

# Using an Activity Dashboard to Support Awareness and Reflection in a European Virtual Seminar

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# 2015 Learning Analytics and Knowledge (LAK) Conference

## Practitioner Track Submission Form

**Presentation Title:**

Using an Activity Dashboard to Support Awareness and Reflection in a European Virtual Seminar

**Presenter(s):**

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**Abstract:**

In order to support students in online learning environments to become more aware of and reflect on their activities we have implemented an *Activity Dashboard* within the learning environment of an online course. The *Activity Dashboard* provides feedback, visualised in radar diagrams and bar charts. At the end of the course an evaluation will be run and the different learning groups will be compared with one another. We are also looking into comparing the previous runs where students had no dashboard and hope to see differences in the behaviour of the students that have been supported with the *Activity Dashboard*.

**Keywords:**

Learning analytics, awareness, reflection, visualisation, group dynamics

**Expected Learning Outcomes:**

Awareness of and reflection on own actions

Awareness of and reflection on average group actions

Better engagement with LMS to improve learning experience and group's dynamic

## Full Presentation Description:

Learning Analytics can help learners to better plan and reflect their activities by becoming aware of their actions and learning processes. According to Endsley (1995, 2000) being aware of one's own situation is a three level process and a prerequisite for making decisions and effectively performing tasks: the perception of elements in the current situation is followed by the comprehension of the current situation which then leads to the projection of a future status. Once a learner is aware of his situation, he "reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour" (Schön, 1983) to then engage in a process of continuous learning. Reflection can promote insight about something that previously went unnoticed (Bolton, 2010) and lead to a change in learning behaviour. As Ferguson (2014) explains, LA offers "ways for learners to improve and develop while a course is in progress. These analytics do not focus on things that are easy to measure. Instead, they support the development of crucial skills: reflection, collaboration, linking ideas and writing clearly".

In order to support students in online learning environments to become more aware of and reflect on their activities we have implemented an *Activity Dashboard* within the learning environment of the European Virtual Seminar (EVS), a joint course of European universities that is coordinated by the Open Universiteit Nederland (OUNL). The aim of the EVS course is to foster an international, multidisciplinary dialogue on sustainable development amongst students from all over Europe in the learning environment. The advantage for the course is that the online learning environment makes the communication (amongst the students and with their teachers), independent of time and place.

The *Activity Dashboard* provides several types of feedback, visualised in radar diagrams and bar charts: a cumulative view and a periodic view. The cumulative view of the platform activity (see Figure 1) depicts data from the whole semester (i.e. from the beginning of the course until the current date of access) in two different visualisations: The spider diagram splits the users' activities into several types while the bar chart presents the overall activity. For both visualisations orange is used for the individual user and blue represents the group average. Table 1 shows how the data for the different axes is collected / calculated.

Table 1: Activity Indicators

#	indicator	Calculation
1	Initiative	Number of posts (discussion, blog, files, pages)
2	Responsiveness	Number of comments to posts (discussion, blog, files, pages)
3	Connectedness	Number of contacts created
4	Presence	Online Presence measured through page views
5	Productivity	Sum of initiative + responsiveness divided by presence

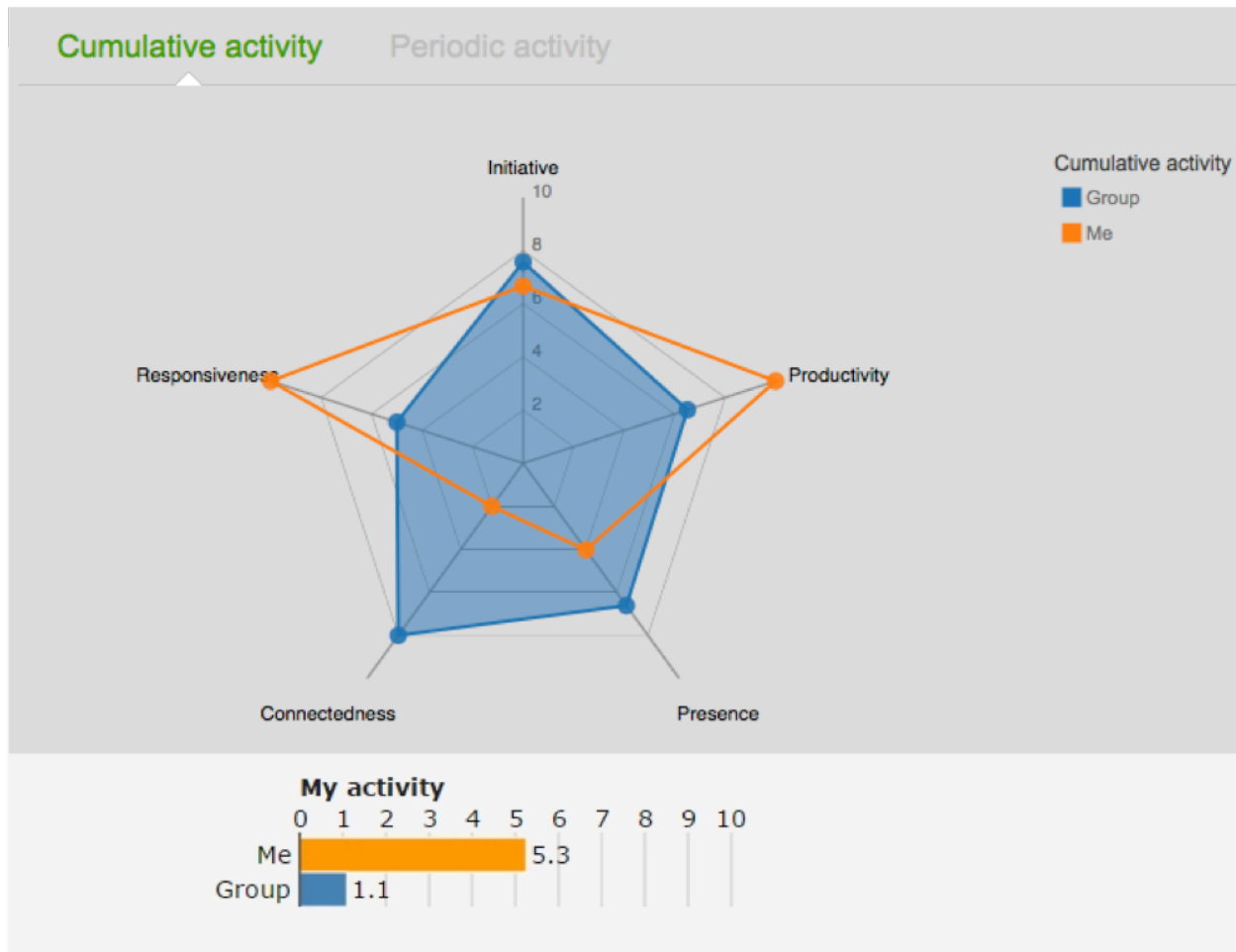


Figure 1: Cumulative view

The values in the diagrams are scaled. The user in the group with the highest number for an indicator gets a value of 10 for that indicator and the other users get values relative to that according to their number. The group value depicted is the group average. Individual users only see their own as well as the group average value. The same applies to the bar chart. The orange bar shows the percentage of the individual's activity compared to that of the rest of the group (blue bar).

The periodic view of the platform activity (see Figure 2) also shows a spider diagram with the five axes of initiative, responsiveness, connectedness, presence and productivity. This time, however, only the data from a specific week of the course is being depicted. The user can choose the weeks from a slider below the diagram. As in the cumulative activity view, orange is used for the individual and blue for the group and the activities are shown in percentages.

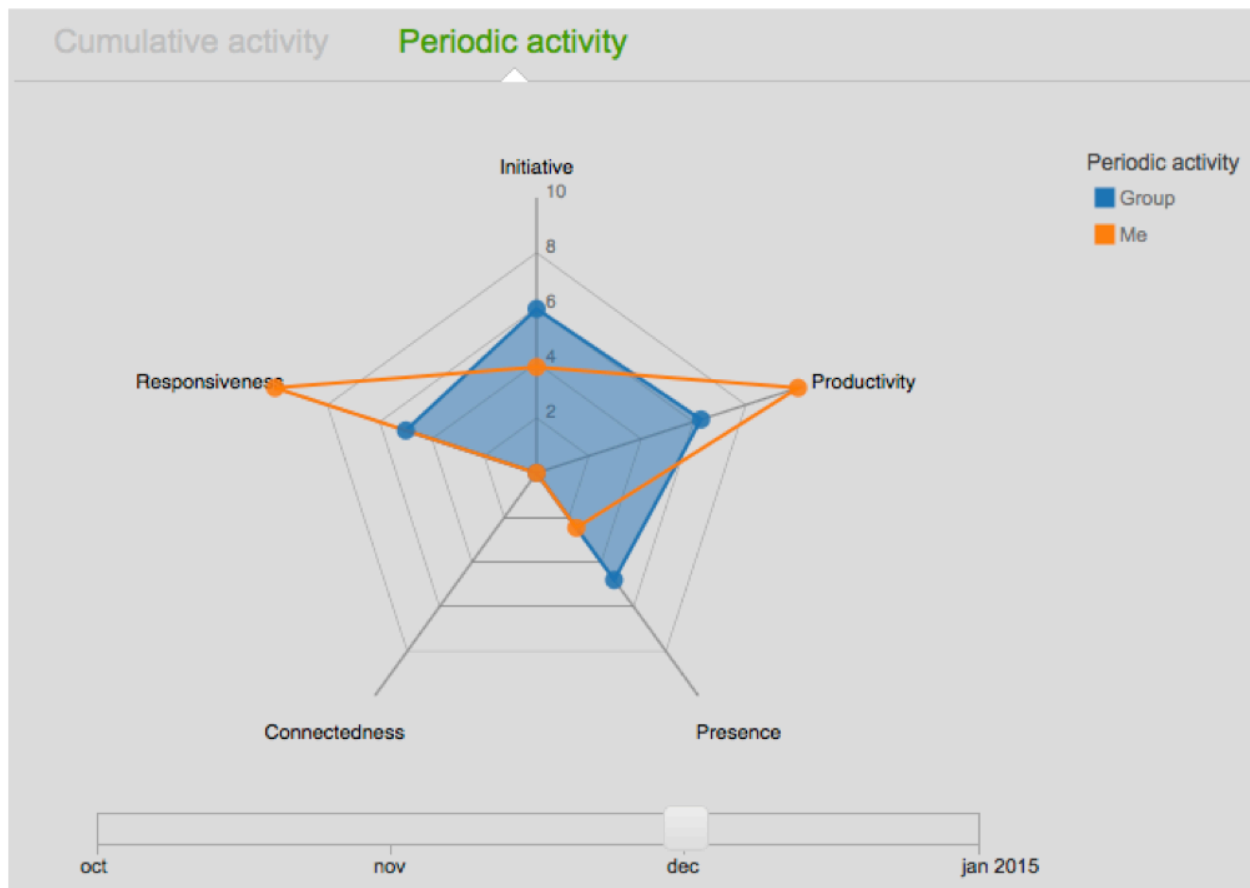


Figure 2: Periodic view

At the end of the semester a SUS evaluation (Brooke, 1996) will be run and the different learning groups will be compared with one another (activities, grades, SUS results). We are also looking into comparing the previous runs of the EVS course (2011, 2012, 2013) where students had no dashboard with the results from this year by translating the activity stream from the online environment into xAPI statements and sending those to a Learning Record Store. We hope to see differences in the behaviour of the students that have been supported with the *Activity Dashboard*.

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