PROPOSAL PEDAGOGICAL APPROACH FOR DIGITAL TOOLKIT

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BEFORE WRITING A PEDAGOGICAL APPROACH

Before writing a pedagogical approach in working with the various digital tools we need **to agree on the pedagogical principles.**

> *"Traditional course books are linear. Teaching professionals have decided beforehand what you need to start learning, in which order you ought to learn, which exercises you need and which questions you have to answer to make sure you've learned what you had to."*

We are searching **for pedagogical behaviour of teachers** who use digital resources for learning in the classroom and beyond.

> *"We have to start from the needs of the student at a moment in time. The idea is that it is the student who is central and not the course material."*

We should **enable students to learn** in leaps and bounds. Give them the opportunity to explore, to make mistakes.

> *"…students will be able to access all resources, but that (some) resources will also contain enough layers and support so that the student can make use of the resource immediately. In language education it means that there will always be a combination of text, sound and images. These resources will also create an environment in which the student can quietly practise and make mistakes. Through these resources you can hear how a sound is being made ten times but you can also hear it a hundred times if need be. You are not dependent on teachers and their limited time. The student ends up at the centre of the learning process."*

Before we can start making digital recourses and providing them with examples of pedagogical approach we first have to agree about a set of principles

Jan Deutekom, in FC-Sprint²: Learning Without Borders, states that these are important principles:

1. Behaviour is determined by the environment.
2. The learning efficiency grows when students take responsibility.
3. Learning is to do things that you still have to master.
4. You have to make mistakes in order to learn.
5. Learning becomes effective when students feel the need to learn.
6. Students will never achieve more than teachers expect them to.
7. The student does the thinking first.
8. Talent does not exist.
9. Students can learn anything until they prove the contrary.
10. Students are passionate about learning efficiency.
11. Motivation is the result of a process.
12. Learning is a team sport.

THE FC-SPRINT² CONCEPT

The name FC-Sprint² comes from Friesland College, a school for advanced vocational education in the Netherlands, where this pedagogical concept has been implemented. This name suggests the speed and motivation that the idea promotes. The concept of FC-Sprint² is based on two pillars of thought.

1. AN APPROACH TO LEARNERS BY TEACHERS

An approach to learners by teachers under which control moves from the teacher to the learners. FC-Sprint² starts with high expectations; learners are not told what they should do. The teacher tells them what they will be able to achieve at a certain point in time. The teacher also conveys to them the idea that they will impress the teacher and that the teacher has really high expectations of the students. At this time and after a period of preparation the learners are asked to present to their classmates what they have learned. This requires learners to work with the resources the teacher has made available, which range from books and audio-recordings; classmates can also be resources. The teacher him/herself is the last resort. That is, if the required knowledge is really not available from any of these resources, the teacher acts as a resource. This is a radical departure from many classes, in which the learners are heavily dependent on the teacher as the main source of information.

2. PROVIDING LEARNERS WITH RESOURCES

Providing learners with resources so that they can become more autonomous learners. Students require the right resources, and part of these resources are built by advanced students of Friesland College and teachers. Together they build small programs so that other students can autonomously find the information needed for discovering how reading works instead of being instructed by the teacher. Also openly available resources are (in some cases combined and) made available for students in a learning environment with a menu structure. (http://diglin.eu/ see this menu structure – login name = diglin password = diglin)

UNDER THE FC-SPRINT² APPROACH.

Under the FC-Sprint² approach, learners are not directed to specific materials (resources) that they should use at a particular moment in the learning process. Rather, all the material is provided at once. Learners are then guided (by the teacher, but also by studying the resources) to first discover which resources they can use to reach a target set by the teacher. Learners are expected to (eventually) negotiate the targets set by the teacher, and come up with what they themselves want to learn. The teacher is thus the guardian of the learner's education. If a learner comes up with a target him/herself, the teacher has to decide whether this is an appropriate target. If so, the teacher defines the target based on the learner's input. This involves high expectations. If learning materials are built then they are built in such a way that there is a top layer (e.g. the exercise shown on the computer screen) with information underneath which a learner can access if (s)he needs it. The idea behind using the former is that the learner is in charge and is not led by the computer. However, there is immediate feedback so that a learner does not repeat errors only to find out at the end (with a 'check the answers' button) that (s)he has been making errors. Such 'check the answers' buttons at the end of an exercise constitute a test and are not an effective learning exercise.

The concept is used in the Friesland College and has been used in two European projects. In Denmark, the concept was used in building a learning environment for illiterate foreign students to learn Danish developed by the Danish school Lærdansk and the Friesland College. This learning environment, LærdanskABC, won the

European Language Label price in 2015 in Denmark. The concept was also used for a Grundvik Lifelong Learning project funded with support from the European Commission. In this project, Diglin (www.diglin.eu) , the aim was to built software for Finnish, English, German and Dutch for students to be able to “crack the code”. Specialized digital tools were developed for training reading skills for adult learners who are first time readers in a second language. This was a combined project of the Universität Wien, the University Newcastle upon Tyne, the University of Jyváskylä, Radboud Universiteit Nijmegen and the Friesland College.

References

Developing technology-enhanced literacy learning for LESLLA learners, Ineke van de Craats, Radboud University Nijmegen, Martha Young-Scholten, Newcastle University (2015)

FC-Sprint²: Learning Without Borders, Jan Deutekom (2014)

www.diglin.eu (English menu, Finnish menu, German menu, Dutch menu) Username – diglin – Password – diglin

WORKING WITH EDUCATIONAL TOOLS VERSUS WORKING WITH SOURCES

Jan Deutekom is in favour of professionals engaging in a continuous learning cycle, by adding and adapting their existing knowledge. A lot of this learning can be informal, without the traditional teacher- student relationship. He would like to see multimedia sources in the classroom that provide learners with access to fast, reliable and stable feedback. This is why at FC-Sprint² in The Netherlands motivate learners to get used to process authentic information which is not specifically designed for them.

INFORMATION LITERACY

The knowledge economy is characterized by the need for lifelong learning. The access to information is becoming easier and cheaper. This implicates that certain skills become essential in the field: the ability to select, apply, to recognize patterns in data and interpret and decipher information.

Educational researcher Sugata Mitra believes that information literacy is the most important skill for the future. In educational environments and simultaneously in the digital landscape it is essential for learners to develop these skills in order to participate in the society.

THE CHARACTER OF KNOWLEDGE

Basic skills are still necessary. That is the foundation on which we can build. For example, each student should be able to read and write properly. Besides basic skills it is important to possess detailed knowledge in the specific area of expertise. For example, someone who works in the tourism industry needs to know where Paris is situated and needs to be able to provide information about the highlights of the city. This type of 'professional' knowledge can be gathered by learning and training. Here, specifically built modern software, with rapid feedback and game elements, may play a significant role.

However, a lot of the knowledge is of a completely different character. The levels and types of knowledge that are required is changing nowadays. It is of utmost importance that professionals engage in a continuous learning cycle, by adding and adapting their existing knowledge. A lot of this learning can be informal, without the traditional teacher- student relationship. And open, authentic resources, can be used for that learning.

TEACHING AND LEARNING TOOLS

What does this mean for education? Traditionally, it was the role of the teacher to transfer knowledge to the student by using available teaching materials. The teacher was the intermediary between knowledge on the one hand and learners on the other side. The real world knowledge was selected and adapted especially for learning and found their way into textbooks and practice-forms.

Currently, I think we still need a lot of basic skills and basic learning materials. Interactive learning tools may help and enable learners to gain knowledge fast, in their own time, in an effective manner. Moreover, through the active use of multimedia devices the learners get access to fast, reliable and stable feedback. For example a little sound on the moment that a mistake is made, or the computer won't react until the answers is the right answer.

If we want learners to prepare well for the future, we have to ensure that they are able to handle information on an individual basis. At FC-Sprint² in The Netherlands, learners are motivated to process authentic information, which is not specifically designed for them. Therefore, we make maximum use of publicly available sources. This 'raw' information is what they will use in the future, to stay up to date of the developments in their fields, and gain new knowledge. Also, the information that is provided to the learners is up-to-date, and they get the opportunity to gain the ability to select and process the information.

The next table points out the differences between working with resources and working with teaching materials. To ensure clarity, the nuances are left out.

TABLE:

Working with educational tools		Working with resources
Computer (or teacher) determines what the student must do. Great emphasis on the path to the result.		Teacher decides what the student should be able to know (consultation with student is possible). Great emphasis on the result to be achieved.
Limited autonomy for student. Teacher (or the system) determines the route for the student.		Greater autonomy for student. Student determines the route and the teacher determines what will be achieved. (teacher creates an expectation).
Motivation Model - rewards and punishments.		Motivation Model - autonomy, mastery, purpose.
Great clarity about what learners should do.		Great clarity about what a student should be able to know / to be able to do.
Teacher or computer chooses.		Student chooses.
Student hopes that his work is adequate and is dependent on the teacher to grade it.		Student submits his paper and says it is an “A” (which is true).
Teacher can look into the system and see what a student has done and what he has scored.		Teacher can`t see what a student has scored in the past. The student shows what he is able to do to the teacher/rest of the group.
Structures of teaching and learning materials are one entity. ELO - Learning goals and the resources associated are often directly linked.		Structures of education and the use of various sources function as separated units. Sources are useful for the whole field and are independent of the structure of teaching. The student has to select resources.
Textbooks are purchased.		Resources are built, created and collected by learners, teachers and businesses.
Textbooks are expensive.		Selecting resources and keeping resources up to date is part of professionalization.

Working with educational tools		Working with resources
Students are provided with the materials by the teacher at a specific point in the learning process.		Student gets access to all the resources from a field of expertise in a logical and clear menu. The student needs to find out what he needs to do to meet the high expectations of the teacher. Learners have access to all sources of all years and courses.
Behaviour Learners who are obedient are rewarded. **C - employee** I need a traditional boss. If no one supervises me I will not be focused and spent my time on my phone or watch YouTube videos. The traditional boss has to check my work regularly since I am not capable of doing it myself. That boss needs to tell me when I am done with my work and when I can go home. Assignments must be given to me, I do not ask for them. I do not come up with proposals how to improve the quality of my work. If I face something that I do not understand, I will just muddle through. I mostly work by myself.		Behaviour Learners who follow their own route and operate independently are rewarded. **A – employee** I need a modern boss. Now and then I watch YouTube videos, but mostly I am focused and concentrated on my work. I regularly check the quality of my own work, and if I am done with my task I ask for new ones. I come up with proposals in how to improve the quality of my work. If I do not understand something I am working on, I try to figure it out myself, but if it takes too long I ask for assistance. I communicate with the rest of the team.

From: https://ec.europa.eu/epale/en/blog/working-educational-tools-versus-working-sources

WHAT IS A DIGITAL TOOLKIT

A toolbox could refer to several types of storage to hold tools.

A toolbox can also refer to a large tool storage system, that includes multiple pieces.

This is what Wikipedia tells us about toolboxes. Our dictionary 'van Dalen' keeps is more simple.

A tool box is a box for tools.

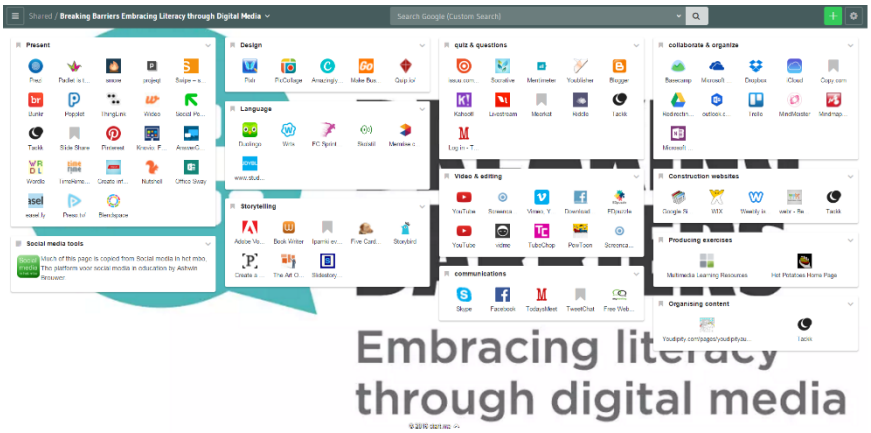
For education, when we speak of digital 'tools' we mean:

- ~~Didactics?~~
- ~~Methods?~~
- ~~Books?~~
- Digital programs?
- Digital sources?

An example → Start.me Digital Media

START.ME DIGITAL MEDIA

https://start.me/p/W18KbL/breaking-barriers-embracing-literacy-through-digital-media



THIS IS LEARNING

A presentation with Tackk about learning.

https://tackk.com/breaking-barriers

TECHNOLOGY-ENHANCED LITERACY LEARNING

Originates from:

Developing technology-enhanced literacy learning for leslla learners

Ineke van de Craats, Rradboud university Nijmegen

Martha Young-Scholten, Newcastle University

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ABSTRACT

Among the reasons illiterate learners are less successful than people who learn to read and write in their mother tongue are fewer instructional hours and lack of individualized instruction. The aim of FC Sprint² software is to give these learners more intensive and extensive practice through clearer, more systematic and consistent feedback.

This article describes the pedagogical ideas that form the basis of the materials and how these ideas are realized in the software. The software presents words and sentences with accompanying audio and photographs in one and the same exercise type. All stages in literacy learning can be practiced with these software programs.

THE PROBLEM

It is generally known that most non-literate adult second language (L2) learners have difficulty becoming independent readers. In the Netherlands for instance, the proficiency level that is required for the so-called integration exam and which indicates the start of independent reading - level A2 of the Common European Framework of Reference of Languages - is attained by few students and even then after many hundreds of hours of instruction (Kurvers & Stockmann, 2009).

One of the main reasons these learners are not as successful as children who learn to read and write in their mother tongue may be that they receive fewer hours of reading instruction; hundreds of hours is still less than the thousands of hours (middle class) children receive. Often, it is also the case that the course material is of a lower quality in the sense that it is not geared to the specific situation of the adult non-literate or low-literate L2 learner. Moreover, materials rarely enable individualization of instruction, important in the typical multi-level classes (see Kurvers & Stockmann, 2009). Adults who learn to read for the first time in their lives in an L2 with a phonological system different from that of their native language and whose social exclusion results in minimal vocabularies need considerable time and patience to build up their vocabularies, to become familiar not only with new sounds or sounds that are slightly different (similar to literate L2 learners), but also with the metalinguistic awareness of linguistic units required for reading in an alphabetic script such as words, graphemes and phonemes (see e.g. Kurvers et al., 2007). This is because they do not have native language reading skills to transfer. Moreover, such learners present different learning trajectories, and vary in the pace at which they proceed in their acquisition process (Dalderop, 2011). If the classroom is a teacher-fronted one, a learner may listen to sounds in the L2 several times during a lesson, and, even under the most favorable conditions, (s)he may pronounce those sounds only once or twice with teacher feedback.

Although there are learning tools (DVDs for instance) with words and individual sounds pronounced for L2 learners available to learners, Fc Sprint² has created materials for augmenting practice through more intensive practice (always with feedback) and more extensive practice (for a longer time and more often). These software programs are designed to increase practice time and speed of learning.

A SOLUTION

Feedback that is systematic, consistent, intensive, clear and at the learner's current level increases the quantity but also the quality of practice time, since the learner can move at his/her own pace. Such feedback can realistically only be provided by an 'artificial instructor' who is virtually present in and outside the classroom at any moment the learner wants to practice.

FC Sprint² uses the form of a Computer Assisted Language Learning (CALL) application. CALL offers potentially enormous advantages compared to teacher-fronted classes: learners can practice as much as they want at their own pace in any environment they wish, all the while receiving individualized, adaptive feedback from the computer. This is particularly important for adult L2 learners who lack basic literacy skills to be able to work on many existing materials outside the classroom, without the support of a teacher. Learning that can and should be individualized releases the teacher so that s/he can do what only a teacher can do, for example, involve learners in the interaction with other learners.

In the FC Sprint² software feedback techniques are elevated.

The software is developed based on our teaching approach.

Then we present various types of feedback and explain why we have use explicit and immediate forms of feedback for this group of learners.

Finally, we show how the feedback is integrated in the system's seven exercise types, and we close with an example of how corrective feedback at word level is presented to the learner.

THE BREAKING BARRIERS EMBRACING LITERACY THROUGH DIGITAL MEDIA PROJECT

Addressing challenges and needs in Adult Literacy

Adult educators face new challenges and opportunities to adapt to the digital environment and to use digital-supported teaching methods for basic skills teaching. The emergence of web tools offers new possibilities to explore innovative teaching methods.

The project focuses on best practices in the adult teaching methodologies and innovation in basic literacy teaching through the use of digital media. The target groups who will benefit are adult educators and basic skills adult learners. The over-arching aim is to increase the quality of adult literacy teaching and the number of adults participating in these courses. The project will be highlighting four key areas:

1. Training educators in innovative pedagogies for adult literacy;
2. Sharing of best practices related to basic literacy competencies;
3. Creation of customised courses in basic literacy for adults;
4. Creation of a toolkit for adult educators focusing on the use of storytelling and/or innovative digital media.

Breaking Barriers combines the systems of existing reading instruction materials for non-literate and low-literate L2 learners developed at Friesland College (FC-Sprint²) with other available software programms. The former provides the software for the exercises; the latter need to be created.

Creating literacy software with different pedagogical approaches to literacy is a complicated and challenging task.

1. We have to select words that can be supported by photos (not drawings because these are less well understood by non-literates).
2. We have to create a 'sound bar' for each language for use with exercises in each set.

The sound bar is a tool for the learner to use as support in most of the exercises. In the sound bar, the user can see and listen to all single graphemes, digraphs and trigraphs that are used in the software.

Figure 1: The sound bar for Finnish (above) and English (below). The pale graphemes (c, q, w, x, z) for Finnish are not used in the exercises. The grey buttons in the English sound bar indicate that we are dealing with more than one correspondence for that grapheme. When the learner clicks on the square, the basic (most common/regular) phoneme can be heard, when clicking on the grey button the less common/regular allograph can be heard.

3. Use the Learning Company of Friesland College's (FC-Sprint² Leerbedrijf) technology to create exercise sets for each language.

FC-Sprint² has many different types of exercises. In each of these, sub-skills of the reading process are practiced, as shown in Table 1.

Table 1: Overview of the exercises and their focus

NUMBER AND NAME OF THE EXERCISE		FOCUS
1.	**PRESENTATION**	The meaning and form of a word
2.	**FROM LETTERS TO WORDS**	Making grapheme-phoneme correspondences (analysis) Recognizing whole words
3.	**DRAGGING WORDS 1**	
4.	**DRAGGING WORDS 2**	Recognizing strings of phonemes (synthesis/blending) Automatizing grapheme-phoneme correspondences Reading with sound bar
5.	**DICTATION**	
6.	**READING WITH HELP**	
7.	**READING: TEST YOURSELF**	Reading without help

4. Evaluate:
    - Which components of the material do L2 literacy teachers rate as more or less conducive to learning how to read?
    - Which suggestions do they have for improving the materials?

For this purpose digital questionnaires and an interview manual should be developed.

5. Disseminate results and expand the Breaking Barriers result.

Dissemination is not the final step, but has to be started, with a website with gradually increasing information about the project and presentations at national and international conferences and publications in conference proceedings and journals.

THE FC-SPRINT² CONCEPT

As we make use of the learner-system of FC-Sprint² materials, we introduce the basic pedagogical ideas underlying FC-Sprint². The name comes from Friesland College, a school for advanced vocational education in the Netherlands, where this pedagogical concept has been implemented. This name suggests the speed and motivation that the idea promotes.

The concept of FC-Sprint² is based on two pillars of thought.

1. An approach to learners by teachers under which control moves from the teacher to the learners. FC-Sprint² starts with high expectations; learners are not told what they should do. Instead they are asked what they can show the teacher, and (s)he conveys to them the idea that they will impress the teacher. Then the learners are asked to present to their classmates what they have learned. This requires learners to work with the resources the teacher has made available, which range from books and audio-recordings; classmates can also be resources. The teacher him/herself is the last resort. That is, if the required knowledge is really not available from any of these resources, the teacher acts as a resource. This is a radical departure from normal classes, in which the learners are heavily dependent on the teacher.
2. Providing learners with resources so that they can become more autonomous learners.
   Students require the right resources, and a large part of these resources are built by advanced students of Friesland College and teachers from the Application Development and Media Design tracks at the College. Together they build small programs so that other students - in this case adult L2 literacy learners from the educational department where literacy for first time readers in L2 Dutch is being taught – can autonomously find the information needed for discovering how reading works instead of being instructed by the teacher.

   Under the FC-Sprint² approach, learners are not directed to specific materials (resources) that they should use at a particular moment in the learning process. Rather, all the material is provided at once. Learners are then guided (by the teacher, but also by the program itself) to first discover which resources they can use to reach a target set by the teacher. Learners are expected to negotiate the targets set by the teacher, and come up with what they themselves want to learn. The teacher is thus the guardian of the learner's education. If a learner comes up with a target him/herself, the teacher has to decide whether this is an appropriate target. If so, the teacher defines the target based on the learner's input. This involves high expectations. Learning materials are built in such a way that there is a top layer (e.g. the exercise shown on the computer screen) with information underneath which a

learner can access if (s)he needs it. The idea behind using the former is that the learner is in charge and is not led by the computer. However, there is immediate feedback so that a learner does not repeat errors only to find out at the end (with a 'check the answers' button) that (s)he has been making errors. Such 'check the answers' buttons at the end of an exercise constitute a test and are not an effective learning exercise.
At first sight, this seems contradictory to the need for systematic and sequential instruction. The digital material has been organized very systematically, but it allows the learner to follow more than one system. The learner her/himself has to discover that order and if using it makes sense for him/her. When it comes to digital resources, these are structured such that a learner can dig deeper to find more information. For example, when a learner needs to know how a word sounds (s)he can hit a button to hear it.

FEEDBACK

Research indicates overall effectiveness of corrective feedback (CF) as discussed in Lyster et al. (2013). Relevant to users of digital materials, a comparison of feedback to learners in language laboratory settings to those in the classroom indicates that 'in the classroom context, there is more distraction, and feedback is often not directed toward individual learners' (Li 2010:345). Moreover, L2 learners express a preference for receiving CF over having their errors ignored (Plonsky & Mills 2006).
More so than literate learners, those adults learning to read and write for the first time in their lives are often entirely dependent on the feedback of their teachers in the classroom. Their lack of transferable native language literacy skills greatly restricts options for independent work as these are invariably tied to literacy. In a classroom, however, continuous explicit feedback for one and the same learner – although useful – is neither practical nor effective. When the learner experiences negative attention in front of classmates CF typically results in anxious learners who may decline to participate. Explicit, negative CF does not create the safe environment that is fundamental in learning (see e.g., Santos & Shandor, 2012).

Practitioners and researchers have experimented with materials in which a safe environment can be guaranteed while providing opportunities for systematic, consistent, intensive and clear feedback at the moment learners need it. Paralinguistic signals, which are both explicit and immediate, contribute to this safe environment. They attempt to non-verbally elicit the correct answer from the learner. This is executed in many ways in the FC-Sprint² digital materials.

TYPES OF FEEDBACK TECHNIQUES

In order to operate autonomously, the learner needs ample opportunities for getting feedback. In Ranta & Lyster's (2007) CF taxonomy, this falls under explicit feedback with a paralinguistic signal. In the FC Sprint² exercises, this is a disappointed sound, or an item that refuses to stay in the blank to which it has been dragged. The learner can make repeated attempts and the system responds each time rather than at the end. This prevents the possibility of the learner automatizing his/her errors. CF (when the answer is incorrect) takes a friendly form, as shown in the screen shots in Figures 2-6. Positive feedback is signalled by the learner's successful dragging action, by a green √, a green button, or an encouraging sound.

The feedback techniques in FC Sprint² can be divided into two main types:

FEEDBACK CREATED BY THE SYSTEM.

When there is a certain action, for instance when the learner drags, reads, types a word or grapheme, the system reacts with immediate feedback (correct or incorrect).

FEEDBACK CREATED BY THE LEARNER HIM/HERSELF

By clicking on buttons, hovering over buttons, comparing sounds, listening to sounds and words, and looking at photos (necessary to understand why an answer is incorrect). This type of feedback can be compared to the use of a dictionary by literate learners.

EXERCISES

The exercises are constructed in such way that non-literates are challenged to do something: to touch (with a mouse) colored buttons, to listen and look and to do so again and again. In these exercises, clicking a mouse on the leftmost green button activates the audio for that word and the next, smaller button activates a photo of the word.

Although learners can start with any set of words they choose, the exercises within a set are presented in a specific order (see Table 1) which reflects the pedagogical steps in a phonics-based method aiming at associating specific sounds (phonemes) with specific letters (graphemes). This is done on the basis of a whole word which is visually and auditorily divided into smaller units (analysis). Traditionally, this is done with a sheet of paper and the voice of the teacher that clearly shows the sub-lexical structure of a word (the analysis) and supports the blending of the sounds into words (synthesis).

In computer-aided systems like FC-Sprint[2] these processes are taken over by the visual and auditory form of the exercise shown in Figure 2. The visual form shows a written word as a composite unit of separate elements. The squares with graphemes can be activated and they play the specific vowel or consonant. In this way both the visual and the auditory character of the word can be realized as often as needed for systematically developing letter-sound associations. Not only is word analysis taken over by the computer programme, but the synthesis also is to a certain extent. That is to say, a learner can understand what the result of the synthesis is (the entire word played by the green button to the left), but is not challenged to read it aloud.
The presentation exercise (Fig. 2) is meant as an orientation for the learner. (S)he can try out what (s)he wants. In the German exercise called “From letters to words” in Figure 3 the learner is challenged to fill in the blanks with the correct graphemes.

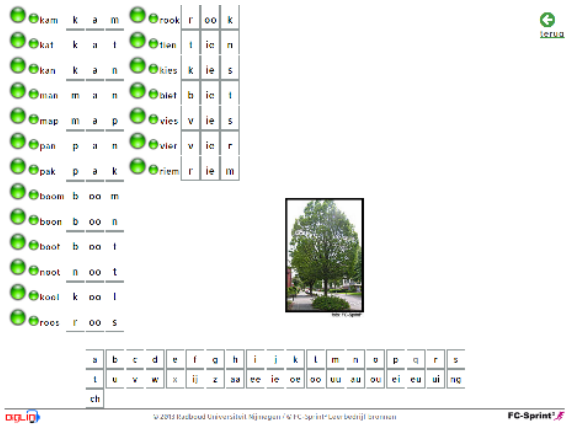

Figure 2.
Presentation of 20 Dutch words with the sound bar at the bottom. The meaning of the word ‘boom’ is activated by the learner and shown on the screen.

The learner whose screen is shown in Figure 3 has followed a strategy of finding out where to place the first letter of the alphabet. (S)he has found all blanks for the <a> at this point since the block with <a> in the alphabet is no longer grey. So at the end of this exercise all grey blocks in the alphabet will have become white. Other learners may follow different strategies, for instance first filling in all the blanks of the first word.

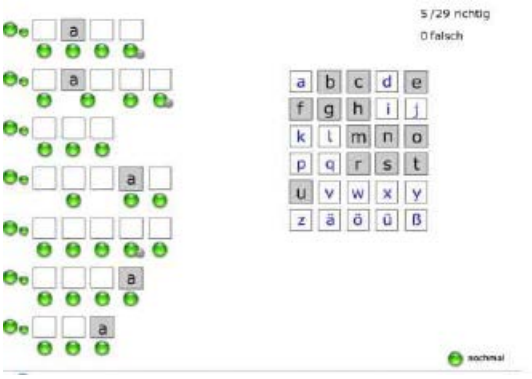

Figure 3. From letters to words (German version)

In Figure 4, words are dragged. There are two rows of words and two rows of blanks.

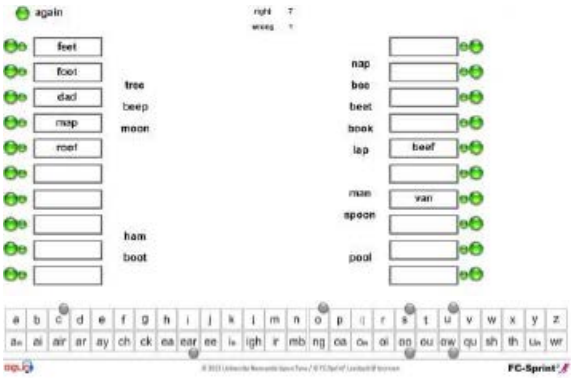

Figure 4. Screen shot of Exercise 3: Dragging words-1 (English version)

The learner needs to drag words listed to the blanks. The learner whose screen is shown has successfully dragged seven words to the correct blanks on the left and the right. A learner can use several strategies: (S)he can recognize the word as a unit and connect it the correct photo, or (s)he can first listen to the word, try to analyse the word (with help of the sound bar) and try to recognize the written word on the basis of the first grapheme, or use similar strategies.

Figure 5 also shows a dragging exercise, this time based on the dragging of individual graphemes in German. This exercise is particularly useful for blending of individual phonemes into a word. This exercises requires the learner to first synthesize the phonemes 'hidden' under the four buttons to the left of each blank; then when the learner locates the word <Sofa> 'sofa', (s)he must search for it in the list of written words and drag it to the blank. This learner has successfully dragged five words to the appropriate blanks (a green button appears right of the blank, when the action is correct). The learner can also listen to every grapheme in the sound bar.

This form of feedback takes the form of being able to check the synthesis of phonemes without reading the word aloud. It is a way of disentangling reading (i.e. synthesis of graphemes to silent word reading) from pronunciation and thus provides evidence that it is possible for even beginner learners to practice (and test) their skills without reading aloud.

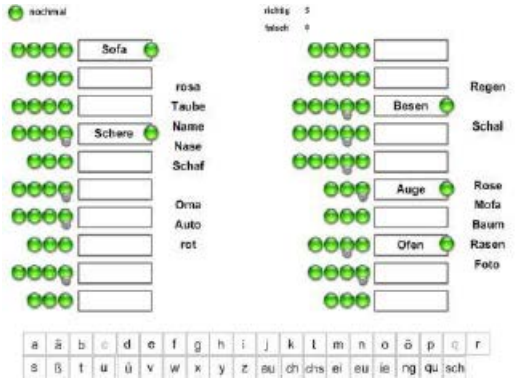

Figure 5. Screen shot of Exercise 4: Dragging words-2 (German version)

In Exercise 5, shown in Figure 6 for Finnish, the learner has to type the word (s)he hears in the blank. This requires analysis of the spoken word and finding and typing the corresponding graphemes. The sound bar at the bottom can help in finding the appropriate graphemes. The screen shot in Figure 6 shows that this student has correctly written 14 words; an incorrect answer simply does not get the green sign (v).

Figure 6: Screen shot of Exercise 5: Dictation (Finnish version). The leftmost button provides the spoken word the student has to type.

CONCLUSION

The learning concept of FC Sprint² might appear to conflict with the systematic and sequential instruction it has however the potential to retain these features. As seen above, showing the structure of the word for the learner's eye and ear in a systematic way, while allowing the learner more freedom. It allows individual routes based on native language influences and individual problems, interests and learning strategies. Teacher feedback is replaced by systematic, consistent (always the same exercises and same feedback), intensive (practice is illimited), and clear (visual signals) corrective feedback. The teacher supports and encourages the learner by setting high expectations. Is this really feasible for the non-literate adult L2 learner, one might ask. In the beginning, the learner might have a hard time, but experience with non-literate students at Friesland College, elsewhere in the Netherlands and in Denmark at Laer Dansk have shown that this approach is successful (see Koot et al., 2011). Learners become more active, explore on their own how to solve problems they encounter, and, as a consequence, their motivation increases. Can a non-literate adult learner even work with the computer without a thorough introduction to digital skills? FC-Sprint² assumes that can; many skills can be learned just by doing, like pre-school children who start using computers, tablets, iPads and so on, without any instruction or the help of older children or adults if we only challenge them!

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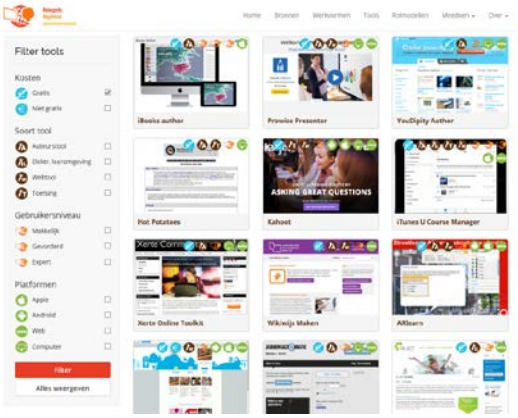
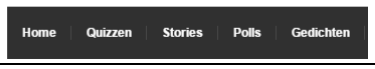
A DUTCH OVERVIEW OF FREE DIGITAL TOOLS.

http://www.reisgidsdigitaalleermateriaal.org/tools/?kosten=gratis

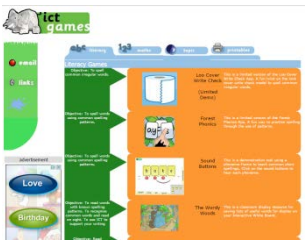


tackk	Tackk is a very simple scroll website. You can use..  To make https://tackk.com/breaking-barriers for example.
Quizlet  	Quizlet.nl is a website where you can make a quiz and play. Example quizzes that you can use that. The quiz can be made in class but also individually. Beside quizzes you can use other functions such as creating stories, polls, questionnaires and poems.
POWTOON http://www.powtoon.com/	With this tool, you could make an explanation video of a spelling rule or social skills. In addition, you can also book a promotional film (to). Let children instance summarize their favorite book and the summary of the most important chapter in the book copy as animation through PowToon.
blendspace	Blend Space is a tool that enables you to within five minutes to develop the best lessons. Even when you have a topic barely knows to nothing. You can see it as a kind of online interactive PowerPoint. You can upload in a few clicks add YouTube videos, photos from your computer. You can even take a quiz handle it! When class is finished, you can save it, and easily share with students and fellow teachers.
padlet	Padlet is an online bulletin board. You use it to gather information. Each student can have his / her information searched in this way share with the rest of the class. As a teacher, you have a good overview of all retrieved information from the students.

	You Socrative used to create quizzes, tests, testing, surveys or lesevaluatieopdrachten. You can on all kinds of devices with your students in class to handle all kinds of questions and statements and discuss.
EDpuzzle	Edpuzzle is a free tool that can trim your videos and even audio recordings, add open questions, multiple choice questions and comments. You can use your own knowledge of clips but also videos and clips on various online video channels. The tool you can use for example when flipping the classroom and learning analytics.
educaplay actividades educativas multimedia	Educaplay is an online tool that lets you create different types of interactive exercises: holes text, video quiz, jumbled sentences, puzzle, dictation, crosswords, aanwijsvragen or combination exercises. In each exercise, the score is kept, so there is a game element is. Besides making your own exercises can also use exercises created by others.
OMNIDU	Omnidu is an online tool that lets you 'tailored' digital exercises can create and share for education.
SCREENCAST MATIC	Screencast-O-Matic is an application for recording screencasts. A screencast is a recording of what appears on the screen. While image recording, you can also record audio (narrate), or you can mount it.
Adobe Voice	Turn your story into a stunning animated video. In minutes.
Kahoot! getkahoot.com	quizzes polls threads
	With Hot Potatoes you can make six types of interactive web-based exercises: sorting exercises, combine exercises, crossword puzzles, multiple choice quiz questions with a short answer and holes texts. With the 'masher' you can combine exercises into one with index page.
YouDipity	The tool is useful to provide a structured way learning content to students. YouDipity Author is basically a website where you can categorize the information through menu items. Here you can insert various media, such as YouTube videos.

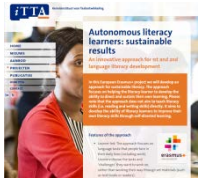
 FC Sprint²	The method and background information
 Fcsprint2/bronnen	Free Resources
 Alfa FC Sprint²	Alfa program Dutch Loging: extBB Pw: Barriers
 fcsprint2.nl	Tekst Pictures Sound
 LÆRDANSK	Alfa program Danish Login: breaking Pw: barriers
 Fcsprint2.nl/Nederlands/Dyslexie	Exercises for people with dyslexia

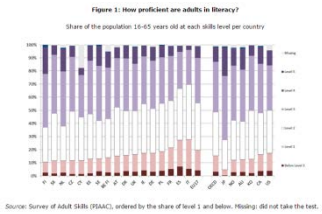
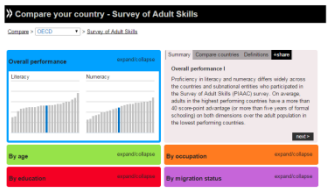
beterspellen.nl	spell out better 3 levels explanation in Dutch (1F,2F &3F) There`s 1 daily test Login: cursistnlplein@gmail.com PW: nlcomputer
oefenen.nl	practicing with language (reading, writing) and mathematics on parenting, health, internet and handle money. login: Breakingb1 Pw: Barriers
 Lees en Schrijf	Part of oefen.nl
 Klik&Tik	Part of oefen.nl
 Taalklas.nl	Part of oefen.nl en NLvaardig Click and listen
Kennisnet NT2 nt2kennisnet.nl	Exercises with lanquage 3 niveaus Different sites and exercises
 bibliotheek.nl	Tekst reading with some difficult words read and spaced. Login: Breaking pw: Barriers

nt2school.nl	pronunciation improvement grammar knowledge of the Dutch society
 Pinterest_Spelling	Who doesn`t know Pinterst?
Taalzee.nl	http://app.taalzee.nl/users/login/1 login: breakingb1 ww: TU7MJX32
 http://nt2taalmenu.nl/	All kinds of activities some free, some paid
 Alfabeter.nl	Keeps track of 28 sorts of mistakes and uses this in the exercises. www.alfabeter.eu/ov-chipkaart/cursist Pw: bhxky290
 Taal&Teken	Dutch paper. Gabriel Wyner method with pictures and different languages.
 ictgames.com	mostly kids games!

 Social media tools	Social media tools by Ashwin Brouwer Or http://www.symbaloo.com/mix/socialmediainhetmbo
 duolingo.com	According to an independent survey conducted by City University of New York and University of South Carolina is an average of 34 hours Duolingo equal to one full semester at university language teaching.
 Wrts.nl	Wordlists Login: barriers_breaking@yahoo.com Pw: Barriers

OTHER PROJECTS ABOUT LITERACY

 iTTA.uva.nl	In this European Erasmus+ project we will develop an approach for sustainable literacy.
 creativethinkingproject.eu	The Creative Thinking in Literacy & Language Skills project brings together the collective expertise of four European organisations
 englishmatters.org	The aim of the course is to enable participants to use ICT in class and apply the acquired skills to exploiting and creating ICT resources for teaching and learning.

 unesco.org	New Programmes in the Effective Literacy Practices Database
 europa.eu	PIAAC Survey of Adult Skills – frequently asked questions
 oecd.org	As part of its Programme for the International Assessment of Adult Competencies (PIAAC), the OECD collects and analyses data that assist governments in assessing, monitoring and analysing the level and distribution of skills among their adult populations as well as the utilisation of skills in different contexts.
 literacy.org	Welcome to Literacy.org, your source for research and development on literacy in the U.S. and worldwide.Literacy.org at the University of Pennsylvania, Graduate School of Education, is comprised of NCAL and ILI.
 Lezen&Schrijven	Low literacy cannot be solved by one organization. Reading and Writing Foundation therefore takes the initiative to combine the strengths of different governments, businesses and civil society organizations in a regional alliance for literacy. In 2012 we started with the regional approach. There are now nine active regional alliances.