

Kanban Methodology to Assess ESL Students' Learning Process

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The IAFOR International Conference on Education in Hawaii 2023
Official Conference Proceedings

Abstract

Kanban boards are a visual form of project management very popular among software, Engineering and product development teams, although we claim that its principles can greatly help ESL students learning to perform language tasks with proficiency, as defined by ease, speed, and accuracy of performance, acquired through practice, in order to improve both receptive skills used in understanding; reading or listening and productive skills (speaking or writing). Dividing language into skill areas for teaching and evaluation purposes does not necessarily reflect how language is really used, but it provides a basis upon which students may start building up their proficiency. ESL learning materials have a multi-layered skills approach. This is the reason why Kanban can be applied to teaching/learning of English as a second language. The methodology, originally developed by Taiichi Ohno, a Japanese engineer at Toyota in the late 1940s, is focused on continuous improvement, where tasks are "extracted" from a list of pending actions in a constant workflow. ESL students can be identified with the working teams Ohno had in mind, and the different tasks by each team member can be interpreted as the tasks related to the different language skills. ESL students using Kanban principles may enhance their results in learning English. The Toyota Production System (TPS) has inspired our proposal, which includes the concepts: Jidoka (automation), Poka Yoke (fail-safe), JIT (just-in-time), Kanban (card or token) and Kaizen (continuous improvement), applied to learning English.

Keywords: Kanban Methodology, Self-Assessment, ESL, Kaizen

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The International Academic Forum
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Introduction

In this paper I will try to explain why I consider Kanban methodology to be an effective way to evaluate the learning process of EFL students. To do so, I will first discuss some issues about learning English as a second language that will be relevant later. Then I will go more directly into the Kanban method in general and finally I will relate the Kanban methodology to the ESL learner's self-assessment.

English is the most spoken language in the world in terms of number of speakers, slightly ahead of Chinese, at present. In fact, English is the language recognized as official by more countries in the world. Besides, English is widely spoken in a number of countries without being recognized as an official language. Finally, we cannot forget the prevalence of English, with more than 54% of content written in this language, a situation that extends to any technical field, academic writing, etc.

Learning English as a Second Language

Given this reality, it is logical that the English language is a priority objective for many international students who encounter various difficulties in learning it. Among them, the learning of a somewhat erratic grammar, a vocabulary in constant evolution or the simple observation that their EFL learning techniques they have used in their study have not provided sufficient knowledge, which is evidenced in poor pronunciation, inaccurate comprehension when the difficulty level of texts or linguistic situations increases, etc. English teachers, including myself, are looking for new ways to capture the students' interest in order to avoid this. And although at the university level may seem too late, we are still looking for ways for students to broaden their knowledge and acquire skills such as critical thinking or higher order thinking skills, so necessary for their professional performance once the formative stage is over. In short, and despite the adoption of the ECTS credit as a unit of measurement that finally placed the student at the center of the educational process, the learning process is still out of focus.

In the case of learning English as a foreign language, we detect some learning issues. The basis of memory is essential for any linguistic learning and we already recognize different memory types employed in an equally differentiated way to conclude that, in order to move any learned item into long-term memory, the information has to be processed at a deep and elaborated level through meaningful learning. The traditional education paradigm is focused on what students need to learn. Little emphasis, if any, is on training students how to learn. As a result, students focus on memorizing information (collecting dots), and not on processing information, thinking critically, understanding, and meaningful learning (connecting dots) (Toni Krasnic at Biggerplate Unplugged 2016). In a recent publication by Richard Arum and Josipa Roksa, the authors examined whether students are really learning in college. Their study showed that 45% of college students made no significant improvement in critical thinking, reasoning or written communication skills during their first two years of college. Thus, after 4 years, 36% still showed no significant gains in these so-called higher order thinking skills.

If information is simply repeated (collecting dots) it does not penetrate deeply enough. Only information that makes sense and connects with existing knowledge requires thought and is thus associated with long-term memory. After recognizing such processes, some learning strategies can be rated better than others, as Dunlosky points out: interrelated practice,

explanation of concepts by learners are more effective than highlighting and reading, which have traditionally been considered useful. EFL Communicative Language Teaching (CLT) approaches versus the more traditional Grammar Translation Method (GTM).

In this effort to find methodologies that fit better in the current scenario, we reviewed the Kanban methodology, first used in industry since its creation in the fifties by the Toyota engineer Taiichi Ohno and later adapted by teams not only in industrial production but also in the development of IT tools. If you work in services or technology, work can be sometimes invisible and intangible. A Kanban board helps make your work visible so you can show it to others and keep everyone on the same page. Kanban has come a long way from its origins in lean manufacturing. David Anderson's work has helped defining the Kanban method into the software and services space while Jim Benson and Tonianne DeMaria expanded its applications to unbelievable places. If we look for the element that is of common interest to engineers controlling the industrial process and computer developer teams adopting agile philosophy to optimize their production, Kanban is the buzzword. Adaptive planning and continuous improvement through diverse processes makes Kanban methodology suitable for ESL learning precisely because of its focus on process and the assessment of multiple skills involved in learning a second language. One of the first things you'll notice about a Kanban board are the visual cards (stickies, tickets, or otherwise). Kanban teams write their projects and work items onto cards, usually one per card. For agile teams, each card could encapsulate one user story. Once on the board, these visual signals help teammates and stakeholders quickly understand what the team is working on. Each column represents a specific activity that together compose a "workflow". Cards flow through the workflow until completion. Workflows can be as simple as:

- To Do
- In Progress
- Complete

or much more complex.

Kanban helps to visualize the work, maximize efficiency and improve progressively, elements of great interest in the EFL learning process. The different skills that a EFL learner traditionally needs to address can be identified as active or productive (speaking and writing in the L2) and passive or receptive (reading and listening comprehension). All of them involve different processes in the acquisition of the desired L2 fluency that the Kanban board, either in its digital versions or in the simpler version with colored post-its, can help. Learners may reflect on their learning process and get to take a moving picture of their learning.

But the Kanban methodology does not end with the use of the board, as it is based on a series of principles that Toyota's corporate culture developed in the 1950s and that we will now review regarding their suitability to represent EFL learning process. As we said, the board helps the learner to visualize progress but it can also help in the management of the multiple tasks to be performed to improve specific skills by applying concepts such as work-in-progress limitation, workflow management, quality implementation, etc. If Lean production refers to a technique that helps eliminate waste and inefficiency in the production process Kanban method incorporates lean production elements in the student's learning process eliminating time waste and inefficiency in their progress towards English acquisition.

Transformation from push process (products introduced in the market) to pull process (products are created based on market demands). Instead of following learning methods which framed the student' progress without paying attention to their needs-pull process, using the Kanban method the learning process is enriched as it is based on the student's demands (pull process).

JIT: And we start with one of the pillars of the Kanban method: just in time. The concept of JIT teaching was proposed by Novak in 1999, has developed with ups and downs but after the pandemic it has become fully valid, in view of the use of online teaching during COVID-19 lockdown. The idea that face-to-face class contents are generated at the time of teaching after obtaining prior feedback from the students' home-tasks in a process more recently used in flipped classroom methodology, is enormously attractive for its freshness in the first place, but also for its effectiveness in terms of higher-order thinking developed by the students in this active teaching strategy. Just-in-Time Teaching incorporates active learning approach by moving the "content-transfer" element of the course to pre-class preparation and focusing class time on cooperative problem solving. Thus, JiTT encourages the active learning approaches that promote learning.

Jidoka, which originally referred to process automation with a human touch, applies directly to error detection and further reflection to achieve correction. This quality control process applies the following principles:

- Detect an issue
- Stop
- Fix/Correct the immediate condition
- Investigate the root cause and install a countermeasure

The quality control process is increasingly present in language learning as the learner is more and more frequently in a self-learning situation. Jidoka is subsequently complemented by Poka yoke (mistake-proofing), the eliminating error strategies. Both Jidoka and Poka yoke are essential processes for the learner to identify mistakes, their causes and try to seek solutions accompanied in the process either by peers or by their instructor/teacher/other native speakers, etc. Self-assessment is one of the language learning strategies of metacognition which definitely produces.

Kaizen, defined as the synergetic philosophy integrating the response capacity of all profiles in order to face the challenges that arose after the devastation caused by WWII that in our improvement process implies the inclusion of all skills at different levels that each EFL student shows.

Neuroscience has allowed us to distinguish two processes when dealing with language: learning, which is conscious, needs formal instruction and produces knowledge and acquisition which is an unconscious process and poses student-centered activities. Although our classes are becoming more and more student-centered, the process of correction and evaluation of the student still continues to be teacher-centered, producing a situation in which the correction comes from the teacher and not from the student's own learning process.

If we try to reproduce the process of L2 acquisition, it is essential that the learner controls the process. And obviously it is a process that is not free of difficulty, since our students do not learn in a bilingual environment and their access to L2 occurs in many cases with non-native

speakers. A case in which we are immersed right now. I am Spanish, speaking English and in the audience there are people from multiple nationalities and we communicate in English.

Kanban is therefore a tool that can help students find a balance between classroom work demand and their availability. It provides the student with an overview of their learning process and stimulates the flexibility inherent in a process of progressive improvement. Kaizen can easily be integrated into the implementation of the four skills of English learning (Reading, Writing, Listening and Speaking). By using the kaizen process you are not only planning what you need to do but also checking what you have done to ensure progress towards successful learning.

Conclusions

Lord Kelvin stated that we cannot improve something that cannot be measured. With the strategies provided by Kanban-Kaizen.

I believe that the internalization between Kanban and kaizen makes possible a simpler assessment that eliminates the need to fit into overly general rubric descriptions that mean nothing to the student: familiar vocabulary means the same for a telecom engineer as it does for a teenager? The Council of Europe published in 2001 the following table that we could discuss: Is it an understandable and applicable tool for the student in his evaluation?

Self-assessment is the essential element that is gaining more and more strength in second language learning. The centrality of the learner in the teaching-learning process culminates in his/her self-management of the result and the objective evaluation of it. As I have tried to show, in the old paradigm the learning process is supposedly controlled by the teacher whereas in language acquisition it is the learner who controls the process sometimes unconsciously. But in a student-centered learning paradigm of a ESL student the learning process is intentional and the learner should control the process.

The Kaizen philosophy as a consequence of a systematic application of Kanban principles provides self-assessment tools to students. EFL learners have traditionally used their mistakes to improve their learning strategies but the structure provided by Kanban and Kaizen approaches as they can find a balance between classroom work-demand and student's availability. It also provides an at-a-glance view of the student's work allowing a kick-start and workflow view. And, finally, the flexibility of a continuous improvement process perfectly matches the learning process.

References

- Arum, R., Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses*. University of Chicago Press.
- Anderson, D.J. (2010). *Kanban: Successful Evolutionary Change for Your Technology*. Blue Hole Press; Blue Book Ed.
- Benson, J. Tonianne DeMaria B. (2021). *Personal Kanban: Mapping Work/Navigating Life*. CreateSpace Independent Publishing Platform.
- Dunlosky, J., Rawson, K.A., Marsh, E.J., Mitchell, J.N., Willingham, D.T. (2013). Improving Students' Learning with Effective Learning Techniques: Promising Directions. From *Cognitive and Educational Psychology*
<https://pubmed.ncbi.nlm.nih.gov/26173288/>
- Gavrin, A., J. Watt, K. Marrs, and R. Blake. 2004. Just-in-Time Teaching (JiTT): Using the Web to enhance classroom learning. *Computers in Education Journal* 14 (2): 51-59.
- Monden, Y. (1998). *Toyota production system: An integrated approach to Just-in-Time*. Norcross, GA: HE Press.
- Novak, G. M., E. Patterson, A. Gavrin, and W. Christian. (1999). *Just-in-Time Teaching: Blending active learning with Web technology*. Upper Saddle River: Prentice Hall.
- Oxford Reference (n.d). *Lord Kelvin 1824–1907 British Scientist*,
<https://www.oxfordreference.com/display/10.1093/acref/9780191826719.001.0001/q-oro-ed4-00006236;jsessionid=622CE14E0E931BD0DFC51C3C4D7C614F>
- Toni Krasnic, T. (2016). at *Biggerplate Unplugged*.
<https://www.biggerplate.com/Events/biggerplate-unplugged-new-york-2016.aspx>

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