VOLUME 23 ISSUE 1

The International Journal of

# Adult, Community, and Professional Learning

## The Role of Recursive Feedback

### A Case Study of e-Learning in Emergency Operations

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**THE INTERNATIONAL JOURNAL OF ADULT, COMMUNITY AND PROFESSIONAL LEARNING**
www.thelearner.com

First published in 2015 in Champaign, Illinois, USA
by Common Ground Publishing LLC
www.commongroundpublishing.com

ISSN: 2328-6318



*The International Journal of Adult, Community and Professional Learning* is a peer-reviewed, scholarly journal.

# The Role of Recursive Feedback: A Case Study of e-Learning in Emergency Operations

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*Abstract: This article reports a study conducted on a pilot e-learning course organized by the International Federation of Red Cross and Red Crescent Societies (IFRC) to offer the affiliates the opportunity of further learning from their previous field experiences on emergency operations. The main objective was to identify and understand reflective thinking and knowledge production through a peer review activity developed in the online learning environment "Scholar." The investigation was guided by the following research questions: 1) How effective was peer feedback for the development of the participants' written case studies? 2) What are participants' perceptions regarding their learning experience with the peer-review activity? How was the experience of providing feedback? How was the experience of receiving feedback? How did these experiences influence the elaboration of the final version of their writing? and 3) What are the implications of peer-to-peer learning in online environments for participants' professional development? Data was gathered from: updates in "Community" (space for social interaction); feedback the reviewers provided on the case studies; the first and second versions of the case study, and the pre and post-course surveys. "Scholar Analytics" provided the results for the closed questions while the open-ended questions were classified into data-driven categories, as well as the updates from "Community." First and second drafts of case studies from six participants were analyzed to identify the changes from one version to the other and compared with the feedback they received to detect the impact of the feedback on the second version. Results show that participants: enjoyed the experience of writing the case study; appreciated the experience of providing feedback through peer reviews to their peers; recognized that the feedback they received from the reviewers were helpful; acknowledged that providing feedback to peers through peer reviews helped them to think about their own case study. In addition, participants took into consideration the feedback from their peers when rewriting their case studies. The findings reveal that Scholar's feature of displaying the text side-by-side with the rubrics, review criteria and feedback fosters participants' engagement with the writing, reviewing, and revising processes.*

*Keywords: Recursive Feedback, e-Learning, Emergency Operations, IFRC*

What we learn, why we learn and the way we learn it have changed over history. Education used to take place in scenarios specially built for the learning-teaching process, and students used to go to those places to learn passively from teachers, who were the holders of the knowledge and the content students should learn. This scenario and the roles of the participants in the educational process have changed over time. With the advance of technological tools and the wide-spreading of the Internet, content has become available for everyone with access to the worldwide network. According to the World Bank,[1] Internet access in the world increased from 15.8% (2005) to 38.1% (2013). In this new picture, students can engage in the educational process from everywhere (home, workplace, and so on). They are also becoming more active in the learning process by looking for the content they want/need to learn. As the content is already available, the role of teachers has also changed; instead of content delivering, teachers are taking one step further, for example, by fostering students' cognition, providing guidance on how to apply knowledge, orienting on how to select sources, and, especially, managing interpersonal relations. This new social arrangement and the innovations in technology and in learning management systems have directed education to go beyond the cognition stage of knowledge acquiring. Students are invited both to engage in higher mental processes such as selecting, critical evaluation, and reasoning, and also to collaborate with their peers in social activities, where the co-construction of knowledge takes place. In this educational change, students move from passive receivers to active knowledge producers and distributers. This new configuration is the context of the investigation reported in this article.

[1] http://data.worldbank.org/indicator/IT.NET.USER.P2/countries?display=graph.

*The International Journal of Adult, Community and Professional Learning*
Volume 23, Issue 1, 2015, www.thelearner.com, ISSN 2328-6318

This article presents excerpts from a pilot study undertaken for my PhD dissertation. This pilot study was conducted on an experimental e-learning course, "Learning from Shared Experience in Humanitarian Assistance" (which is a community called "FACT/ERU Learning" in *Scholar*), organized by the International Federation of Red Cross and Red Crescent Societies (IFRC) to offer their affiliates the opportunity of further learning from their previous field experiences on emergency operations. Although the course was open to all affiliates, the training was targeting two particular types of affiliates: Field Assessment Coordination Teams (FACT) and Emergency Response Units (ERU). The importance of these two kinds of groups lies in the fact that they are composed of highly specialized professionals who are ready to be deployed at any time and to anywhere in the world. They are the teams that arrive first at areas that need help and provide the first relief measures by recognizing the situation, planning the immediate actions needed, and acting upon them.

The main objective of this investigation was to identify and understand the process of reflective thinking and knowledge production and the role of recursive feedback in this process. The following research questions guided this research:

1. How effective was peer feedback for the development of the participants' written case studies?
2. What are participants' perceptions regarding their learning experience with the peer-review activity? How was the experience of providing feedback? How was the experience of receiving feedback? How did these experiences influence the elaboration of the final version of their writing?
3. What are the implications of peer-to-peer learning in online environments for participants' professional development?

This article is organized as followings. It starts by briefly describing *Scholar*, which is the online learning space that encompasses the context of this investigation. Then, it outlines the following: *Scholar*'s underlying pedagogy that grounded the course; the method under which this study was carried out; the results and discussion for each research question; and the final remarks.

## The Context of the Investigation

The course, "Learning from Shared Experience in Humanitarian Assistance," was designed for four week activities developed synchronously and asynchronously, respectively, in *WebEx* and in *Scholar*. The synchronous events comprised one-hour sessions held once a week to present and discuss some case studies and to elucidate doubts regarding the use of *Scholar*. The asynchronous activities, which are the focus of this study, were developed continuously during the course employing the learning platform *Scholar*, which is the context of this investigation.

The importance of conceiving e-learning as a new context and, consequently, avoiding the simply transposition of pedagogy and content from face-to-face to e-learning environments is a subject of discussion in the literature (Akeroyd 2005; Bele and Rugelj 2007; Leffa 2005; Stodel, Thompson, and MacDonald 2006; White et al. 2013). The *Scholar* environment "is an attempt to reframe the relations of knowledge and learning, recalibrating traditional modes of pedagogy in order to create learning ecologies which are more appropriately attuned to our times" (Cope and Kalantzis 2013, 333). *Scholar* is a user-friendly learning space that performs complex actions. It has been developed by a multidisciplinary team of researchers at the University of Illinois Urbana-Champaign and Common Ground, with the support of the US Department of Education, the Bill and Melinda Gates Foundation, and the Institute of Educational Sciences.[2]

[2] Information taken from http://info.cgscholar.com/partners.

This section will provide an overview of this space, which is organized in subspaces named *Community*, *Creator*, *Publisher*, and *Analytics*. Further description, although not exhaustive, will be given about *Creator* because that is where the main activity of this study occurs.

### *Community Space*

*Community* is the place where the social interactions between participants take place. Figure 1 illustrates a fragment of this scenario. Members of a community (course), who are the enrolled participants and facilitators, are listed on the left side of the page; and the recent activities and the files shared are listed in the right side of the page. The intense activity occurs in the middle of the page, in the *Activity Stream*. Here, the members can initiate new updates (posts) or comment on other members' updates. Updates are displayed consecutively in the *Activity Stream*, with the newest update being always the one at the top of the screen. Moreover, the private communication, such as *Message* and *Notifications*, is located at the very top of the page. As already mentioned, this is meant to be just a visual overview of the space; it is far from exploring all its features.


Figure 1: A Fragment of the *Community* Space
*Source: CGScholar, Community: FACT/ERU Learning, manipulated with Skitch*

### *Creator Space*

*Creator* is a multimodal working space that allows, for example, the insertion of videos, sounds, figures, and links. Figure 2 provides a general view of this space where a case study named "Drought in Ethiopia" is being developed. The innovation of this space, among others, is having a design where the rubrics (right side) are displayed side-by-side with the writing/working area (left side). This Figure also shows the tab *Feedback* extended, revealing a segment of one of its dimensions (*Rubric>> Review Criteria*).

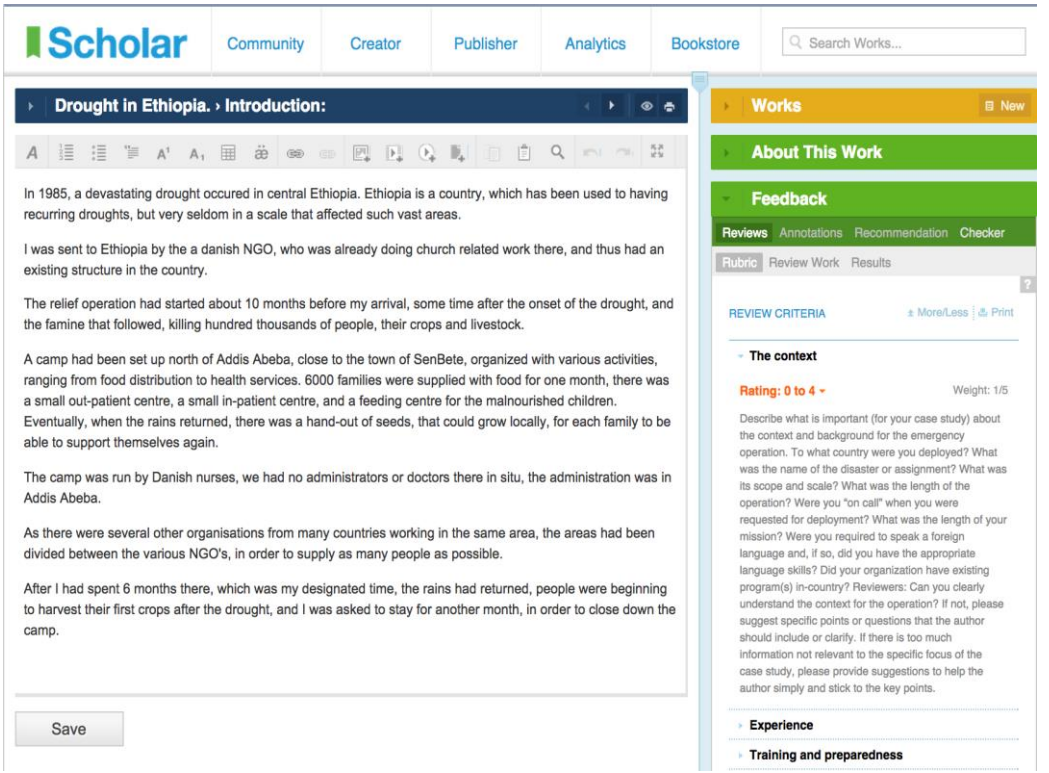


Figure 2: General View of the *Creator* Space
*Source: CGScholar, Community: FACT/ERU Learning, manipulated with Skitch*

Each tab (*Works*, *About This Work*, and *Feedback*) will be further illustrated and explained below. To start with, Figure 3 provides the general organization of the *Creator* space revealing the extensions of each tab and their functions.

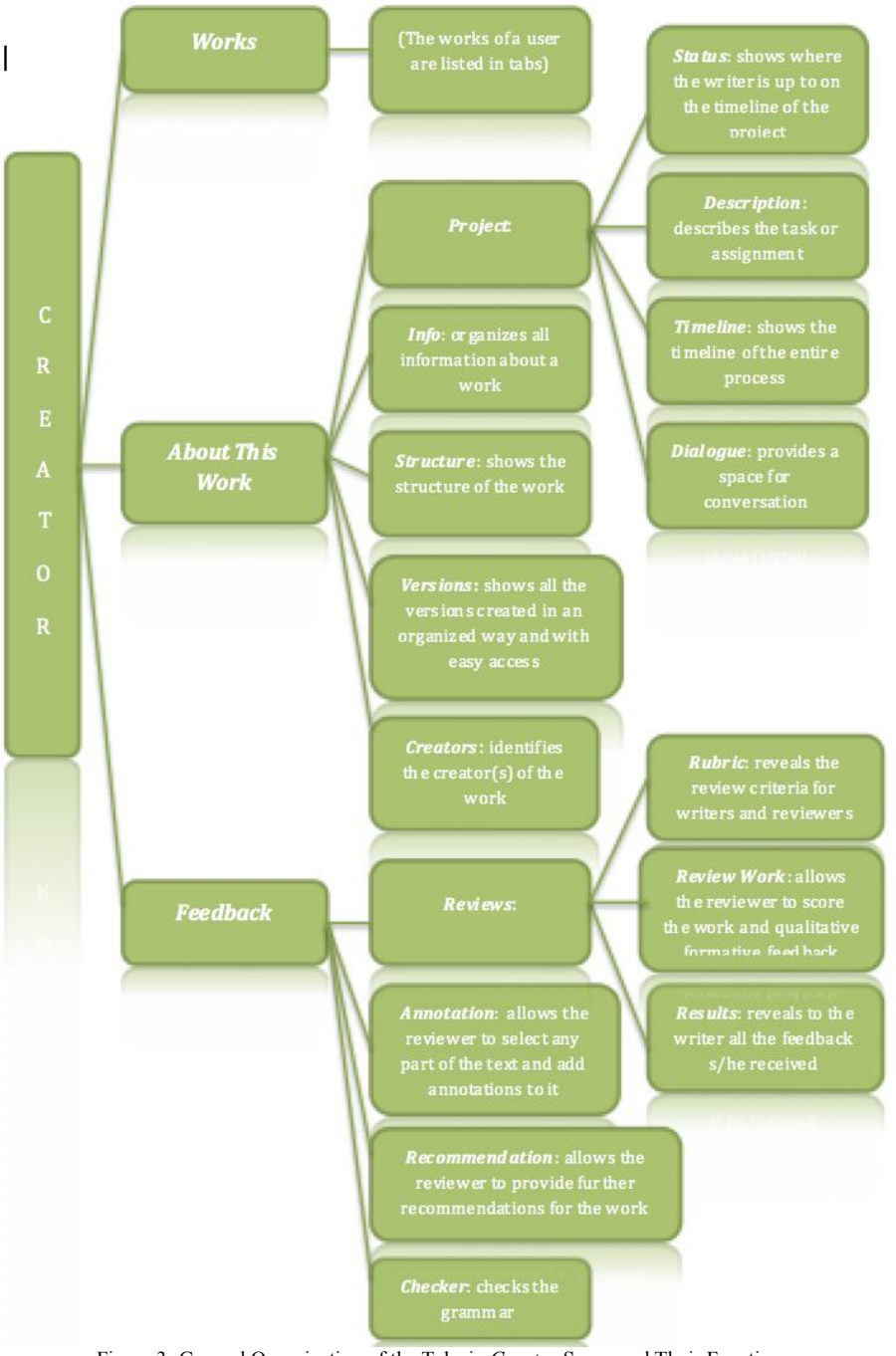


Figure 3: General Organization of the Tabs in *Creator* Space and Their Functions

The first tab on the right side of *Creator* is *Works*. It offers a list with all the works (case studies, projects, etc.) the writer is working on, as can be seen in Figure 4.

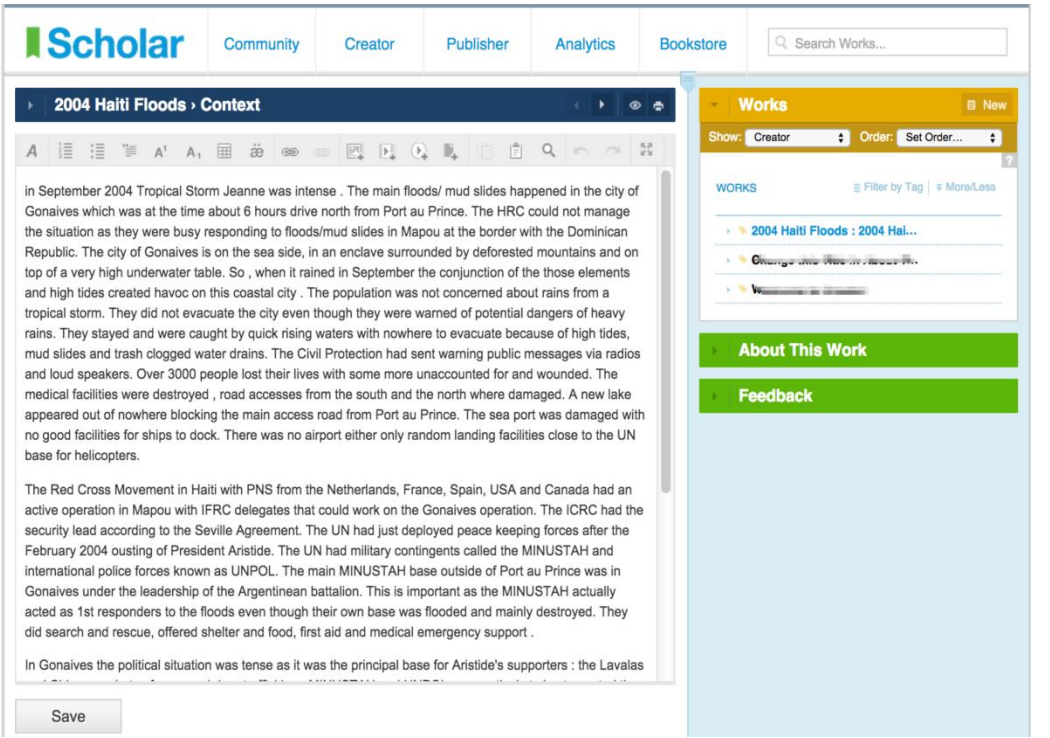


Figure 4: The *Creator* Space with the *Works* Tab Extended
*Source: Cgscholar, Community: FACT/ERU Learning, Manipulated with Skitch*

The *About This Work* tab, illustrated in Figure 5, offers a series of features such as: *Project*, *Info*, *Structure*, *Versions*, and *Creators*. Furthermore, the tab *Project* is subdivided into the following features: *Status*, *Description*, *Timeline*, and *Dialogue*, which are also explained in the same Figure.


Figure 5: The *Creator* Space: *About This Work* Tab
*Source: Cgscholar, Community: FACT/ERU Learning, Manipulated in Skitch*

The following features are presented under the *Feedback*[3] tab (Figure 6): *Reviews*, *Annotation*, *Recommendation*, and *Checker*.

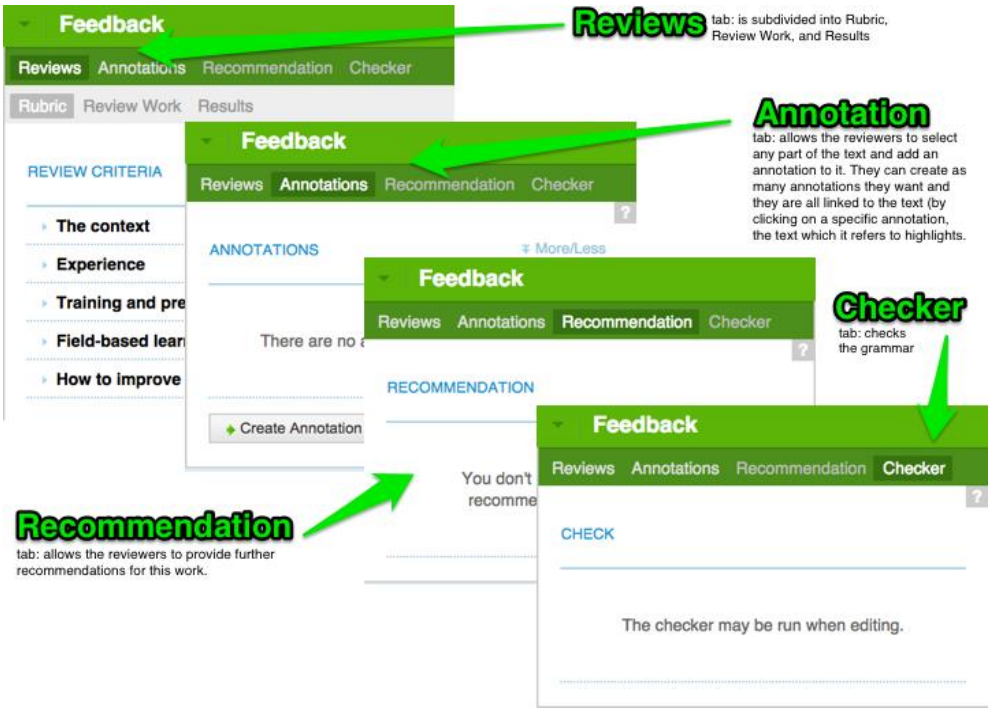


Figure 6: The *Creator* Space: *Feedback* Tab
*Source: Cgscholar, Community: FACT/ERU Learning; Manipulated in Skitch*

In the sequence, in Figure 7, the focus is on the *Feedback>Reviews* path. The *Reviews* tab is subdivided into *Rubric*, *Review Work*, and *Results* tabs. It also shows that each item of the *Rubric* can be extended revealing the complete rubric of that item, its review criteria, and its rating categories (the right side of the Figure exhibits the item *The Context* extended). As a result, the writer finds the rubrics as well as the review criteria and the rating categories that will be employed by the reviewer, side by side with the text.

[3] For a video on recursive feedback in *Scholar*, access: http://info.cgscholar.com/tutorials/scholars-affordances/recursive-feedback.

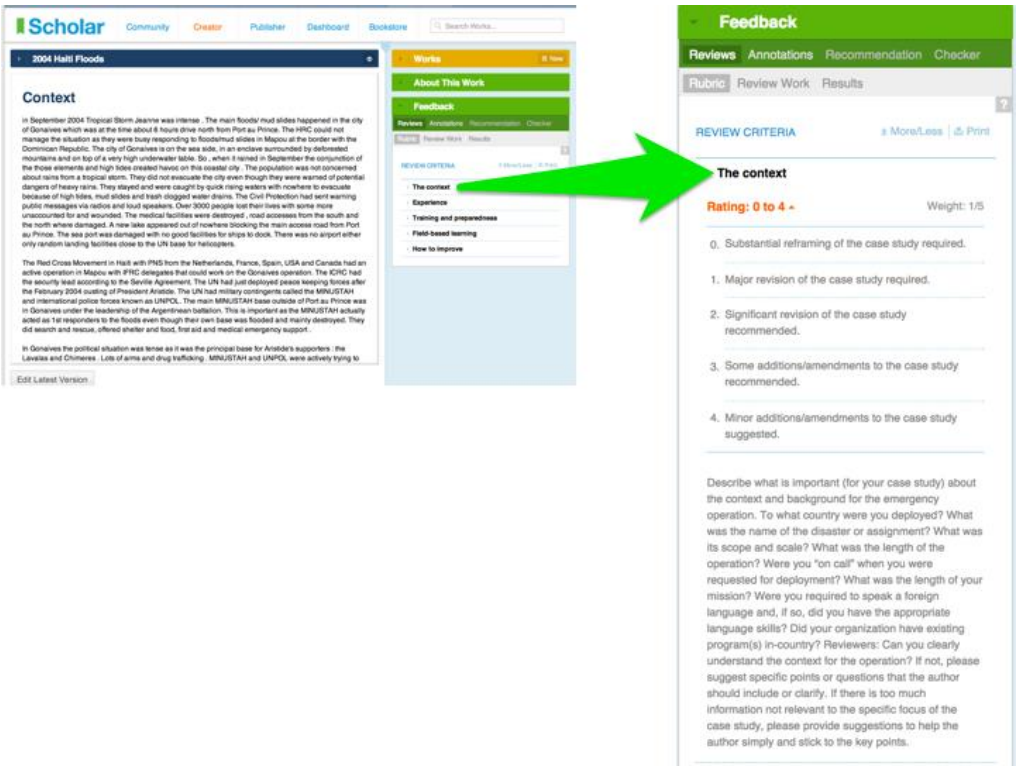


Figure 7: The *Creator* Space: *Feedback>Reviews>Rubric* Tab with One Criterion Expanded
*Source: CGScholar, Community: FACT/ERU Learning; manipulated in Skitch*

The same alongside arrangement is provided for the reviewer of the work. Moreover, as displayed in Figure 8, the reviewer finds a track bar to rate each segment of the text and a space to offer qualitative feedback. This same *Review Work* space is employed by the writer to self-review his/her work.

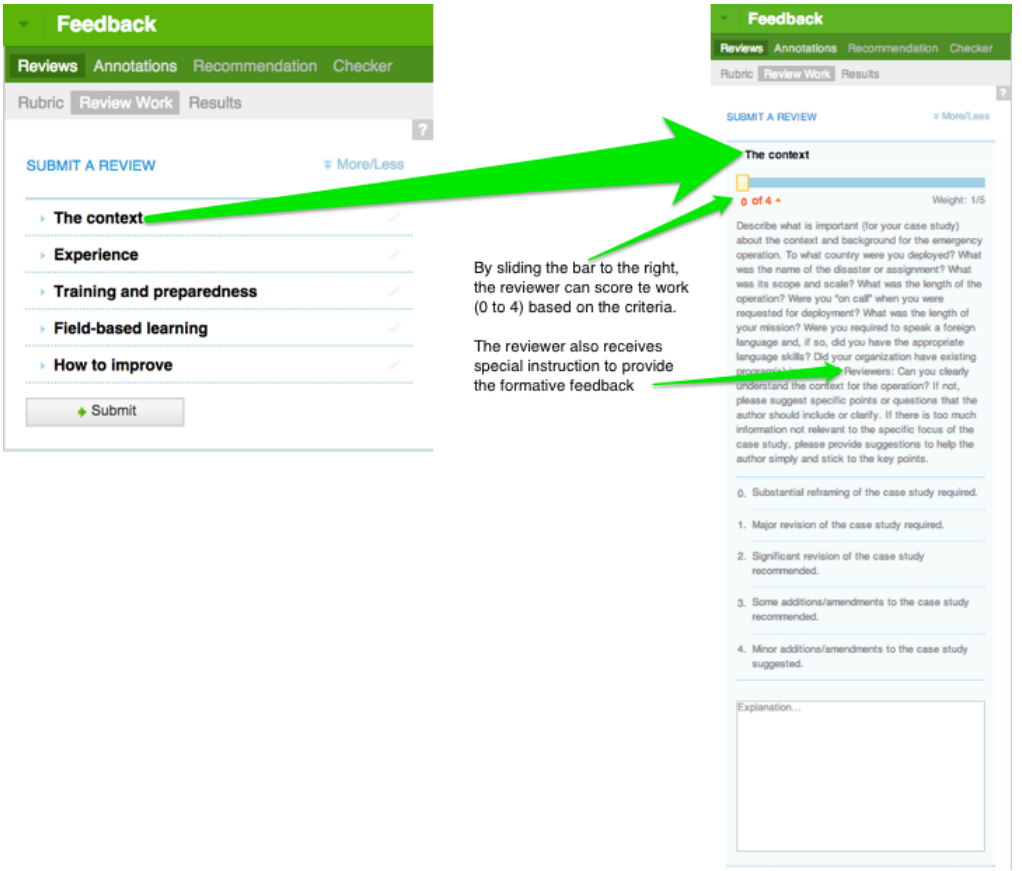


Figure 8: The Creator Space: Feedback>Reviews>Review Work Tab
*Source: Cgscholar, Community: FACT/ERU Learning; Manipulated in Skitch*

Finally, the *Feedback>Reviews>Results* tab reveals the feedback provided by the reviewers, as shows Figure 9. In this example, Briana can see the summary of the results for her work, with the arithmetic mean of the reviewers' ratings for each part of the text (left side of Figure 9). In the same tab, by clicking on the indicated arrows, she can access the ratings and the qualitative feedback provided by each reviewer. In this case, it is a blind review process and the reviewers' identities are only disclosed to the instructor. For each project, the instructor can decide whether it is appropriate to have blind review.

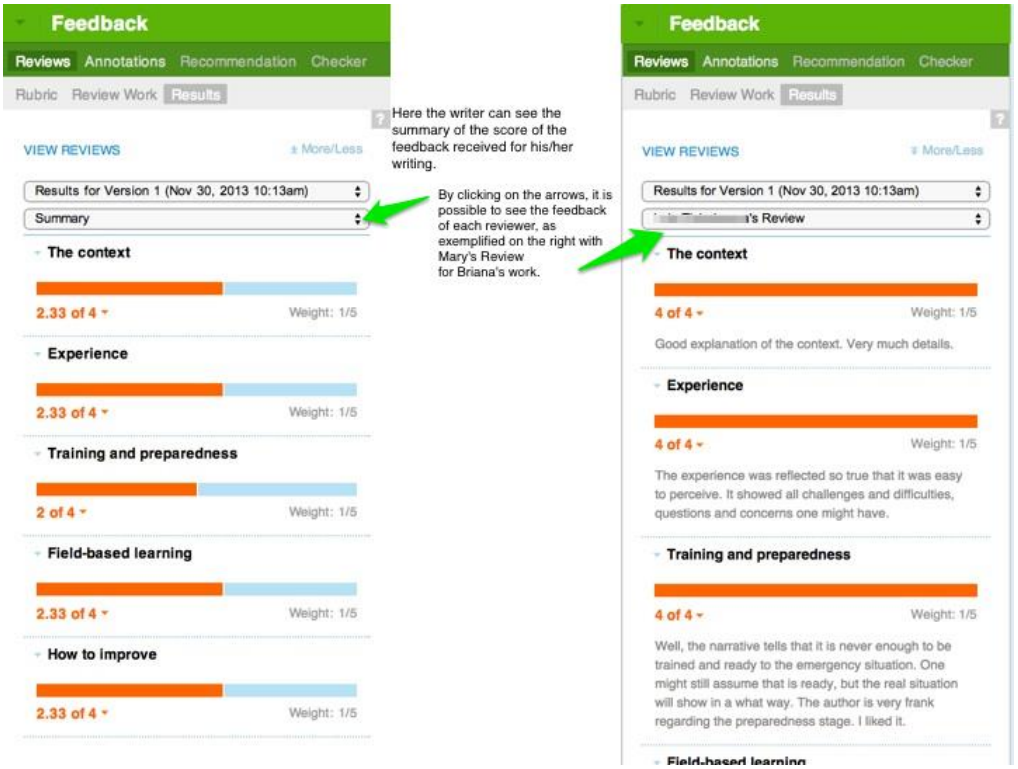


Figure 9: The Creator Space: Feedback>Reviews>Results Tab
*Source: CGScholar, Community: FACT/ERU Learning; Manipulated in Skitch*

It is essential to remember that *Creator* always displays Briana's case study, for example, side by side with everything that is on the right side of the page: *Works, About This Work,* and *Feedback*.

### *Publisher and Analytics*

*Scholar*'s *Publisher* and *Analytics* tools are for facilitators to manage the course.[4] The former allows the facilitator to share the final version of the case studies with all participants of the course. The latter tool allows the facilitator to track the entire process of the case study. The facilitator can access, for instance: all the different versions that the participant wrote, the version that s/he submitted to the review process, the reviewing criteria, the reviewer's feedback, the final version (after the revision), and the difference between the versions.

Still employing Briana's example, Figure 10 shows an excerpt of what Briana edited. In total, she edited 11.84% of her case study by including information, which can be identified by the green color in Figure 10.

[4] As previously mentioned, this is just a foretaste of the deep analytics that this tool performs. For further information on *Scholar*, please go to http://info.cgscholar.com/.

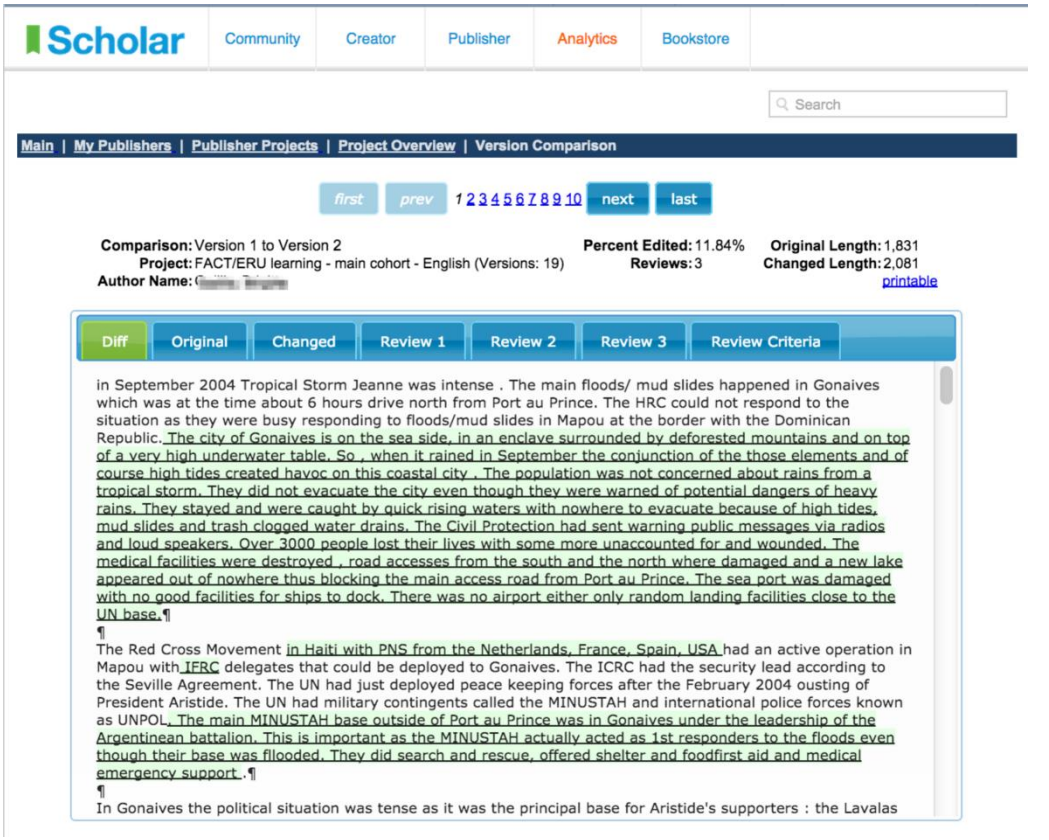


Figure 10: The *Analytics* Space
*Source: Cgscholar, Community: FACT/ERU Learning, Manipulated in Skitch*

## *Scholar*'s Underlying Pedagogy that Grounded the Course

The IFRC advocates the use of Cope and Kalantzis' (2012) *New Learning* conceptual framework for developing actions on the use of technology for humanitarian education (World_Disasters_Report 2013, 26-27). The IFRC's "Learning from Shared Experience in Humanitarian Assistance" e-course here investigated was designed based on this framework. Therefore, this section briefly describes the dimensions of the *New Learning* paradigm, its relation to *Scholar*'s underlying pedagogy, and the place of knowledge in this paradigm teaching-learning process.

Cope and Kalantzis (2013) understand learning as a ubiquitous co-construction of knowledge. The authors propose an agenda with seven practical openings for educational transformation and their affordances (Figure 11): ubiquitous learning, active knowledge making, multimodal meaning, recursive feedback, metacognition, and differentiated learning. According to the authors, these openings are already known in the educational field. Their attempt, however, is to explore ways in which "'social knowledge' technologies might make each of these ideas easier to realize" (Cope and Kalantzis 2013, 354). They coined the term 'social knowledge' to refer to the co-construction of knowledge as opposed to "social media, which implies the transmission of information" (Cope and Kalantzis 2013, 335).


Figure 11: Seven Practical Openings for Educational Transformation
*Source: Cope and Kalantzis (2013, 333), Figure 1. Seven Openings, Seven Affordances.*

The *ubiquitous learning* captures the opportunity to learn anywhere and anytime. Drawing on Cope and Kalantzis (2008), this paradigm breaks the idea of separation between formal and informal learning: learning is considered to be omnipresent. Thus, according to the authors, it is necessary to investigate other forms of knowledge construction that generate the demand for new technologies as opposed to a teaching-learning process that aims at just adapting to the existing technologies. In other words, technology should not be the agent that sets the limits of the teaching-learning process, but this process is the one that should generate demand for new technologies that envisage a new way of thinking and acting in education.

The second opening is active knowledge making. The authors suggest a change in the knowledge architecture transforming the students into producers of knowledge and not just knowledge consumers. This means that the teacher is not the exclusive holder of knowledge. Students work collaboratively in peers providing feedback to each other. In order to avoid the terminology "teacher" and "student" because of the established social relation, *Scholar* platform employs "the terminology of the social relations of knowledge production" (Cope and Kalantzis 2013, 340) having: "contributors" to review and annotate works; "publishers" to co-ordinate groups; and "community" space where works are published and discussed.

Cope and Kalantzis (2013), arguing about the models of knowledge they present in *Scholar*, state that their focus is on knowledge representation rather than in cognition. Moreover, they claim that they are

> harnessing the varied agencies of students by positioning them as responsible knowledge producers. This makes for engagement. It recruits their identities as every work brings the timbre of each student's voice and the weight of their life experience to their representation of knowledge. It prompts critical thinking and creativity. It positions them as 'makers.' (340)

The third opening, multimodal meaning, offers to the students the opportunity to make art in writing. They can insert images, videos and sounds into their productions expanding the way they can represent knowledge.

Recursive feedback, the fourth opening, focuses on formative assessment; it provides the learner with the opportunity of making continuous improvement. It shifts the focus from the learner's final product to the learner's in-progress product. One of the goals is to

> reframe the assessment question from 'how did we do?' to 'how are we doing?' – 'we' being the learner, the class, the teacher. Assessment's primary reference point should not be managerial focus on results (framing our assessment question in the past perfect

> tense), but a formative focus on progress and improvement (framing our assessment question in the present continuous tense). (Cope and Kalantzis 2013, 347)

The fifth opening, collaborative intelligence, focuses on how students and facilitators interact which each other in order to build knowledge. In a traditional face-to-face environment, the facilitator would have to coordinate activities so that students would not all talk at the same time as shown in Figure 12.

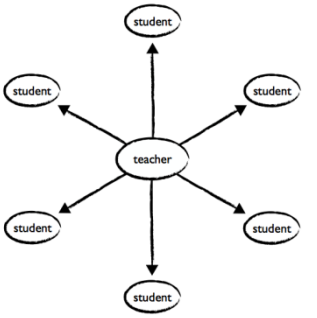


Figure12: Classroom Discourse, Didactic Pedagogy.
*Source: Cope and Kalantzis (2013, 350), Figure 13.*

By contrast, in *Scholar*, everybody can interact at the same time maintaining order and silence and facing the same learning opportunities, as demonstrated in Figure 13. The physical distance among participants in this online environment is irrelevant, as the psychological distance is the same between everybody.

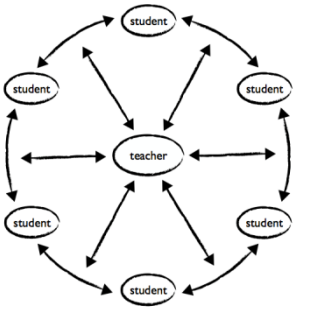


Figure13: Scaffolding Classroom Discourse in *Scholar*.
*Source: Cope and Kalantzis (2013, 350), Figure 13.*

The sixth opening, metacognition, emphasizes a number of features such as rubrics, criteria for peer reviewing, and self-reviewing. Figure 14 demonstrates the developing of metacognition, in the following order: the student produces his/her writing using the embedded rubric, gives feedback to other students using the rubric, revises his/her own writing based on the rubric and on the feedback received from his/her peers, self-reviews his/her work using the feedback and the rubric, and, finally, reads the works that his/her peers produced.

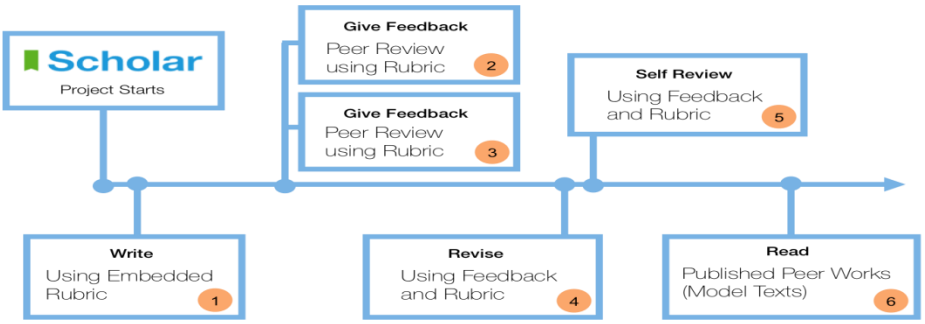


Figure 14: Developing Metacognition in *Scholar*
*Source: Berg and Van Haren 2014*

The last opening, differentiated learning, focuses on learners individual differences. It allows everyone to explore different ways to express knowledge and to do it at their own pace. Consequently, assessment has to take these differences into account. In this view,

> assessment becomes a somewhat different process than in the past, not measuring capacities to remember identical things or correctly deduce the same answers, but measuring higher order comparabilities and equivalences between knowledge artifacts which may in substance be different. In this assessment regime, you don't have to be the same to be equal. And at this point, managing learner differences may become easier than one-size-fits-all teaching. (Cope and Kalantzis 2013, 354)

Attention here is given to the process rather than to the product.

## Method

Bearing in mind the context of this study and its grounded theory, this section describes the participants, the materials, the instruments, and the procedures for data collection and analyses employed to answer the following research questions:

1. How effective was peer feedback for the development of the participants' written case studies?
2. What are participants' perceptions regarding their learning experience with the peer-review activity? How was the experience of providing feedback? How was the experience of receiving feedback? How did these experiences influence the elaboration of the final version of their writing?
3. What are the implications of peer-to-peer learning in online environments for participants professional development?

### *Participants*

Regarding the participants, 267 people with different IFRC affiliations and from 83 countries enrolled in the course (98 female and 169 male). They are aged between 19 and 72 years, with 52.4% of them being between 25 and 54 years old. Of the total numbers of participants, 162 people (56.8%) voluntarily agreed to participate in this research and answered the pre-course survey. They are distributed as follows: 60% are male and 40% female; and 57% fall into the 30–45 age bracket. The vast majority, 125 participants, considered themselves as having considerable experience (56) and/or some experience (69) with e-learning environments, while 48 participants self-rated themselves as having limited experience (33) and/or being new to the

environment (15), as illustrated in Figure 15. From these 162 participants, 39 (24%) took the post-course survey.

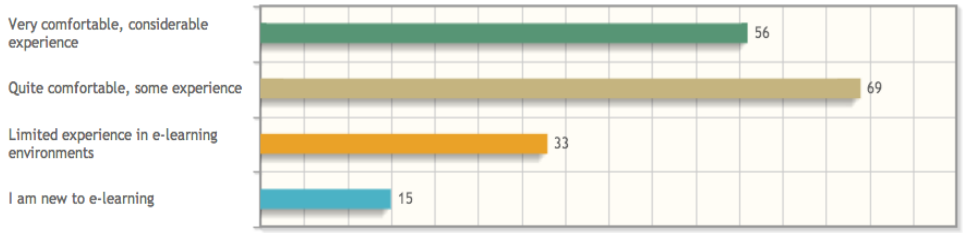


Figure 15: Level of Experience and Comfort with E-Learning Environments
*Source: Survey Results Generated with Cgscholar*

### *Materials and instruments*

Data was gathered from the following materials: 1) comments participants posted in the *Community* space 2) the feedback the reviewers provided on the case studies and 3) the first and second versions of the case study. The feedback and the writing and rewriting processes obeyed three stages:

1. writing a case study according to the established rubrics (see Appendix for rubrics)
2. peer reviewing case studies from three other peers based on the rubrics and on the review criteria
3. self-reviewing their own case study following the same review criteria and rewriting it based on the feedback they received

In addition, data was collected from two online surveys (pre and post-course) employing *Scholar*'s *Survey* tool. The pre-course survey provided information about participants' demographics, and the post-course survey revealed participants' experiences regarding: the course, the learning environment, and, specially, the writing and peer reviewing activity they went through.

### *Data Collection and Analyses*

All procedures for this research were approved by the Institutional Review Board of the University of Illinois at Urbana-Champaign under the process number 13.775. The excerpts, in this article, from participants' comments are taken from the post-course survey, and participants' names have been changed to preserve confidentiality.

Participants took the surveys inside *Scholar*: the pre-course survey during the first week of the course and the post-course survey during the week subsequent to the last week of the course. As for the analysis, *Scholar* already provides output with graphs of the results for the closed questions. For the open-ended questions, I classified the answers into data-driven categories. Likewise, I organized the posts from the *Community* space into categories in order to discover what types of content participants were sharing in this space, i.e., to unveil the reason for which they were employing the *Community* space. Again, participants' names were changed to maintain confidentiality.

Regarding the analysis of the case studies and the feedback, as *Scholar* already compares drafts providing the analytics and highlighting the changes from one draft of the case study to the following draft, I only had to identify whether the participant took the feedback into account and modified the next version by including the suggestions received by the peers. For this type of close analysis, I selected participants according to the following criteria:

1. They should have answered both surveys because it would be important to provide an entire understanding of this participant.
2. They should be part of the ERUs as they were the main target of IFRC's course.

A total of six participants met the criteria.

## Results and Discussion

This section will recap the research questions and present the results and discussion for each.

***RQ1- How effective was peer feedback for the development of the participants' written case studies?***

Regarding the close analysis of the case studies and the influence of the feedback on the reflection and writing processes, it revealed that the feedback received from the peers had a positive impact on these processes. Five from the six participants, whose case studies were analyzed, edited their case study taking into account the feedback from their peers.

Moreover, as recursive feedback enhances learning opportunities, it was already expected that participants would profit from the process of providing feedback to their peers, which is confirmed in the following subsection. However, participants went further; they reported that they learned from the lessons the author of some case studies learned. To exemplify, four reviewers clearly stated in their feedback that they had learned by reading the case study they were reviewing; they had learned from the experience that their peers described they had been through. Important to note that it was four different reviewers and four different case studies. One of these reviewers was Matheus. On his feedback to Raniel, he states that he has learned from Raniel's mistakes in the field. Matheus also left the following message to Raniel: "Your case study was the best I have read. I have learned from the beginning until the end. I like your sense of humor in showing all kind of difficulties and unexpected problems on the field. – I will save a copy of your case study so I can read before any humanitarian job I would be deployed in." Jenifer had similar experience when providing feedback to Breno. She left the following message for him: "WOW!! What an experience. And really significant key issues you had to work through. I learned from your descriptions. Thank you."

***RQ2- What are participants' perceptions regarding their learning experience with the writing/peer-review activity? How was the experience of providing feedback? How was the experience of receiving feedback? How did these experiences influence the elaboration of the final version of their writing?***

The post-course survey revealed that most of the participants enjoyed and profited from the activity of writing/providing feedback/revising/rewriting a case study, as demonstrated in Figures 16, 17, 18 and 19, which reveal participants' level of agreement with the following statements, respectively:

- I enjoyed the experience of writing the case study.
- I enjoyed the experience of providing feedback through peer reviews to my colleagues.
- Providing feedback to my colleagues through peer reviews helped me to think about my own case study.
- The feedback I received from my reviewers were helpful.

All respondents enjoyed the experience of writing the case study, as represented in Figure 16.

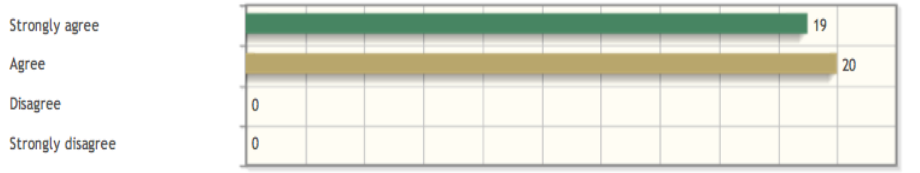


Figure 16: Level of Agreement with the Sentence: "I enjoyed the experience of writing the case study" (Participants in number)
*Source: Survey results generated with CGScholar*

Additionally, in an open-ended question, participants were invited to describe their experience with the case study activity developed in the course. Five main issues emerged from their answers: opportunity for reflection, importance of the rubrics, value of informal knowledge, the uniqueness of this case study activity (writing/peer reviewing/self-revising/rewriting), and the relevance of the reviewing process.

These issues are interrelated. This opportunity for reflection and their perception of the importance of informal knowledge may have been fostered by the rubrics. The rubrics question what and how participants learned, formally and informally, both before and during field operations. Once they were confronted to reflect about their learning regarding emergency operations, they started to value the informal knowledge. Amie, a participant, "discovered that disaster response was not a rocket science. Most participants were not previously trained and yet had informal learning to share." Amanda, another participant, stated that for her it was "challenging sometimes to separate the 'what' I learned from the 'how' I learned—good to use this opportunity to think through what things had been truly learned (as opposed to things I might have noted or identified but not really 'learned')."

Rubrics also allowed participants to organize their thoughts and "to examine the events in an orderly manner" (Alice, a participant), which seems to foster a range of cognitive processes. Noa, participant of the study, for example, "was happy to be able to recollect [his] thoughts, articulate them in an organized manner, identify issues and challenges, and provide a set of recommendations for future course correction." Katrina, another participant, observed that "the break-out of sections and the guiding questions to help in deciding which information to include was incredibly helpful and made it easier than if I were to just outline it on my own," and the rubric "forces you to re-think and structure your knowledge and experience" (Hannah, a participant). These cognitive processes promoted a metacognitive process: participants became aware of what they know and reflected on how they developed this knowledge.

Regarding the feedback experience, from 39 respondents, 37 enjoyed the experience of providing feedback through peer reviews (Figure 17). And 34 respondents, out of 38, agree that providing feedback to their peers through peer reviews helped them to think about their own case study (Figure 18).

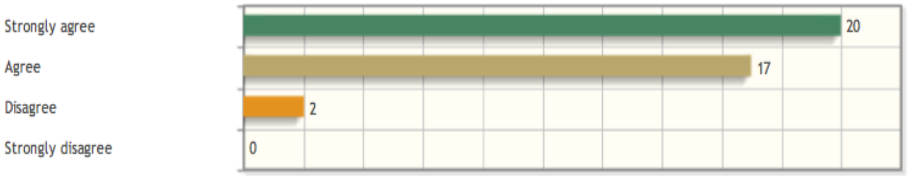


Figure 17: Level of Agreement with the Sentence: "I enjoyed the experience of providing feedback through peer reviews to my colleagues" (Participants in number)
*Source: Survey results generated with CGScholar*

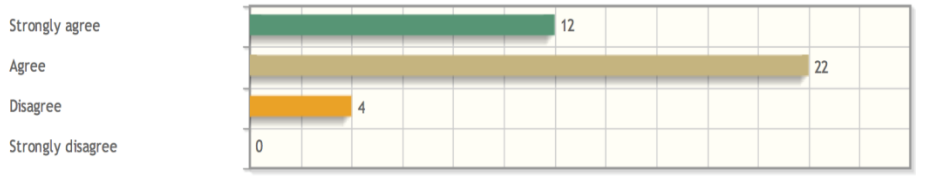


Figure 18: Level of Agreement with the Sentence: "Providing feedback to my colleagues through peer reviews helped me to think about my own case study" (Participants in number)
*Source: Survey results generated with CGScholar*

Participants pointed out the relevance of the reviewing process to expose missing information that is important for the reader. As Eduardo, a participant, stated, the reviewing process "enabled [me] to factor in issues I may have thought were not important. I realized their importance when pointed out by reviewers." Briana, the participant afore mentioned, profited from the process to have a better understanding from the activity; in her words: "I first wrote a draft, reviewed the content and waited for comments. This was when I understood more what had been expected of the case study and how I was to make it clearer."

The feedback process was one of the uniqueness of the case study activity. Samaa, a participant, summarized her experience as wonderful. She stated that "it was a wonderful experience; I never had this type of experience. I have submitted several assignments […] but only this time I had to review [the case studies of others]. It is also a great experience of strong learning." A similar experience was reported by Sue, another participant, referring to self-review: "I have been writing reports and case studies but this was one of it's kind as I had to assess myself and my work, my mistakes and my learning. In general what we do is, we just pick a subject and start writing about that but in this case study I was a subject due to which I discovered a lot of things which were not in consideration before."

As demonstrated in Figure 19, most of the participants (33 from 39) agree or strongly agree that the feedback they received from the reviewers were helpful.

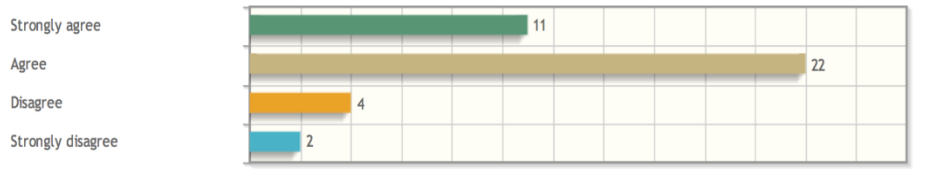


Figure 19: Level of agreement with the sentence: "The feedback I received from my reviewers were helpful" (Participants in number)
*Source: Survey Results Generated with CGScholar*

Furthermore, participants were also encouraged to depict what features of the learning environment were useful when revising their own case study based on the feedback they received. According to the data, having the case study and the rubrics/review spaces side by side is a distinctive feature of *Scholar*. Sue's words could summarize participants' contentment in that: it "was very user friendly. While revising the case study I easily got the reviews feedback and managed to revise my case study in light of those comments."

### *RQ3- What are the implications of peer-to-peer learning in online environments for participants professional development?*

The analysis of the case studies demonstrated that most participants took into consideration the feedback they received from their peers. Additionally, the analysis of participants' perceptions regarding the writing/peer-reviewing/self-reviewing/rewriting activity they engaged in revealed

that most of them considered the feedback they received from their peers helpful to rewrite and improve their case study. They also acknowledged that by providing feedback to their peers they expanded their understanding of their own case study. This means that feedback had a central role to promote reflective thinking.

Therefore, one implication of peer-to-peer learning in this environment for participants' professional development is the possibility to profit from recursive feedback. Recursive feedback, as revealed in the instances so far, was essential to foster participants' metacognition process. Participants learned from: providing feedback to three different peers, receiving feedback from three different peers, self-revising their own case study, and just reading the case study of their peers. Moreover, as the objective was to promote reflective thinking, a distinctive feature of the design of the activity developed in this course is the constructive feedback, which is the feedback provided on a work in progress, on a knowledge that is being built.

Another implication for professional development is providing several opportunities for cognitive development. *Scholar* provides multiple opportunities of social interaction; participants were involved in intense online activity of knowledge sharing, production, and consumption during the course. *Scholar* also allows the development of: 1) activities where all participants can interact openly, simultaneously, and continuously and 2) activities where participants can have a one-to-one interaction in a more private way. This democratic approach respects participants' individual differences, which have an impact on individual learning. Also, this context, created by the environment and activities, produced in participants a sense of belonging to a community of learning, where they can support each other and realize that they are not alone neither in the learning process nor in field operations. Alice, a participant, testified to her experience: "The case study writing experience allowed me to critique the issues encountered and compare to other case studies; thus allowing me to realize my experience was not unique." This feeling of belonging seems to be important in online environments because, according to (Berge 2013), the feeling of isolation is a challenge to be addressed in this scenario.

Regarding the open, simultaneous, and continuous involvement, the enrolled participants posted 695 comments in the *Community* space with the following purposes being identified: sharing managerial information, establishing a knowledge profile, and sharing experiences in specific emergency operations. Employing Aly's words, "The discussion forum was the center of gravity of *Scholar*. It helped to cultivate ideas, experiences and knowledge sharing. It helped me to find resources, generate knowledge and motivated my self-reflection" (Aly, a participant). This same space was also employed to discuss the situation in the Philippines, as the Typhoon Haiyan (Yolanda) happened during this "Learning from Shared Experience in Humanitarian Assistance" course. This sharing allowed participants to "gain new insights from the experience of other colleagues in the field" (Joy, a participant). However, at the same time that most participants (16 out of 20) reported they profited from this interaction, four reported that besides profiting they found it overwhelming due to the large amount of information and the reduced quality of some updates. Important to highlight that being selective is an important skill that has to be developed both to be able to act with precision during emergency operations and for humans' everyday life in this new widely accessible information era. Marcia, a participant, perfectly summarized an appropriate way of approaching loads of information nowadays: "Some topics are more interesting than others, according to who you are, and what you know and need to learn about. Good idea to have the possibility." Having the possibility of consuming the information does not imply the necessity of consuming it. Moreover, enrolled participants shared 53 files such as reports, presentations, and so on, all related to emergency operations.

Concerning the private interaction, 105 participants (39.2%) wrote a case study and read and reviewed three cases from their peers. Sixty-five of them were published, i.e., made available so that everyone in the course could read them. These 65 cases covered 13 different subjects on emergency operations. The three subjects with the highest number of cases were earthquakes (17), floods (14), and conflicts (11).

The importance of all these activities (open or private) lies in the fact that learning doesn't occur in a vacuum; "human learning is social" (Kalantzis and Cope 2012, 206) and it is situationally and culturally inserted. Cognition "happens as much outside of the brain as it does inside. It finds fertile ground in the open potentialities of the brain, and so shapes the brain. The transformative task of education is to support this learning process" (Kalantzis and Cope 2012, 211). And cognition "is conceptualized as originating in and being shaped by engagement in social activities, emerging on the inter-psychological plane and gradually transforming to the intra-psychological plane" (Golombek and Doran 2014, 104). This means that the context is the ground for interaction and, therefore, cognitive development.

This implication leads to a final implication: participants were embedded with agency in this course. The value of participants' informal knowledge and its relation with formal knowledge and, yet, the combination of these two types of knowledge applied to a specific field experience was the central objective of this course. Different from most of the courses, which value what researchers and renowned authors have published on a subject, this course emphasized individual and contextualized field experiences. As noted above, Amie "discovered that disaster response was not a rocket science. Most participants were not previously trained and yet had informal learning to share." This informal knowledge, based on experiences and beliefs, in sociocultural theory, is termed *spontaneous concept* (Vygotsky 1986) or *everyday concept* (Johnson 2009), as opposed to *scientific concept* (Johnson 2009, Vygotsky 1986), which is the knowledge generated by scientific means. A sociocultural perspective on education understands that learning is achieved via the activities and resources that participants engage in together with the purpose of promoting their cognitive development, which is achieved through instruction (Johnson 2009). Instruction "can be characterized as a dialogic mediation process of reconceptualizing and recontextualizing knowledge" (Johnson 2009, 62). In this cyclical process of dialogic mediation, the first step is to become aware of the everyday concept that is being faced in order to introduce the adequate scientific concept. The second step is to engage in meaning activities so that those concepts could be re-conceptualized to solve the problem that is being faced (Johnson 2009, 63). This cyclical process is essential to a professional of emergency operations inasmuch as the disasters are different, in nature and in extent, and they occur in different contexts, where delicate issues, such as culture, have to be wisely considered. Therefore, this exercise of reconceptualizing and recontextualizing knowledge has to be constant for members of emergency response units.

## Final Remarks

The results show that Recursive Feedback had a central role not only on the improvement of participants' writing but also on participants' learning from the lessons their peers reported they had learned in the field. Participants also reported having enjoyed the experience of writing the case study because it provided them opportunity for reflection and revealed them: the importance of the rubrics in this process, the value of informal knowledge, the uniqueness of this case study activity (writing/peer reviewing/self-revising/rewriting), and the relevance of the reviewing process. Most participants considered helpful the feedback they received from their reviewers as well as enjoyed the experience of providing feedback through peer reviews to their peers. The activity of providing feedback to their peers also helped them to think about their own case study.

These findings reveal that *Scholar* is a tool that fosters participants' engagement with the writing, reviewing, and revising processes especially because of its feature of displaying the text side-by-side with the rubrics, review criteria, and feedback. However, as reported by the participants, the rubrics had an important function in this course: leading their reflective thinking.

Therefore, the tool is only effective, as it was in this course, when adequately employed by the designer of the course. The designer should develop rubrics that guide students through a

reflective process that meets the final objective of the course. Further research and additional attention should be given to this subject.

This "Learning from Shared Experience in Humanitarian Assistance" course has reached IFRC's aim established in the "Strategy 2020" plan for this decade of "doing more, doing better and reaching further."[5] This is especially important for this context because "participants have done more, done better and reached further (than transmissive e-learning), as they have not only acquired knowledge but have also become producers of knowledge that describe outcomes (lessons learned) and examine their contexts and mechanisms in emergency operations" (Muck and Sadki 2015).

## Acknowledgements

I would like to express my gratitude to the following individuals and organizations that made this endeavor possible: The International Federal of Red Cross and Red Cross Crescent for having accepted the challenge of conducting a course in a new LMS following the New Learning design, especially Reda Sadki for all learning opportunities and sharing; Professors Dr. William Cope and Dr. Mary Kalantzis for their theoretical and pedagogical support and for the precious comments and suggestions that improved this research and this article; The University of Illinois at Urbana Champaign for hosting this research; particularly Kathleen Santa Ana and Ashley C. Feely, from the Applied Technologies for Learning in the Arts & Sciences, for their technical support in organizing data; The Scholar team for their technical effort in this pilot enterprise; The Ministry of Education of Brazil, through Capes Foundation (Coordination for the Improvement of Higher Education Personnel), for providing financial support for this study.

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[5] Strategy 2020 is IFRC's plan for this decade that "consolidates previous policies and strategies and provides the basis for doing more, doing better and reaching further." http://www.ifrc.org/who-we-are/vision-and-mission/strategy-2020/.

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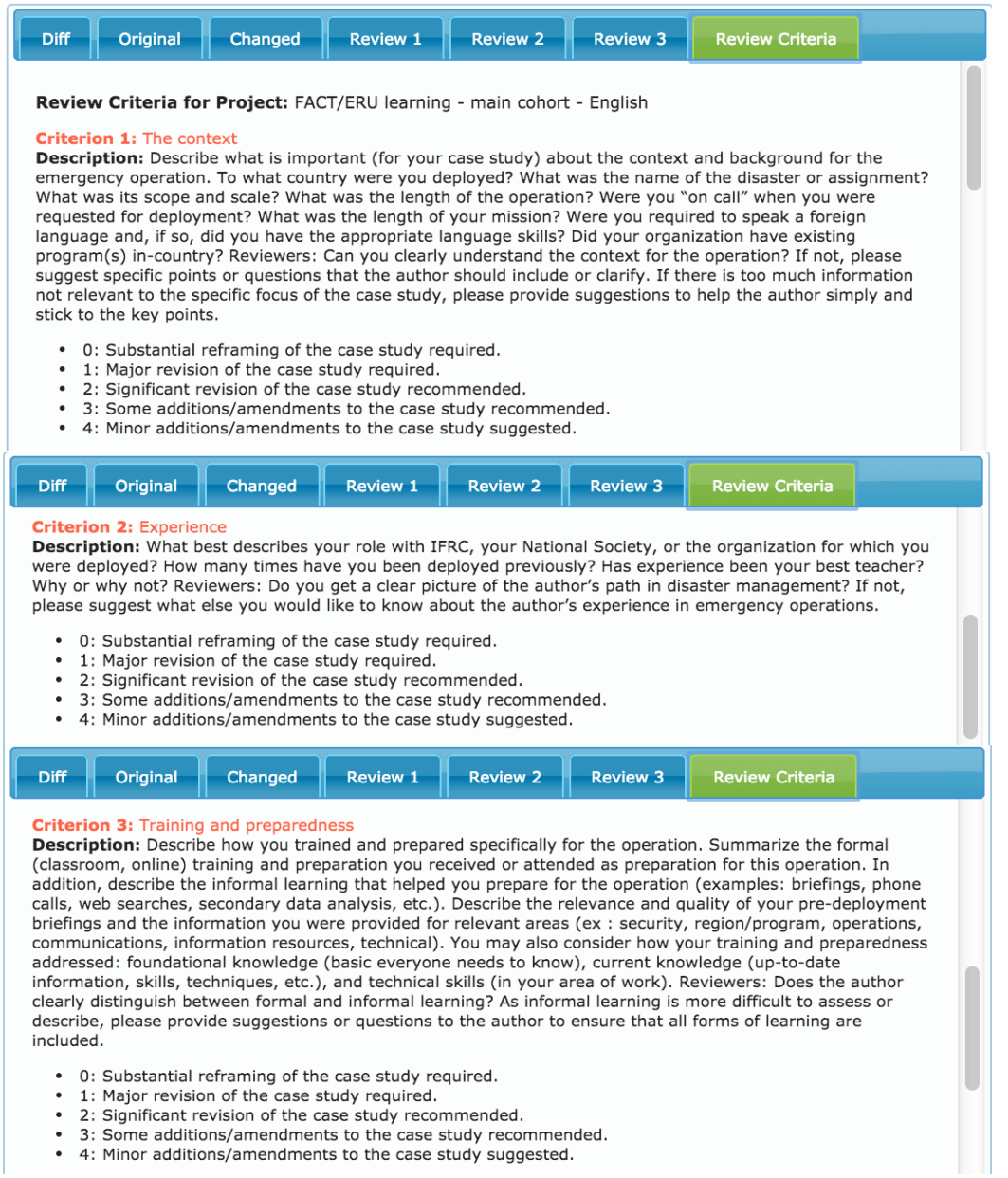
# Appendix: Review Criteria



Diff | Original | Changed | Review 1 | Review 2 | Review 3 | Review Criteria

**Review Criteria for Project:** FACT/ERU learning - main cohort - English

**Criterion 1:** The context
**Description:** Describe what is important (for your case study) about the context and background for the emergency operation. To what country were you deployed? What was the name of the disaster or assignment? What was its scope and scale? What was the length of the operation? Were you "on call" when you were requested for deployment? What was the length of your mission? Were you required to speak a foreign language and, if so, did you have the appropriate language skills? Did your organization have existing program(s) in-country? Reviewers: Can you clearly understand the context for the operation? If not, please suggest specific points or questions that the author should include or clarify. If there is too much information not relevant to the specific focus of the case study, please provide suggestions to help the author simply and stick to the key points.

- 0: Substantial reframing of the case study required.
- 1: Major revision of the case study required.
- 2: Significant revision of the case study recommended.
- 3: Some additions/amendments to the case study recommended.
- 4: Minor additions/amendments to the case study suggested.

Diff | Original | Changed | Review 1 | Review 2 | Review 3 | Review Criteria

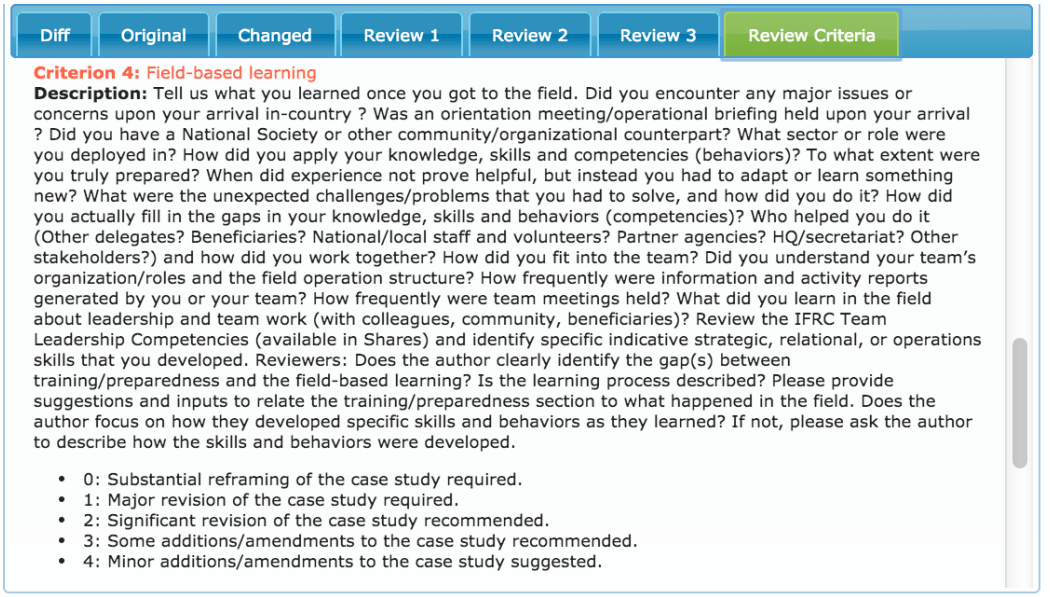
**Criterion 2:** Experience
**Description:** What best describes your role with IFRC, your National Society, or the organization for which you were deployed? How many times have you been deployed previously? Has experience been your best teacher? Why or why not? Reviewers: Do you get a clear picture of the author's path in disaster management? If not, please suggest what else you would like to know about the author's experience in emergency operations.

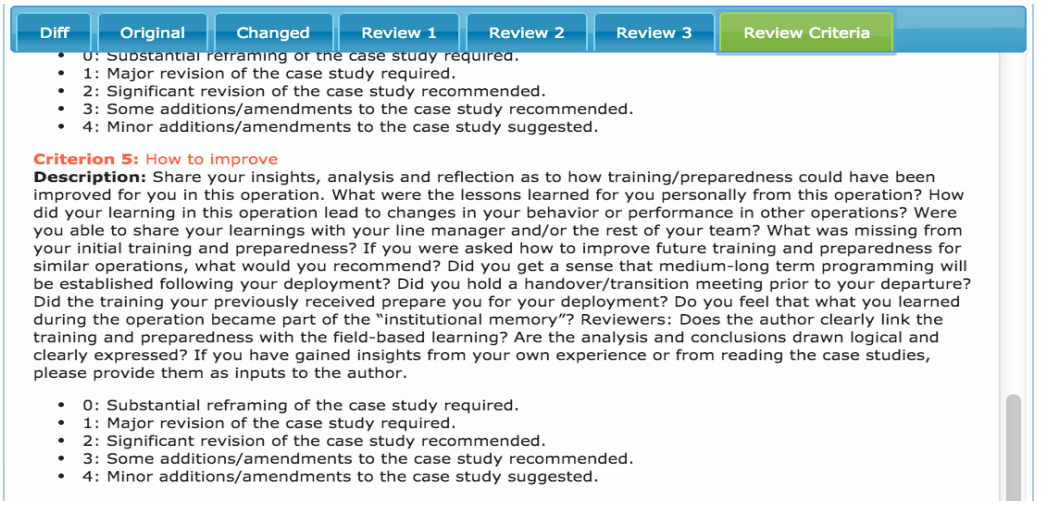
- 0: Substantial reframing of the case study required.
- 1: Major revision of the case study required.
- 2: Significant revision of the case study recommended.
- 3: Some additions/amendments to the case study recommended.
- 4: Minor additions/amendments to the case study suggested.

Diff | Original | Changed | Review 1 | Review 2 | Review 3 | Review Criteria

**Criterion 3:** Training and preparedness
**Description:** Describe how you trained and prepared specifically for the operation. Summarize the formal (classroom, online) training and preparation you received or attended as preparation for this operation. In addition, describe the informal learning that helped you prepare for the operation (examples: briefings, phone calls, web searches, secondary data analysis, etc.). Describe the relevance and quality of your pre-deployment briefings and the information you were provided for relevant areas (ex : security, region/program, operations, communications, information resources, technical). You may also consider how your training and preparedness addressed: foundational knowledge (basic everyone needs to know), current knowledge (up-to-date information, skills, techniques, etc.), and technical skills (in your area of work). Reviewers: Does the author clearly distinguish between formal and informal learning? As informal learning is more difficult to assess or describe, please provide suggestions or questions to the author to ensure that all forms of learning are included.

- 0: Substantial reframing of the case study required.
- 1: Major revision of the case study required.
- 2: Significant revision of the case study recommended.
- 3: Some additions/amendments to the case study recommended.
- 4: Minor additions/amendments to the case study suggested.

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ISSN: 2328-6318

ISBN 000-0-00000-000-0