. On the one hand, the instrument should not simply offer a step-by-step recipe or manual for 21st century communication, because, first, such a recipe would violate the complexity of user-centred communication, and second, it would take away the students’ need to actively reflect on and engage with the communication design process. On the other hand, the instrument should offer enough scaffolding for the students to tackle this process, which is so diverse and complicated as to easily overwhelm the novice. Second, the instrument should be low-threshold and challenging. On the one hand, the instrument should be accessible and usable for all students in higher education, who enter into the process of 21st communication from a great variety of backgrounds. On the other hand, the instrument should always be challenging, even for students who do not feel the need to acquire this 21st century competency or for students who already have a strong grasp of any of the fields that are relevant for 21st communication, be it language, ICT, graphical design or user-centred design. Finally, the instrument should help students acquire this 21st century communication competency both on an abstract and a concrete level. On the one hand, the instrument should provide students with meta-cognitive insights (i.e. evaluating and adjusting their communication and learning process). On the other hand, the instrument should help students with the hands-on practice of developing real-world communication designs.

3.3 Testing phase

Several prototypes were designed and tested against the aforementioned criteria. The testing phase was executed iteratively, testing the instrument in four different fields of higher education (corporate communication, social work, applied psychology and teacher training) and optimizing it with observations and feedback rounds with students and teachers.
3.4 Acting phase

At the end of the project’s term, in October 2013, the toolkit will be released for Flemish higher education.

4. Results & discussion

4.1 Competence matrix

From the interviews, information was procured on how professionals operate in the field of 21st communication. The professionals do not consider communication design as an isolated event: they prepare, by analysing the targets and the target groups; they test the design before distributing, and they evaluate the effects to see if the targets were met. The overall understanding of what 21st century communication implies was parlayed into a matrix, which describes this competency as a series of can-do statements. To imbue the lengthy list of can-do statements with a sense of structure, all statements were grouped according to the different phases that the professionals – either explicitly or implicitly – discerned in their 21st century communication practice: preparing, designing, testing, executing and evaluating.

A major difficulty was delineating the amplitude of the competence matrix: what is an appropriate cutting-off point, both in terms of minimal and maximal can-do statements for higher education? Which can-do’s ought to be considered as ‘too easy’ for students, such as the saving of a Word file? And which can do’s ought to be considered as ‘too difficult’ for students, such as being able to work with professional graphic design programs?
4.2 Pilot studies

The pilot studies were helpful in finding out what the students’ average entry competencies were, and – since the communication tasks were authentic, i.e. culled or received from professional organisations – in determining the extent to which the competency should be acquired for the student to function in a professional context. From the feedback and observations, the following over-all conclusions were drawn:

- The instrument should scaffold the students’ engagement with the communication process and should help them to plan that process. The instrument should, for example, draw sufficient attention to the preparing and testing phase, as the students readily skip these steps in the process.
- The instrument should draw sufficient attention to the importance of adapting the language used to the target group. Unsurprisingly, schooled as they are within the language-as-object paradigm, students assume that (standard) language is something you either “have” or “do not have”. And if you do not “have” standard Dutch, then you “own” another standard language, like French, English or Turkish. The many sociological and situational varieties of languages were easily overlooked.
- The instrument should help teachers to design a motivating educational environment, stimulating students to discover the above mentioned processes.

4.3 Toolkit

The didactic instrument that was developed consists of a modular roadmap, a collection of support sheets, a website, a scenario and a teacher’s manual.

The roadmap

The roadmap helps students come to terms with the process of communication design, i.e. the ability to conceive of communication design as a series of planned and iterating actions instead of singular action. It consists of seven hexagonal tiles – shaped like honeycombs, and each about 36 cm in diameter – which the students are asked to order into a logical sequence. The figure below shows the roadmap in its completed “preferential” form – preferential because it visualizes the 21st century communication process as it was articulated by the professionals.
Figure 2. The modular roadmap as laid out in its preferential form

On top is the “task/output” hexagon: this hexagon represents the start-up of the process, with the teacher giving the students an authentic communication task, preferably real-life cases gathered from professional organisations. The following hexagons represent the phases in the process, which follow a logical sequence while also allowing for iterations: preparing, designing, testing and optimizing, executing/distributing and evaluating. The tile in the middle is a creative free zone: an empty but writeable hexagon, on which students can jot down ideas, make quick sketches, or draw arrows to illustrate iterations between phases using erasable whiteboard markers.

This roadmap is refined by a set of 21 smaller hexagons, each about 12 cm in diameter. To each large hexagon, a set of 4, 5 or 6 small hexagons belong. The students are challenged to position the relevant small hexagons around the label in each large hexagon. Figure 3 shows the “preparation” phase, completed with all of its corresponding small hexagons.

The collection of support sheets

On the back of each small hexagon, a series of tips, tools and techniques is listed which the student could use to take the step to which he is challenged by the hexagon. Figure 4, for instance, shows the flip side of the small hexagon “drawing up your first concept(s)".
Figure 3. The “preparation phase” with the small hexagons “finding more information about the topic”, “determining the communication targets”, “determining the target group(s)”, “analysing the target group(s)”, “analysing the context of the communication” and “drawing up your first concept(s)”

Figure 4. The small hexagon “Drawing up your first concept(s)”, listing the titles of six support sheets explaining techniques to stimulate students’ creativity (sketching, mindmapping, freewriting, brainstorming, the six thinking hats and moodboards) and one support sheet to help students explore different media
Each of these tips, tools and techniques refers to a brief support sheet. Each support sheet will help the students take a new, small step in the communication design process. The sheets are concise, using a language suited to the ‘average’ higher education student, and provide a strong interplay between examples and theory. In total, the flip sides of the 21 small hexagons refer to 85 support sheets. Students are encouraged to decide themselves which tips to use – and to argue why they do so.

The website

The support sheets themselves are available through a website, which is built up using the same units as the students have used to build their roadmap. The screenshot below shows the home page of the prototype.

![The homepage of the website](image)

**Figure 5.** The homepage of the website

When the students click on a large hexagon, the website opens onto the large hexagon overlaid with the small hexagons as shown in Figure 3. When students click on any of the small hexagons, the hexagon turns over and shows the list of relevant tools, tips and techniques. Each of these, in turn, is clickable and opens onto the support sheet. The support sheets are also findable through a search box.

The scenario

To give shape to the learning process, a didactic scenario was developed to guide the students in their interactions with the toolkit.

- **Initial situation:** The classroom is set up with tables that are able to seat groups of 4-8 students. On each table, the students find the middle hexagon, some whiteboard markers and a set of post-its.
- **Step 1:** The teacher hands over the “task/output” hexagon, on which the students find a description of the authentic communication task and a descrip-
tion of the expected output (e.g. date of delivery and evaluation criteria).

- **Step 2**: The students generate ideas on how to go about the challenge that they were handed in Step 1. They write down each idea onto a separate post-it.

- **Step 3**: The students are given the five remaining large hexagons in a random order. They are invited to build a logical process – a roadmap – around the empty, central hexagon.

- **Step 4**: The students are invited to position each post-it onto the hexagon to which the idea seems to pertain. Ideas that do not belong to any of the larger hexagons, can be posted onto the middle hexagon.

- **Step 5**: The students are asked to reflect on the distribution of the post-its. Are any hexagons that have more post-its than others? Why so?

- **Step 6**: The students are handed over the set of smaller hexagons in random order. Taking turns, the students explain to their team members which hexagons they have been given, and as a group, they position the smaller hexagons onto the larger hexagon to which they feel the smaller hexagons belong.

- **Step 7**: Students are invited to leave their own table and take a sneak peak at the other roadmaps. How did the other teams build the process? Which ideas are on the post-its? Students return to their own tables, and may decide to rearrange their roadmap.

- **Step 8**: Students are given the URL of the website and invited to compare their roadmap to the one on the website. Students can adapt their roadmap to the preferential order on the website, but they are not obliged to do so.

- **Step 9**: Students are invited to draw up a planning for the entire process. How should they divide the allotted time over the different phases in the process?

- **Step 10**: Students go through the process, phase by phase. For each phase they find the necessary support sheets on the website. Students debate on which tips, tools or techniques are most appropriate in the given context.

**The teacher’s manual**

Along with the scenario, a teacher’s manual is provided, answering the following questions:

- For which students could the toolkit be useful?
- What makes for a challenging communication task?
- How is the toolkit to be used? Which role does the teacher play in facilitating the learning process?
- How is the learning process to be evaluated? And how the students’ output?
- How is the use of the roadmap itself to be evaluated, for future use in the daily educational setting?

**4.4 Test results**

Observations and focus group interviews have revealed that, overall, the toolkit is well-received by students and teachers alike. It is found that the roadmap helps students come to terms with the complex process of 21st communication, that the support sheets provide support for students to successfully go forward with the process and that the website is user-friendly. Furthermore, students found
out language is not something the individual user has or has not but rather something that is made more or less ‘havable’ by joint actions (Clark, 1996) of the designer and the addressee:

“You often too easily assume that all parents understand what you are communicating. I never realised this before.” (student teacher training, translated from Dutch)

As pilots are meant to do, testing the roadmap in real classrooms also gave rise to some questions:

• Should the labels on the larger hexagons be elaborated with a description of what each phase entails? On the one hand, students find themselves struggling with ordering the larger hexagons into a logical sequence. It often seems to them that several options could be argued for. The resulting confusion amongst student teams might indicate that the provided scaffolding does not meet student needs. On the other hand, the often animated discussions between students have the advantage of students explicating knowledge on the communication process that would otherwise remain implicit, private and untested. The discussion helps create a shared understanding of the phases in the design process. Furthermore, the students are given two opportunities to revise the roadmap: after comparing their roadmap to that of the other student teams and when consulting the website.

• Should the students be encouraged to go through the steps at their own pace or should the teacher streamline the groups’ progress? On the one hand, testing sessions have indicated that, given leeway to embark upon a new step or phase as they see fit, students are inclined to progress rashly. For instance, when determining the target group, students rapidly narrow their focus onto the primary target group, without considering which intermediary groups could leverage their communication’s efficiency. On the other hand, testing sessions have indicated as well that student teams prefer to go forward at their own pace. It affords a sense of ownership and avoids time voids in the learning process. Furthermore, the teacher can coach students to take well-considered decisions by stimulating interaction in and between teams and by stimulating consultation of the support sheets, providing examples of relevance of intermediary groups.

Conclusion

It seems that, tough further emendations are auspicious, the Bee-com toolkit assists students in designing 21st century communications in two major ways. First, the roadmap helps students conceptualize the process of communication design and understand it as a series of planned, often iterating actions instead of an isolated action. Second, the user-friendly website, with its database of 85 support cards, helps students go forward with the design process. The didactic scenario, developed for integrating both parts of the toolkit, uses an authentic task as a starting point and encourages collaborative knowledge making,
metacognition and recursive feedback. In all, the toolkit seems successful at helping higher education to “bee-com” a 21st century learning environment where students are offered opportunities to build up experiences with real life communication.

References


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4 Cf. the “seven affordances, seven openings” of technology in education by Cope & Kalantzis (2009).