

## Using Wikis as a Teaching Tool for Novice Teachers – Pedagogical Implications

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**Abstract:** The present study reports on research conducted on novice teachers' use of wikis with their high school students. These teachers had been previously exposed to wikis as a collaborative learning tool during their teaching preparation programme. The aim was to explore whether their experience with wiki usage helped them in their teaching. Participants included fifteen novice teachers in their first year of teaching foreign languages in Albania, who held their teaching partly online during the school year 2020-2021, due to the COVID-19 pandemic. Data collected through in-depth interviews include their own reflections. These reflections indicate that the use of a wiki at the university level helped them feel at ease in using wikis in their online teaching. The study proved the use of wikis to be a feasible means of online collaboration, which facilitated constructing new knowledge for their students. As a result, wikis provide a collaborative medium of technology integration into their teaching.

**Keywords:** secondary education system, employment, growth of education system, compulsory secondary education policy.

### Wikis as a Pedagogical Tool

This article explores the use of wikis as an online collaborative tool for high school students in a middle-income country with low technological penetration in education, such as Albania (Psacharopoulos, 2017). We will explore whether the exposure of teachers in integrating wikis into the higher education curriculum carries potential pedagogical implications for their future teaching.

As defined in the literature (Meishar-Tal & Tal-Elhasid, 2008), wiki is an online communication and collaboration tool that can be used to increase student engagement in learning through collaboration with peers in a supportive learning environment. The main difference between wikis and learning management systems is their highly social, participatory, and collaborative aspect. They are easy to implement and can be modified and updated continuously and therefore constitute an excellent ground on which to build interesting and innovative didactic activities. Precisely because of their flexible structure, which can be divided into various categories, they can also offer feedback that can be constantly consulted by students and teachers and can create the space for a digital linguistic portfolio which can be progressively updated. Moreover, thanks to the ease of implementation and the innovative role that wikis attribute to the teacher and learners, they can become a valid teaching tool to apply cooperative and collaborative learning, and to create inclusive situations that allow the development of skills of each member within a group without generating emotional tension or raising the affective filter (Meishar-Tal & Tal-Elhasid, 2008; Boulaajoul & Aknin, 2019).



## **Introduction to Wikis**

A wiki is a site that allows the users to collaboratively publish hypertext content: it consists of a set of webpages, on which it is always possible to add information or make changes, thanks to the use of collaborative software, or groupware, which allows the integration of the work done by several users in different sessions in a single version. Whenever an editor makes a change, it becomes the latest current version of the wiki and is the one that users can read when connecting to it. The structure of a wiki provides, in fact, two different interfaces: the reading one and the writing one. The reading interface is the one that appears by default, that is, the one that configures the wiki exactly like a normal website. To edit the page, the authors or the editors need to click on edit or modify, thus accessing the writing interface, which also contains the toolbar used to edit the text and to format it (Boulaajoul & Aknin, 2019).

The changes or the creation of new pages are open and free, but they are recorded in a chronology that allows, if necessary, to bring a relevant part back to the previous version with a simple click of the mouse. The wiki administrator is the one who can decide the access rules by allowing writing and/or reading access to everyone or limiting them to some users (Butcher & Taylor, 2008).

The wiki, therefore, becomes a collaboration and cooperation tool that allows the creation of discussion pages, notification of changes that have occurred, recording the history of changes and the various versions of the same page, thanks to certain functions present in almost all wiki software. Group work is thus stimulated and made even more effective, because all users are considered to be on the same level. Furthermore, the wiki community is based on the Open Source philosophy, that is, everyone can participate, and anyone can share, modify, and reuse the wiki pages, as the technical and bureaucratic limitations are very low. In fact, within this type of site, the concept of self-regulation applies (Judd, 2018). By extending the possibility of participating in it to everyone, the risk of vandalism, spamming or hackers is reduced, because any change made to a page can be immediately canceled, and because the same editors, its users, control the work of others. Thus, participation in a wiki develops a strong sense of community, sharing and humility: each editor is free to add and modify what s/he wants, aware that any text s/he enters can be controlled and modified by others. So, if on the one hand, by drawing up pages, each editor must accept that his/her work might be corrected, on the other hand s/he has to learn how to respect the work of others, since only contributions by everyone makes it possible to achieve the intended goal (Kim & Kim, 2020).

However, to avoid emergencies, some wikis have a database that can be set to read-only mode, i.e., there are rules that only certain users, for example, who registered before a certain date, can continue to write and contribute to the expansion of the site (Judd et al., 2010; Bada, 2015).

Finally, the wiki is a predominantly textual tool: in fact, although it is possible to insert images, audio and video files within a page, the general tendency on the web is to privilege content over form, seeking, on the one hand, to achieve greater communication speed through the text format and a higher number of links and, on the other hand, allowing less for graphics and visual effects (Sulisworo, 2012).

Wikis have two different ways of writing or of use: the first is the document mode, in which editors collaborate to create documents and leave the changes they make anonymous; over time, other authors add other changes, and the document gradually becomes the fruit of everyone's shared

knowledge. The second is the thread mode, where those who contribute carry on a discussion, made up of signed messages, on the wiki itself in which each message that is added leaves the previous one unchanged and the result is what can be inferred from the reading of all (Pounds & Bostock, 2019).

Wikis are a completely hypertextual medium, with a non-linear navigation structure: usually within the content of a page there are a considerable number of links to other pages, to the point that in sizeable sites there is a navigation system hierarchical, which, however, is not always necessary to use (Ebersbach et al., 2008).

New pages are created simply by inserting an appropriate link that relates a page to a topic related to the one treated: if the page is empty, the link is usually highlighted with another color and clicking on it opens an editing window where you can edit and enter text. However, the links can also be external and refer to different sites where you can read more about the subject matter (Wheeler et al., 2008).

Wikis were born thanks to Ward Cunningham, an American programmer, who, in 1995, was the first to create one: the term "wiki-wiki" in Hawaiian means "quickly" and refers to a bus service that can be used at the Honolulu airport. Cunningham preferred this term to "quick-web" to indicate a website (or in any case a collection of hypertext documents) that can be modified, updated, and edited freely by its users at any time, quickly and easily (Leuf & Cunningham, 2001). In fact, the term wiki, since its inception, indicates a collaborative software used to build a website in which it is possible to exchange, share and optimise knowledge and information relating to a specific topic.

### **Educational Uses of Wikis: Some Examples**

The wiki allows the use of education and learning methodologies such as collaborative and cooperative learning (Dhindsa, Makarimi-Kasim & Roger Anderson, 2011): in fact, a true collaborative technology is one that allows participants to transform a shared experience lacking clear opportunities for intervention into an experience which can be managed by the communities to which the participants themselves belong; a collaborative technology is a tool that stimulates the exchange of knowledge (Gray et al., 2010). If collaborative learning has always been considered an excellent method with which to support the didactic use of computers, especially in distance learning (courses with chat, forums, etc. ...) (Bada, 2015), cooperative learning can find an excellent explanation in wikis used in class, *in presentia*, as a sheet on which students can write down the results of their research as feedback to which they can return to review or study, as a site that can always be updated, even by subsequent classes, and called upon to deepen certain topics. Moreover, cooperative learning, probably born between the eighteenth and nineteenth centuries, is not only a didactic methodology but, mainly, it is a vast movement of theoretical and experimental reflection promoted and conducted in many centers scattered in various countries. The specific characteristics of cooperative learning can, in general, be identified in positive interdependence, face-to-face interaction, direct teaching and the use of interpersonal skills, acting in small heterogeneous groups, reviewing the work performed and individual and group evaluation (Parker & Chao, 2007).

The use of the wiki allows for fruitful cooperation between students, the division into groups, the assignment of well-defined roles to achieve the intended goal (Altanopoulou et al., 2015), the expression of written production, oral production, problem solving skills, controversy and discussion (Boulaajoul & Aknin, 2019).

The wiki is, therefore, a very valuable tool in the context of collaboration and cooperation, it serves to make a lot of material available to a wide range of users and is increasingly becoming a welcome tool within teaching. It is widely used in universities in the more developed countries (Butcher & Taylor, 2008; Lu et al., 2010), and in general there are many ways to use a wiki:

- (a) As a site that collects bibliographies and guidelines for the study of various subjects. Brown University, for example, has created a wiki called CAW - Course Advisor Wiki in which it is possible to review the courses of the university itself and in which students can read interesting reports related to the courses and compare different points of view (Butcher & Taylor, 2008). Similar uses of the wiki are also gradually spreading all over the world (Lu, et al., 2010). The basic idea of the project, which is currently being set up, is to make a space available to everyone in which it is possible to find texts, educational activities, exercises and contribute to the expansion of the material quickly and continuously. Another initiative worth mentioning is the one that was born from Wikipedia Group and which created Wikiversity, a community that aims to collect pages on all kinds of topics written by students of any age, school and level and country. The project, in fact, is already available in various languages (English, Spanish, French, German, Greek, ...). The Albanian version is still very poor, and it appears more focused on the university world (Singh, 2013).
- (b) As a tool for distance learning. A wiki, in fact, can be updated at different times and places by all the members of a virtual group or class (Biasutti, & El-Deghaidy, 2015). An interesting example comes from Deakin University where the wiki was used with a group of students in e-learning as an icebreaker (Augar et al., 2004): its purpose was to lower the affective filter during the first day of class and to create contacts and establish relationships within the group-class to achieve good cohesion.
- (c) As a virtual space in which students can write, collaborating on small essays. From this point of view, a good example is the experience carried out at the University of Tirana to allow students to collaborate in the editing or developing of articles in Wikipedia, related to the topic of the course, learning theories (Sula et al., 2021).

## **Methods**

The aim of this study was to explore at depth the reflections of novice teachers in Albania, who, for their first year of teaching had to teach partly online. These teachers had been exposed to wiki usage as a pedagogical tool during their teacher preparation master's programme. For this study, the qualitative methodology was employed. Thematic analysis was used to analyse qualitative data from the interview transcripts, to identify common themes – topics, ideas, and patterns of meaning that came up repeatedly.

### **Population and Sample**

There were 120 students who had participated in wiki-supported learning during the school year 2018-2019 (Sula, et al., 2021). During the school year 2021-2020, they were completing their inception year, as specified by Albanian law, and they were involved in teaching. Since the University of Tirana does not have an alumni tracing methodology in place, the snowballing technique was employed to reach out to them (Moghaddam, 2006). Thus, 78 respondents previously involved in the Sula et al. (2021) study were contacted, which were then weeded out based on the questions: (1) Are you

currently teaching? (43 of them were excluded), (2) Have you used wikis in your teaching (19 of them were excluded), (3) Are you willing to participate in an in-depth interview regarding how you used wikis in your teaching? (1 was excluded). The remaining 15 were invited in a one-on-one, face-to-face, in-depth interview using Zoom. The interviews were 20 to 48 minutes long, until a saturation of knowledge was reached (Fossey et al., 2002).

### **Tools and Instruments**

Data was collected through in-depth individual interviews. A semi-structured interview within a predetermined thematic framework was used to guide the process with the participants that agreed to participate in the study. The guide was used to offer the same theoretical framework, while allowing the investigation of different facets of the study goal. The questions were focused on their experience as novice teachers having to teach online and whether they drew from their experience as students in using wikis in their teaching. Challenges and benefits, the relationships of their students vis-à-vis the technology, examples, and their own reflections regarding this teaching experience were the thematic structure of the guide.

### **Ethical Issues**

The ethical principles applied in this research followed APA style. At the beginning of the interview, the informants were assured of the anonymity of their interview, they were offered access to the transcribed interview and they were offered a chance to consult this paper prior to publishing. A number was assigned to them at the beginning of each interview. The interviewees are quoted AI (Anonymous Informant) followed by the number of the informant, and the number of the sentence from the transcription is quoted. The interviews were conducted in Albanian, and the translation is that of the author.

### **Results**

The teachers interviewed were novice teachers in their first year of teaching and it happened that this year the teaching was being held online due to the COVID-19 pandemic. Certainly not a simple task for any teacher, let alone a novice teacher. Teaching foreign languages online was not something that they had been prepared for during their formative years as teachers. But they had had an exposure in using wikis as a co-constructing learning experience, which inspired them to use the same approach with their students.

### **Challenging Students Encourages Learning**

When asked what was the most daunting challenge that they were experiencing during their first year of teaching, the majority responded that it was very difficult to find ways to encourage the motivation of students on the other side of the screen and maintain their interest in their learning:

I was raking my brain to figure out what to do for my students to be excited about their learning. They had been so used to be incentivized for their learning through grades and absences taking that, when the moment came that the responsibility could be hidden, most of them tried to play hooky and hide behind the screen. It was exhausting! (AI#5 192-195)

At this point, they remembered using wikis during their learning as students and how much they enjoyed being part of the process, even though it was not easy, simple, or straightforward:

[recalling their experience with the wiki as students] Our whole group was very enthusiastic while working in the wiki, even though it was not easy, so I thought that my students would want to be involved in a similar task as well. (AI#15, 78)

They thought that their own students could benefit from such an experience as well. The reflection of one novice teacher is very interesting regarding the flipped roles of the students and teacher while embarking on a wiki learning experience. It is the intention of the author to further explore such new dimensions of these roles in the near future:

It was thrilling and exciting for my students to be them in the driver's seat so to say! This changed the nature of the online experience for them. (AI#4, 734-737)

Once starting to use wikis for learning they experienced difficulties:

At first everything was going smoothly. And then the students tried to upload a picture. It was so difficult for them to understand that the copyrights of the pictures were not theirs. Epic fail!" (AI#7 329-330)

My students were reporting major breakdown crisis when they were trying to add a picture, which made the whole page disappear! They reported that the idea of hurling the cellphone from their windows had crossed their mind several times (laughs). (AI#8 456-458)

## **Students' Relationship with the Technology**

Interviews brought to light three types of students: those who are not familiar with the technology, those who get distracted by the technology, and those who are too confident and might proceed too fast, making them lose track of what the instructions were.

Even though my students are children of Instagram and TikTok generation, their level of using the technology for educational purposes is not to be taken for granted. Actually, I think that sometimes, being part of this generation can cause them to be too confident, thus not following directions accurately, causing them to get lost in their work. (AI#1 768-769)

For these groups of students, the interviewees learned some important lessons on how to best support them in the future. One of them is to set clear expectations:

When I came across a student who was not too confident with the technology, I paired them with another one who was computer savvy, but easily distracted. I asked that the less confident student to be in the driver's seat when uploading the work. This made sure that the student not so proficient with the technology to become surer of himself, while helping the distracted student focus on the task, as they are helping their peer. (AI#5 1089-1092)

I understood that it was helpful to develop a simple list of instructions for the students to follow. This would help the less computer savvy student, as well as the student that rushed along, as they could find out that they had lost track and could go back to what they were doing by tracking down the instructions. (AI#15 1232-1233)

## Examples of Topics

When asked what were some of the 'topics' on which the wiki pages were developed and which they enjoyed most, the interviewees' answers were varied. Here are some examples:

A controversial issue, such as "Students' uniform is mandatory in high school". The students were assigned in the Proposition side or the Opposition side. They had to find references in the law, in bylaws and in regulatory documents, as well as in research papers related to psychological, social, and economic arguments. The students received rubrics of evaluation, to guide their work. Once finished, both Wikis were shared with the rest of the class for an open discussion. It was amazing! (AI#12 3129-3209)

My students were very involved in finding and presenting important Albanian women. We came up with this topic during a discussion of what is a leading figure. They noticed something interesting, that there was very little written and researched regarding important Albanian women. So, the groups of students first had to identify two women and argue why they consider them to be of value. We discussed their choices. Each group was assigned one figure to further explore. They took this task truly at heart. One student later told me that she wanted to continue her education in Gender studies, because she was appalled how little this issue is explored in Albania, and she wants to contribute to further the gender studies. I found this to be so inspiring! (AI#1 4871-4999)

I was feeling very sorry that they were cropped up all day at home, so I came up with the theme: "My (NON)visit to..." They had to choose where they wanted to go, how would they get there, how long would they stay, how much would it cost and what would they do once there. They went really wild! Some chose exotic places, such as New Zealand or Patagonia and others European art cities and capitals. It was a good exercise because they were not feeling confined due to their economic status. They really took the task at heart and spent a long time in completing it. One other aspect was that they were pretty much equally involved in the task, which is not something to be taken for granted. (AI#10 4132-4262)

## Example of a Wiki Task as Presented by a Teacher

I started a wiki page with the title of a story. I indicated the genre for each group. I started the first sentence in each wiki but left it unfinished. I then assigned groups of students to continue the story, following their own ideas and using their own style in English. The students had clear rubrics for individual tasks and group tasks. For example, they knew what the minimum number of sentences for each Wiki was. I specified this depending on the language level of each group of students. The students were encouraged to write directly into the wiki page. I explained that this could save them time and effort, because if they wrote in a piece of paper first and then type it into the wiki, it could happen that the story might have moved on by the entry of another student in the meantime. Thus, their contribution might confuse the storyline. I was very clear in setting a deadline when the story was supposed to be finished, and the wiki closed. I encouraged the students to first focus on the story and then to work on correcting possible language mistakes. When students failed to notice errors, I then invited other students to look at each other's Wikis. Once other students made changes and corrections, the initial group that was the author of the story was invited to reflect on their errors. (AI#9 2054-2067)

## Lessons Learned

Teachers understood that starting small was an important element to ensure success for the project, while maintaining control of the wiki progress by monitoring it, by including detailed instructions:

Take baby steps. Everyone will benefit from gradually increasing wiki use in the classroom.  
Learn from my mistakes! (laughs) (AI#2 1602-1603)

Asking for help was an important lesson that the novice teachers learned pretty early in the process. They felt lucky to have and to know each other, so that they could use each other as sounding boards each time they stumbled:

I was surprised at much my students knew about wiki. (AI#9, 1867)

Reading other wikis produced as pedagogical tools was an important element for them to better understand the process but also for the students, so they could better understand what was expected of them:

At the beginning of the process, we explored other classroom wikis as a class, but I explored them as an individual as well. This helped me to clarify my ideas, but also to better understand how to break down the tasks into manageable activities for the students, how to develop assessment rubrics which could be also used as self-assessment for the students, and to serve as inspiration for the wiki activities of my students. (AI#3, 1789-1801)

The novice teachers quickly learned the power of the wiki as a communication tool. They could communicate vertically (teacher to student or group of students, teacher to parents) and horizontally (student to student, parent to parent), so that they could keep each other informed and accountable:

I could use the wiki pages to keep students and parents informed and also to post assignments and other class related content. It was very easy to edit the wiki page. (AI#12 2301-2302)

Collaboration was one of the key words that kept coming up during all the interviews. Group work clearly explaining what was expected of each member of the group at each moment of the project so that the students could be encouraged to work together and at the same time to be accountable for their individual work, was an important lesson learned for the novice teachers. This was of course more complicated due to the fact that the students were working completely remotely but they also found that this was one of the most important takeaways of the wiki:

I did lots and lots of group work. One of the most important things, even though very difficult was to create assignments that required my students to work together, continuously communicating as part of team. (AI#14 1991-1992)

One of the important lessons learned was to structure from early on clear rules and expectations. They remembered how they felt during their experience with the wiki as students and they tried to support the students with clear and detailed instructions, rubrics for the evaluation of their work in the individual entries and group work. Being that wikis by their nature are an authentic activity, it was important that the assignment designated to the students be authentic:

It was very helpful to let students know from early on what was expected of them and how their work would be evaluated. For this it was necessary to design rubrics for evaluating each step of the process. (AI#13, 1876-1877).

The students needed close monitoring and constant feedback on their roles and activities. This required lots of time from the teachers, which they had not anticipated at the beginning of the process. Teachers undertaking wiki activities in their classroom should be aware and carefully craft the extra time for this activity:

I had to monitor students' activities very closely, as it was very easy for them to drift apart and lose track of what they were supposed to be doing. This demanded so much of my time, which I did not consider at the beginning of the process. (AI#1 2345-2346)

Student collaboration is one of the important assets of the wiki activities. The teachers were impressed that the student collaboration could be extended beyond just working on their entry as a group, but also while commenting on other groups' work. This encouraged meaningful interaction among students, even though these interactions were happening online:

It was refreshing to notice that students took it very seriously when asked to review and comment on each other's entries. The assessment rubrics were very helpful in this process. (AI#14 2238-2239)

## **Reflection for Future Use**

Even though this learning exercise was difficult for the novice teachers, most importantly they learned a lot in the process as well, not only on how to edit a wiki, but also how to use it in the classroom:

I think that it would be helpful to use a wiki at the beginning of a school year, for them to introduce themselves to their peers in the foreign language. Parents could be involved as well, if they want to participate or understand their child's level of mastery of the foreign language. (AI#10 1432-1433)

Next year, I think that I will use the wiki to track progression and understanding of the implementation of a long term class progress. This way I can successfully combine students' enthusiasm for technology in the learning process. (AI#6 1783-1784)

The novice teachers understood that it is important to put the students in the driver's seat and be in charge of the project, as this flipping of roles ultimately helps students master content in a fun and interesting way:

By giving students more control over their work's outcome, they felt encouraged them to be themselves the producers, rather than just the consumers, of information. (AI#11 1564)

## **Wrap Up**

Some of the main themes identified are as follows:

*Experiential learning:* the teachers had been exposed to educational technologies in their formative period but because this subject had a theoretical approach, they didn't consider that they had developed practical skills that they could transfer in their teaching. They felt that they gained much more exposure through being involved in developing wikis for the learning theories subject, which they could then present to their own students. They reported that the students went through similar stages when implementing the wiki as they did as students: early hesitancy, high level of stress and high level of satisfaction at the end.

*Feeling of accomplishment:* being the youngest teachers in the school, they faced high levels of prejudice from their colleagues. Implementing wikis in their teaching gave them status through achievement, as students talked about it with the other teachers. Some of them had also mentored other teachers to implement wikis in their teaching.

*Supporting students' learning through collaborative approach:* being that students had never been exposed to online learning before, it was important for them to find ways to involve students in a meaningful way, while maintaining a high level of academic teaching. They considered that wikis presented this opportunity, so that they were able to catch up on their teaching and use the face-to-face time more productively.

## **Discussion**

Wikis offers a unique opportunity to support students' optimised learning in countries such as Albania, a middle-income, post-communist, transition country, with low technology penetration and low public spending on education at only 2.9% of GDP compared to 4.5%, the EU average (Psacharopoulos, 2017).

Our research confirms what other authors (Kim, & Kim, 2020; Sula, et al. 2021) state about wikis as a very valuable tool in the context of collaboration and cooperation, where it serves to make a lot of material available to a wide range of users and is increasingly becoming a welcome tool within teaching. In our findings, collaboration was strongly emphasised. Group work and clear explanations of what is expected of each member of the group at each moment of the project, so that the students could be encouraged to work together and at the same time to be accountable for their individual work was an important lesson learned for the novice teachers, as researchers highlighted (Liu, et al. 2018; Hazari, et al. 2009). Group work was thus stimulated and made more effective.

Furthermore, the wiki community is based on the Open Source philosophy, that is, everyone can participate, and anyone can share, modify, and reuse the wiki pages, as the technical and bureaucratic limitations are very low (Judd, 2018). This is confirmed by our study, as teachers were impressed that the student collaboration could be extended beyond just working on their entry as a group but also while commenting on other groups' work, which encouraged meaningful interaction among students, even though these interactions were happening online.

Pedagogical value and the pedagogical approaches of using wiki technology as an important element for teachers to better understand the process but also for the students, so they could better understand what was expected of them as proposed by Hazari et al (2009), was confirmed by this research. Teachers understood that starting small was an important element, to ensure success for the project, while maintaining control of the wiki progress by monitoring it and by including detailed instructions. They could communicate vertically (teacher to student or group of students, teacher to parents) and horizontally (student to student, parent to parent), so that they could keep each other informed and accountable (Bada, 2015). The learning process was facilitated by an excellent explanation in a wiki used in class, *in presentia*, as a sheet on which students can write down the results of their research, as feedback to which they can return to review or study, as a site that can always be updated even by subsequent classes and called upon to deepen certain topics. One of the important lessons learned was to structure from early on clear rules and expectations. The use of the wiki allows for fruitful cooperation between students, the division into groups, the assignment of

well-defined roles to achieve the intended goal (Altanopoulou, et al., 2015), and the expression of written production, oral production, problem solving skills, controversy and discussion (Boulaajoul & Aknin, 2019). They remembered how they felt during their experience with the wiki as a student and they tried to support their students with clear and detailed instructions, rubrics for the evaluation of their work in the individual entries and group work. Being that wiki by its nature is an authentic activity, it was important that the assignment designated to the students be authentic.

The positive impact of the proposed storytelling pedagogy resides in allowing students to stretch their creativity while demonstrating their language productivity, with the leverage of a holistic assessment scheme (Lu, et al., 2010). The novice teachers understood that it is important to put the students in the driver's seat and be in charge of the project, as this flipping of roles ultimately helps students master content in a fun and interesting way.

## Conclusions

Exposing students during their teaching formation to wiki-related activities seems to offer them security in their teaching, it allows for meaningful interactions between students, between students and teachers and between students and the learning material. Such an approach seems to give novice teachers a higher sense of accomplishment and professionalism, very much needed for the novice teachers' self-image and self-esteem.

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