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Le Società per la società: ricerca, scenari, emergenze

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Roma 26-27 settembre 2019

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**Ricerca, scenari, emergenze sull'educazione al tempo del digitale
a cura di Pier Giuseppe Rossi, Andrea Garavaglia, Livia Petti**





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Studi e ricerche sui processi di apprendimento-insegnamento e valutazione

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- 10 **Introduzione**
quale ricerca in una società complessa e diseguale?
Pier Giuseppe Rossi
- 29 **Il digitale per la qualità della vita dell'anziano**
Simona Ferrari, Pier Cesare Rivoltella
- 40 **Strategie di uso dello smartphone degli studenti della scuola secondaria di secondo grado**
Andrea Garavaglia, Livia Petti
- 51 **Un dispositivo di videoanalisi per la formazione pre-service degli insegnanti**
Maila Pentucci, Chiara Laici
- 59 **Learning design e software design: analogie e interazioni per l'educazione superiore**
Paolo Raviolo
- 67 **Apprendimento e partecipazione in un corso universitario blended: il ruolo di avere un ruolo**
Nadia Sansone, Donatella Cesareni
- 76 **La formazione sul tema del Cyberbullismo per gli studenti di Scienze dell'educazione: l'esperienza dell'Università degli Studi di Perugia**
Floriana Falcinelli, Maria Filomia
- 83 **Social e digital media nelle diete di consumo e nelle pratiche professionali degli operatori pastorali**
Alessandra Carenzio, Linda Lombi, Lucia Boccacin, Pier Cesare Rivoltella

- 91 **Educare all'uso responsabile dei dispositivi digitali a scuola. L'uso del diario e dell'incidente critico**
Livia Petti, Serena Triacca
- 99 **Digital Storytelling e inclusione scolastica: come ridurre stereotipi e pregiudizi col supporto di tecnologie digitali.**
Luca Ferrari, Marco Nenzioni, Benedetta Marotti
- 106 **Tempo della visione, tempo della descrizione: il robot come mediatore**
Filippo Bruni, Michela Nisdeo
- 114 **Ambienti digitali e progettazione didattica universitaria: linee di intervento**
Chiara Panciroli, Anita Macaudo
- 123 **Information Literacy e competenze media-educative**
Stefano Pasta, Simona Ferrari
- 132 **On-line problem-based learning. Il modello dell'Università di Siena**
Mario Giampaolo, Loretta Fabbri
- 142 **Contenuti disciplinari digitalizzati: sfide per la ricerca sulla didattica on line**
Loredana Perla, Laura Sara Agrati, Viviana Vinci
- 151 **L'apprendimento in ambienti di mixed reality**
Stefano Di Tore, Michele Domenico Todino, Maurizio Sibilio
- 158 **Un artefatto visuale per la progettazione didattica: l'app DEPIT**
*Chiara Laici, Maila Pentucci, Lorella Giannandrea
Pier Giuseppe Rossi*
- 168 **La percezione d'uso della lingua madre in contesti CLIL**
Ilaria Salvadori

- 177 **Relazioni fra studenti mediate da contesti digitali: quale rapporto con il clima sociale dell'ambiente classe?**
Alessandro Soriani
- 188 **Forum e Wiki: processi di apprendimento collaborativo online in un corso universitario**
Manuela Fabbri
- 199 **Definizioni operative e strumenti di rilevazione del pensiero computazionale: una rassegna sistematica**
Francesco Claudio Ugolini, Panagiotis Kakavas
- 208 **Strategie e ambienti “Mainstream” per la condivisione e la collaborazione**
Francesca Zanon
- 215 **Cartima: la realizzazione di un sogno**
Francesca Bordini, Ester Caparrós Martín, Donatella Cesareni
- 224 **La metodologia del Digital Storytelling come dispositivo di media education per l'apprendimento delle competenze di cittadinanza digitale in un corso universitario**
Matteo Adamoli
- 234 **Fra scuola e museo: un'esperienza di educazione artistica multisensoriale e multimediale**
Manlio Piva, Jodie Pegorin
- 242 **Un'educazione per le macchine. Il ruolo della mediazione umana nella definizione culturale delle scelte algoritmiche**
Umberto Zona, Martina De Castro, Fabio Bocci
- 249 **Educazione digitale e outdoor education nella scuola dell'infanzia**
Andrea Cecilianì

- 258 **La prototipazione di wearable technologies per realizzare percorsi di media education nella scuola secondaria di secondo grado**
Michele Domenico Todino, Stefano Di Tore
- 266 **Il problem solving collaborativo nella scuola primaria: attuale stato dell'arte**
Sergio Miranda, Rosa Vegliante, Marta De Angelis, Cristina Torre
- 274 **Formazione dei futuri docenti secondo il DigCompEdu: Analisi di un'esperienza**
Floriana Falcinelli, Massimo Cimichella, Alessia Signorelli
- 284 **Ricerca sperimentale sulla relazione tra uso di internet e analfabetismo emotivo**
Luigi Picci, Stefano Rendina, Francesco Maria Melchiori, Gloria di Filippo, Francesco Peluso Cassese
- 294 **Fattori che influenzano l'introduzione delle tecnologie nella pratica didattica: i dati da una esperienza di ricerca-formazione**
Ilaria Bortolotti, Giorgio Asquini
- 303 **Insegnare nella società della conoscenza: analisi del processo di innovazione didattica di un insegnamento universitario**
Graziano Cecchinato, Romina Papa
- 312 **“Sicuri si diventa”: il gaming per la formazione su salute e sicurezza sul lavoro in alternanza scuola-lavoro**
Pina Lalli, Filomena Gaia Farina, Sara Stabile, Rosina Bentiven- ga, Emma Pietrafesa, Mara Bernardini
- 320 **Multimedialità nella scuola dell'infanzia: il PON come campo d'esperienza**
Valentina Pappalardo, Rosa Di Gioia, Matteo Isoni, Donatella Rangoni

- 329 **Indicatori qualitativi e quantitativi nell'assicurazione della qualità e valutazione dell'istruzione online**
Giusi Antonia Toto
- 337 **Tra rivoluzione mancata e ritorno al passato: l'innovazione tecnologica come imprevedibile change driver della didattica delle lingue**
Annamaria Cacchione
- 346 **Nuove tecnologie e società: dall'e-learning all'e-service-learning**
Laura Selmo
- 354 **La progettazione di un modello interattivo e digitale di fruizione museale: l'esperienza del Museu do Brinquedo**
Sara Perrella, Monica Fantin, Telma Anita Piacentini
- 363 **Homemade podcast: il caso del liceo Melchiorre Gioia di Piacenza**
Ilaria Bucciarelli, Michelle Pieri
- 371 **La ricerca-azione e la robotics research nella scuola dell'infanzia: dalle competenze all'autonomia**
Immacolata Brunetti

XIX.

Forum e wiki: processi di apprendimento collaborativo online in un corso universitario**Forums and wikis: Online Collaborative Learning processes in a university course**

Manuela Fabbri*Università di Bologna***abstract**

L'intervento discute un'esperienza didattica mediata dall'uso di ICT in contesto universitario. Considerando la progettazione educativa di ambienti virtuali di apprendimento, si analizza l'opinione degli studenti sull'efficienza a livello di costruzione sociale della conoscenza di Web forum e wiki. Analizzando i dati raccolti attraverso un questionario proposto al termine dell'esperienza emergono risultati pressoché in linea con quelli delle principali ricerche in argomento: forum e wiki si confermano efficienti strumenti, tra loro complementari, per supportare processi di OCL. In particolare, se il forum si configura come luogo in cui comunicare, organizzare il lavoro collaborativo, condividere contenuti e discutere con i colleghi e con la docente, il wiki pare efficiente in funzione della vera e propria produzione collaborativa della conoscenza.

The article discusses an educational experience involving the use of ICT in a university context. Considering the educational design of virtual learning environments, students' opinions on the efficiency of Web Forums and Wikis for the social construction of knowledge are examined. An analysis of the data collected via a questionnaire submitted at the end of the experience provides results virtually in line with the main studies on the topic: forums and wikis are confirmed to be efficient and mutually complementary tools for supporting OCL processes. Specifically, while forums are a location for communicating, organising collaborative work, sharing contents and

holding discussions with fellow-students and the teacher, wikis seem to be efficient for the actual collaborative production of knowledge.

Parole chiave: Web forum, Wiki, Online Collaborative Learning.

Keywords: Web forum, Wiki, Online Collaborative Learning.

1. Introduction

The article describes an educational experience within the teaching of Knowledge Technologies as part of the degree course for Social and Cultural Educators at Bologna University, and focuses on the perception of the efficiency of digital environments such as Forums and Wikis of 42 students (4 male and 34 female) involved in a small group in the collaborative construction of knowledge. The activity, divided into two modules, consisted first of the choice, by each group, of a topic relating to ICTs; then the potential and critical aspects of each in daily life were analysed through the compilation of a research format; after this each group, taking into account the previous research, designed a teaching project for a specific user target with the aid of a design grid provided by the teacher. Each group was able to use one or both interaction environments, without the use of any additional tools or first-person meetings.

The teacher took on the role of coordinator/moderator, providing pedagogical-intellectual and methodological support (Rotta & Ranieri, 2005), concentrating in particular on the design of learning environments and tools, facilitating the cognitive and social processes of knowledge construction (Garrison & Akyol, 2013) in a non-evaluative manner which respected students' independence.

At the end of the course, an anonymous individual semi-structured online questionnaire consisting of several sections was administered; the response percentage was 90%.

2. Theoretical framework

Several authors maintain that inclusive digital environments, suitably designed at the teaching level (Laurillard, 2008; 2014; Rossi, 2014) can have a positive effect on learning, especially on individual and social cognitive, metacognitive and creative dynamics (Scardamalia & Bereiter, 1992; 2003; Mukkonen, Hakkarainen & Lakkala, 1999; Lakkala, Rahikainen & Hakkarainen, 2001).

Against this background, of strategic importance are flexible design, allowing remodulation as necessary, and the choice of the digital environments where people can collaborate, share their knowledge, hold discussions and work together on a specific educational problem (Cacciamani, Cesareni & Ligorio, 2013; Fabbri, 2018; Garavaglia & Petti, 2018; Panciroli, 2018).

While the initial hypothesis, in line with the scientific literature, was that, apart from their specific peculiarities, forums and wikis may be efficient tools for supporting OCL dynamics within learning communities, the research design was based on theories of social constructivism (Jonassen, 1994; Pontecorvo, Ajello & Zuccheromaglio, 1995; Varisco, 2002) and Trialogical Learning Approach (TLA, Paavola, Hakkarainen, 2005; Cesareni, Sansone, Ligorio, 2018), adapted to the specific context.

3. Methodological approach and data analysis

Leaving the interesting qualitative analysis of the various sections of the questionnaire aside for separate study and focusing on students' perception of the efficiency of forums and wikis, he-

re we consider only the answers to the questions relating to the technological tools used (see tab. 1).

No.	Question	Type
7	How efficient do you consider the forum to have been in supporting the work of the group?	closed question scores from 1(not at all efficient) to 5 (very efficient)
7.a	Why?	open question
8	How efficient do you consider the wiki to have been in supporting the work of the group?	closed question scores from 1(not at all efficient) to 5 (very efficient)
8.a	Why?	open question

Tab. 1: Questionnaire questions about the technological tools

When the answers to questions nos. 7 and 8 are compared, the differences in the perception of the efficiency of the two tools are not large (fig. 1): 47% of students consider the wiki efficient and very efficient, compared to 42% for the forum.

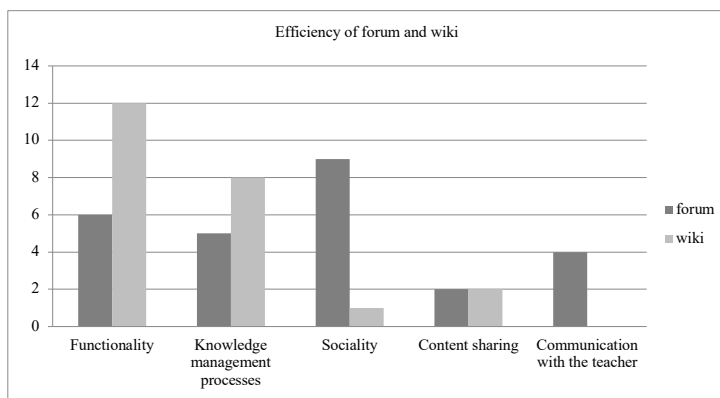


Fig. 1: Efficiency of the forum and the wiki for supporting OCL

With reference to the scientific literature (Miyazol and Anderson, 2010; Biasutti, 2019) and the replies to questions 7.a and 8.a, the following criteria and indicators were created for investigating the specific efficiency of the forum and wiki:

Criterion	Indicator
Functionality	technical functionality of the tool (speed, practicality, updatability, accessibility...)
Knowledge management processes	organising and managing the social construction of knowledge
Content sharing	exchange of self-produced and online multimedia digital materials
Sociality	exchange of opinions, points of view and feedback on contents, interweaving communicative exchanges with members of the group
Communication with the teacher	interaction with the teacher, putting questions and queries, requesting explanations, etc.

Tab. 2: Efficiency criteria and indicators

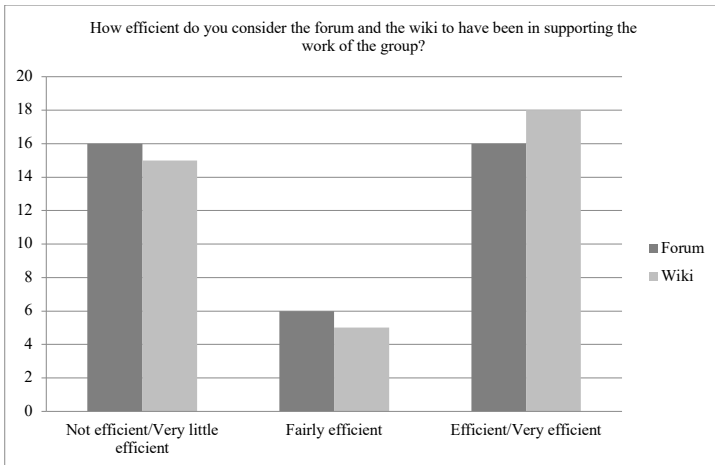


Fig. 2: The specific efficiency of forum and wiki

a) *Functionality*

The students rate the wiki as extremely functional, since:

- it is practical, convenient, fast and easily accessible from any location at any time
- it is updated/updatable in real time and «allows users to modify the same file simultaneously, avoiding millions of messages»
- it allows work on a single shared document «without having to ‘copy and paste’ every time to comment on the text or add any missing parts», with the convenience of «being able to write either simultaneously or at different times»
- it allows customisation of the graphics and ‘comment’ and ‘chat’ functions, Gmail alerts, the potential for adding tables, images and videos, etc.

The forum is considered to be functional, although definitely to a lesser extent, for:

- exchanging ‘bulky’ multimedia contents
- updates on the work done and changes
- immediate recovery of the various stages of the conversation.

b) *Knowledge management processes*

Considering the aspect of organisation of the OCL and the underlying processes, students consider the wiki to be:

- a very convenient tool for achieving group goals, «since it enables chatting and simultaneous modification of contents»
- a tool that enables every participant to «correct, make changes and/or carry out any type of operation in real time»
- a tool that «enables us to maintain continuity within the group».

The forum was found to be a useful tool, although to a lesser extent, for:

- the practical, fast exchange of ideas about how to proceed
- a good support/base for «deciding contents and group decisions»
- «writing in full and replying fast, subdividing discussions by topics and starting new ones »
- «agreeing to meet and write up our research online».

c) *Sociality*

For online discussions, the forum is an environment for active interaction between members which is clearly more efficient than the wiki. The students consider it to be:

- «a very useful tool for communicating and keeping in touch»
- «a place for sharing opinions, ideas and feedback»
- a creative, functional tool for «creating discussion: contributions can be of any length and relate to specific topics» and it is possible to «reply to every one of them, commenting and/or criticising in real time».

d) *Content sharing*

The Wiki and forum are both considered fairly efficient tools for content sharing. Specifically, the forum was viewed as an environment for individual metacognitive thought, «a ‘place’ for sharing our research but also for comparing our work with that of our colleagues and drawing inputs from their texts for confirming our hypothesis or for analysing them as antitheses».

e) *Communication with the teacher*

Finally, unlike the wiki, the forum was also used by students as a «formal space for communication with the teacher», a «use-

ful space for asking her questions and obtaining guidance and feedback».

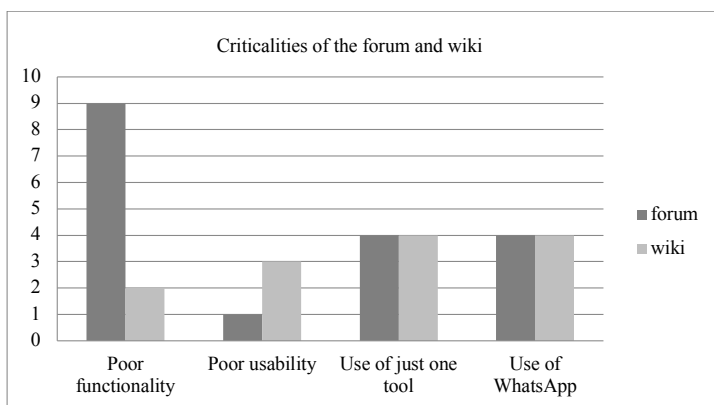


Fig. 3: Criticalities of the forum and wiki for supporting OCL

Turning to the criticalities (fig. 3), the students considered the forum's functionality to be extremely low, since it was non-immediate, asynchronous and not very interactive.

Specifically, the following criticalities were reported:

- difficulty in changing versions of material under construction
- alerts on University institutional email addresses, meaning delay in receipt
- alerts not sent simultaneously with uploading of a new post
- asynchronous tool that «allows comments to be loaded but does not allow reciprocal exchanges».

With regard to the wiki, functionality is considered to be good (fig. 2), but usability poor (fig. 3): students report some difficulty in using it due to unfamiliarity with the tool, which meant that some of them only used it partially.

In a few cases, students declared that they only used one tool, or used it only for direct or indirect interaction with the teacher.

Finally, in some cases the WhatsApp messaging app was used as an alternative for communication, since it was «faster, more convenient, easier and more practical».

4. Conclusions

In spite of the relatively small number of participants and the non-generability of the data, the analysis of the educational experience offers a contribution to pedagogy in line with the findings of the main studies on the topic: forums and wikis are confirmed to be efficient tools, each with its own peculiarities (making them complementary), for supporting OCL processes. If the forum is set both as an *archive* within which to discuss and 'fix' contents and individual or group decisions, and as a *locus* for individual metacognitive reflection, the Wiki will have the configuration of an *evolving space* within which the *process* of collaborative production of knowledge progressively takes shape, step by step, revision by revision.


Moreover, the rich, detailed inputs provided by the students, presented here schematically and only in part, due to publishing limits, seem to indicate that it would be advisable to include face-to-face meetings (as 53% of students did) and more user-friendly, commonly used tools, especially WhatsApp (76% of students used it), in future experiments of this kind.

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