

## ***The Use of Moodle at Cass Business School: A Student Perspective***

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### **Abstract**

The aim of this report is to address current issues that university students experience with the online learning portal Moodle, and recommend changes that will increase the use of the site.

The focus of the research is the perspective of the student, and this has been investigated through an online survey taken by 83 final year students. This cohort was targeted since it is the first peer group that has used Moodle throughout their three years at Cass Business School, after the university moved from the previous online portal. The authors of this report are students at Cass Business School, which makes it the first piece of research of its kind, entirely focused on the student perspective.

The report is structured around the overall themes functionality and design, assessment and feedback, communication, and collaboration, which the survey was based on.

The findings of the survey were generally positive. Students seem to be generally satisfied with their experience of Moodle, however there is room for improvement both in terms of functionality and how well Moodle integrates with other tools, as well as how it is used and promoted by teaching staff. The recommendations made are therefore around integrating other university online tools to make Moodle a 'one-stop-shop', making minor adjustments and additions of Moodle functions to make it more user friendly, and encouraging staff and students to use Moodle to a larger extent in order to reach a critical mass of usage.

### **Keywords**

Moodle, E-Learning, Course Management System, Virtual Learning Environment, Student Perspective

## **Introduction and statement of the research question**

The aim of this study was to identify problems and recommendations to address them from a student perspective. It has therefore been carried out by student researchers, to a large extent independent from university academics. There was however support and extensive collaboration during early-stage hypothesis formulation and identification of potential problems to be researched, in order to align the study and its focus with the university's collective E-learning strategy and research.

The underlying philosophy of this research is that increased knowledge sharing on Moodle will enrich the learning experience at the university. This is underpinned by the five key principles around learning that Moodle is based on (Moodle, 2013):

- We are all potential teachers as well as learners
- We learn well by creating and expressing for others
- We learn a lot by watching others
- Understanding others transform us
- We learn well when the learning environment is flexible and adaptable to suit our needs

To increase the benefits of Moodle to students, this paper aims to answer the question: "How can Cass Business School encourage students to use Moodle to a larger extent?"

## Method

To identify and address experienced problems and hurdles, we have surveyed 83 final year students across all of the business school's undergraduate programs, and the conclusions therefore refer to how the use of Moodle can be holistically improved. The study looks at the functions enabled on Moodle at Cass Business School, in the context of the university's other online tools available to students and our recommendations will therefore vary in terms of applicability to issues experienced at other institutions.

## Literature review

Moodle is defined as a Course Management System (CMS) (also referred to as a Virtual Learning Environment or Learning Management System) and is today one of the most commonly used e-learning platforms worldwide (Moodle, 2013; Harris et al., 2013). Numerous research papers evaluating Moodle do not only define it as the most widely implemented open source solution in higher education but also the most used-friendly, even compared to closed source (Paulsen, 2003; Alexander, 2006; Machado, 2007; Cavus; 2009). Research on the user-friendliness of Moodle has established that Moodle is a well-built CMS, however that there are certain aspects of Moodle, particularly communication, that suffer from discontent from the users (Machado, 2007). Consequently some academics argue that further development of Moodle is necessary (Bremer & Bryant, 2005).

As E-learning system's usability issues are directly related to the relationship/interactions between the end user and system in the user's context, it is crucial to assess the system from a user's perspective in their natural context. This has previously been by looking at Moodle from a student perspective, mostly by conducting questionnaire-based research together with qualitative interviews (Salado Rodríguez et al, 2012; Sánchez-Santamaría et al, 2012; Costa et al., 2012). An interesting study was carried out at the University of Castilla-La Mancha in Spain, which suggested that students were generally satisfied with Moodle (Sánchez-Santamaría et al, 2012), and that it was mainly seen as a resource for accessing and organising materials. Furthermore the paper highlighted that more frequent users reach a higher level of satisfaction than non-frequent, and that Moodle was insufficient in terms of new knowledge creation through interaction between students and teachers. The paper however did not go further into looking for how these issues could be improved.

Academics agree that students find that Moodle has a positive impact on learning progression, and an extensive study with 278 participants at University of Aveiro in Portugal (Costa et al., 2012) further emphasises this. However, Costa et al., imply that the reason to why students predominantly use Moodle as a repository of materials and information, could be a lack of teacher engagement and system knowledge. As a concluding note, Costa et al. argue that for future research, it is fundamental to perform careful analysis of the underlying reasons for the use, or not, of Moodle's tools. Furthermore, they state that the academic community should investigate how these tools ought to be improved to increase the success teaching and learning process through E-learning.

## Results and discussion

### Overview

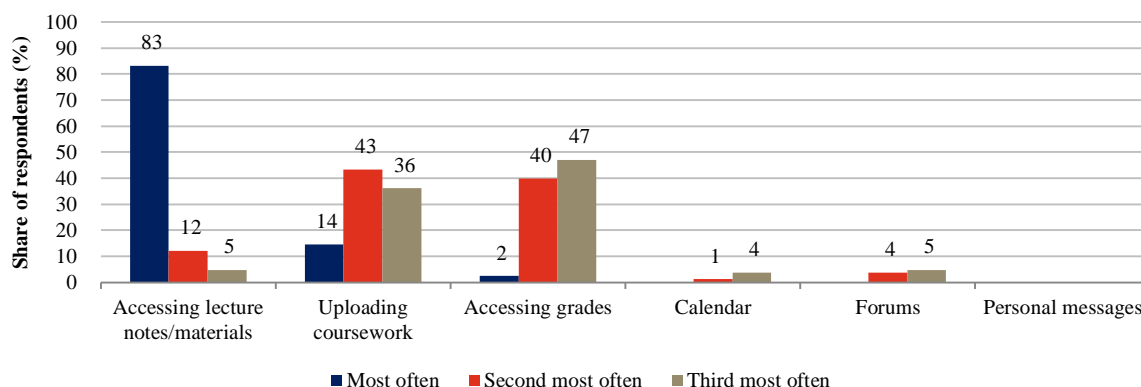
When students are asked about their overall experience of Moodle the results are generally good. 58% of respondents rated their overall experience as "Good" or "Very Good", and daily users of Moodle were even more positive. Only 8% of respondents described their experience as "Poor", and no one rated it "Very Poor".

Even though this exercise unveils numerous areas of improvement and this report outlines a range of recommendations, students are overall satisfied with their experience of Moodle and have found it sufficient for the purposes it has been used for.

The three most commonly used features are by far

- Accessing lecture notes and materials
- Uploading coursework
- Accessing grades

**Chart 1. Which tools on Moodle do you use the most often and how do you rank them?**



This highlights that Moodle is currently not used as a Web 2.0 tool where users interact and create content to the extent it should be. Students predominantly use the non-interactive functions to extract information from the site and upload coursework to a virtual pigeonhole. Moodle's true potential of adding value to the teaching through knowledge sharing is therefore currently untapped, with large gains to be made if the interactive nature of for example Forums can be enhanced and used to a larger extent.

## Functionality and Design

When asked which changes would encourage students to use Moodle to a larger extent, most suggestions score relatively high, and the most important are:

- Integration with timetables
- Better access through mobile devices
- Better group collaboration (document sharing/group discussions/etc.)
- Integration with the university's email system

Students frequently need to access timetables, which are today located on a different site, accessed through Cass Business School's website. As it is such a core online tool, it should be located on Moodle. This could be done in two main ways:

1. A link to the timetable site. This would enable students to get to the right place quickly without navigating through the students' pages on the website.
2. The timetables function is built in as a function in Moodle. It would have the same interface as Moodle, and instead of students selecting course and year, the individual settings would be set as default, as students are recognised when logged on to Moodle.

We recommend that the timetables become a function within Moodle. This would make them more accessible to students, both as they are on the portal students use anyways and as they are personalised by default.

Another issue is compatibility with different devices. Many students have smartphones and access Moodle through these. We believe that the introduction of the mobile application, which is underway, will have a very positive effect on the user experience.

Better group collaboration is highlighted as important to users, and as respondents were asked more questions about this, this is treated separately later in this report.

To integrate Moodle with the university's email system is also seen as important. There is a link to it on the MyMoodle homepage, however it is not very evident to the user, nor is it well integrated. Contact details to professors are clearly stated under each module, but the email address is written out as a link that opens the email client of the computer. If students are to be encouraged to use the university email, it would be preferable to link this through Moodle. Next to contact details there should be an option to "send email" which would open a new email to that member of staff in the university's email system in a new tab. If this were applied to all

users, it would also be easier to contact fellow students through the site, and Moodle would be seen as a gateway to university related communication to a much larger extent than it is today.

Additionally, as the email system is different to Moodle, it adds complexity and is simply seen as yet another online tool that the university provides, out of which Moodle is one in the list, but still not the centrepiece that it should be. Using the same interface would change this, as well as adding a new toolbar to Moodle, which is further discussed below.

We recommend that the university's email system become more integrated with Moodle in terms of interface and linkages.

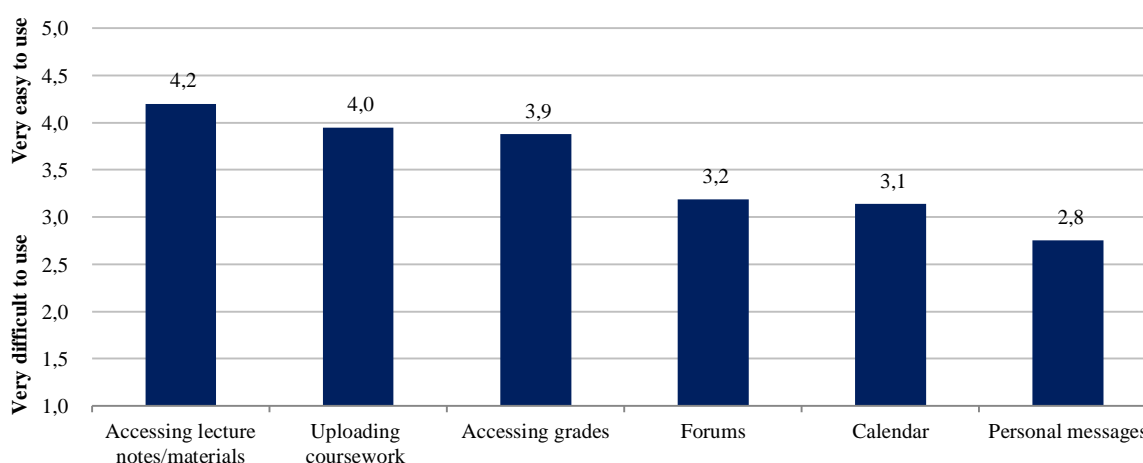
If Moodle is to become a central tool to students, it needs to be the place from which other tools can easily be reached. Today, if students want to access timetables or their university email inbox, they would go through different sites. However, it should be a natural step in the development of Moodle to make it the central hub from which other tools are accessed.

A simple way of enhancing the interface of Moodle would be to create a navigation bar, where there currently is a bar with a trace of the pages the user have gone through to the current page. If this bar were changed to show the university's timetables function and email system, for example, they would be much easier to find and the user would suddenly feel that it is through Moodle the various university tools are most easily accessed. The trace that exists today is useful, and should still remain in some format.

We recommend that a navigation bar be created which holds shortcuts to the university's timetables function and email system.

When students are asked how difficult to use they find the various Moodle functions, the results show a clear distinction between the non-interactive tools and the more interactive one. To access materials, grades, and uploading coursework is described as easy, whilst forums, calendar, and personal messages in particular, score relatively worse. This can be compared to the findings previously discussed that it is these non-interactive tools that are by far most often used. If the tools that are not used as much today were made simpler, they might become much more popular.

**Chart 2. How easy to use do you find the following tools, on a scale of 1 to 5?**



The most common answer to why some tools are difficult to use is that it is hard to locate information on Moodle. One problem is for example that to see if any forums have been updated, the user must go in to each module and enter the forums to get an overview. There is no page that gives an overview of recent activity in all forums. It would be easier for the students to stay up to date if the start page of Moodle had a link or box that would take the user to an aggregated forums page, from which all threads can be accessed. If this page arranged threads after recent activity, it would be much more evident where there are discussions, and it would be of

benefit to more people. Such a forums page should have a drop-down menu to make it easy to filter threads by module. The forums overview page should also have a link on the navigation bar suggested previously.

We recommend that a page be created that aggregates all forums and highlights recent activity.

Another issue that makes information less easy to locate is that there is no proper notifications system. There should be a box at the side of the page or on top by the navigation bar that shows notifications as a number of new events. New events that could be included as default could for example be:

- A new personal message
- Response to post in a forum
- Release of grades
- Etc.

Students should also be able to personalise the notifications and perhaps add reminders of deadlines, tests, or other calendar entries as notifications. Some of the mentioned events, for example response to forum posts, currently send a notification via email. The problem with that is that the email system is not integrated with Moodle, and these email notifications enforce the image of disintegration.

We recommend that a notifications system be introduced. There already exists a notifications function as an add-in to Moodle, thus this is not difficult to adopt.

Another aspect that makes Moodle difficult to use is that it does not connect well with personal devices. This is seen as a much larger problem by those who don't use Moodle on a daily basis compared to those who do. This strengthens our belief that introducing the mobile application which already exists will increase the usage of Moodle.

Additionally, c. 30% of respondents highlight the inconsistency of materials as a hurdle to using Moodle. This is largely the responsibility of the academic staff, who vary widely in to what extent they like to use Moodle. In some modules there is a range of forums and the lecturer is active in responding. In others, forums might not be enabled at all, which means that students cannot know for sure that the possibility to submit module queries exists on Moodle, which might be an influencing factor as to why students submit questions via email or don't bother to look at the forums at all.

If there was a set of forums that each module had as a minimum, students could always rely on them. Not only would it increase the actual number of forums available, it would encourage students to use the existing ones to a larger extent. It might seem easy for students to simply look into each module and see for themselves which forums exist, but in fact, it merely becomes too tedious for students to keep track, and many students therefore don't bother to visit the forums at all.

Similarly, the entries in the calendar are not consistent, for some modules all deadlines are shown, for others nothing at all. This leads to a lack of trust of the calendar, and many students disregard it completely. If there was a set standard regarding what events should be entered in the calendar, and this was followed by all academics, this would significantly improve its value.

We recommend that academic staff are given minimum requirements on what forums and calendar entries to upload, so that the content becomes more consistent and comprehensive.

## **Assessment and Feedback**

When looking at the assessment and feedback aspect, we wanted to understand the students' perception of Moodle as an information channel. The participants were asked questions around the topic of submitting coursework and receiving feedback. As uploading coursework ranks as the second most used tool on Moodle, it is a vital part in the development of Moodle as an efficient communication channel. The outcome generally supports our hypothesis that students are biased towards online interactions as opposed to the more traditional approach with hardcopies and pigeonholes. Out of all the participants, only 6% prefer to use the traditional

hardcopies when submitting their coursework, and only 15% prefer to receive their feedback in hardcopy. Both of these findings strongly suggest that Cass Business School should use Moodle as the only way of assessment and feedback on coursework.

Students' preference of electronic assessment may derive from the flexibility it gives in terms of students' geographical location/commuting, as well as the handwriting of some teachers being non-decipherable. Online assessment and feedback also makes it easier for students when they want to look at previous feedback at a later stage.

Further research was made on the potential use of Moodle for exams, however survey respondents did not support this idea. Results skewed slightly negatively, with 44% stating that they would not like to use Moodle, and 30% choosing "not sure". This result could however be biased as the peer group has never done this, and it could reflect some scepticism towards Moodle, as opposed to the idea of electronic assessment. We would suggest further research before developing Moodle as an alternative for paper-based exams.

Based on the findings we suggest an implementation of mandatory use of Moodle for submission of coursework, as well as teachers' provision of feedback on coursework and class-based tests. This implementation would be in line with what students want, and it makes sense to have a one-way approach to assessment and feedback, instead of using both electronic and hardcopy as is currently done.

## **Communication**

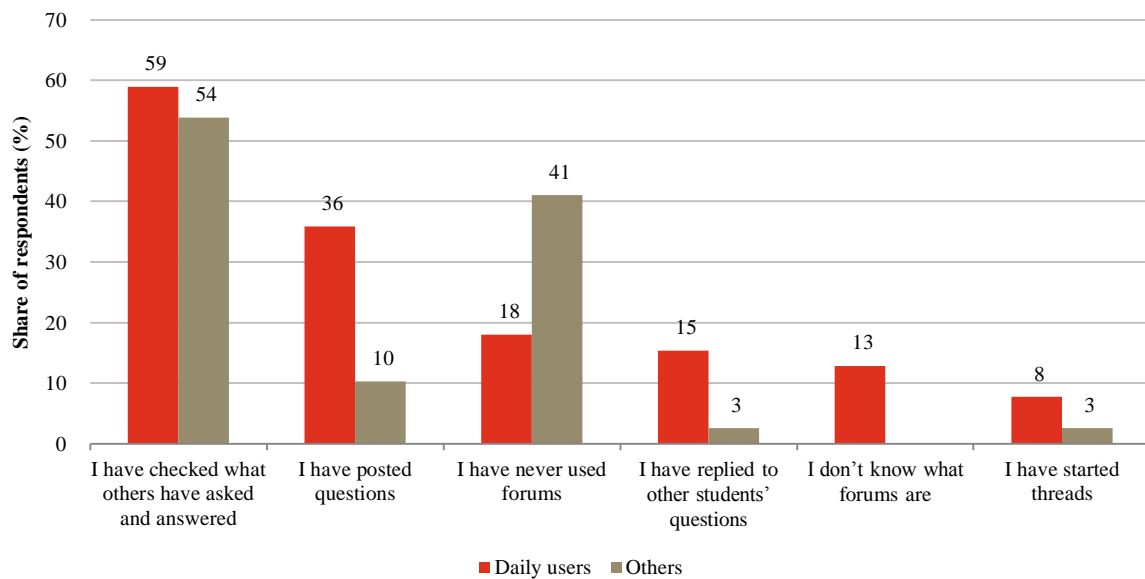
To understand the current situation of Moodle as a communication tool, we asked questions regarding if and how students currently use Moodle as a communication channel. We also looked into how certain factors would increase the students' willingness to embrace forums.

Communication is not the essential part of Moodle, which was shown by the rating it received in the questions of which tools that were most frequently used. Even though some lecturers have encouraged students to use Moodle as the main communication channel, our research indicates that they have not adapted to this. The preferred choices are communication in person and via e-mails; forums are rarely used, and personal messaging on Moodle almost never. If more communication could be channelled through forums it would benefit more students and decrease the workload on academics, as professors currently reply to multiple e-mails answering the same question. Furthermore, the use of forums would also tap into the web 2.0 features of Moodle, and stimulate the knowledge sharing amongst students. Discussions on Moodle could act as a supplementary educational element for the students, where they are able to not only share and gain knowledge, but also apply and reach a deeper understanding of the respective subject.

We recommend that Moodle Forums should be compulsory for non-personal enquiries regarding a module.

As we now know that forums are rarely being used, it is interesting to break down the use of forums into sub-categories, to gain a deeper understanding. A majority of our participants have used forums to inform themselves of what others have posted, which supports the argument that students are interested in the knowledge that forums attracts. Roughly a third of daily Moodle users have posted questions, however of the other users only 10% have. Even though some students currently use the forums to read and post questions and answers, there is a large group that has never used forums, emphasising the hypothesis that it is not promoted enough by staff.

**Chart 3. To what extent have you used Moodle forums?**



The main factors we discovered that would increase students' use of forums are: if more lecturers post answers, if they were enabled in all modules, and if more students posted questions. This means that the main obstacle for the use of forums is that of reaching a critical mass of usage across all modules. The two factors seen as most important to the students are if more lecturers posted answers and if all lecturers enabled them in their modules. A student's unanswered question on a forum has a very negative effect on the other students' view on forums' effectiveness. Similarly, if a student tries to look for a forum in one of his/her module, and there isn't one, that student is a lot less likely to look into forums again.

Additionally, the implementation of the previously recommended notification system would be beneficial to the overview, accessibility and user friendliness of Moodle and the forums, which are also rated as important by the respondents. Making all forums easier to overview could also contribute to raising awareness and usage. A forums overview page where recent activity is shown and forums from all modules are grouped together would make them significantly more accessible.

We recommend that forums should be enabled in all modules and that teacher participation is more strongly encouraged by the university.

## Collaboration

As Moodle is a web 2.0 tool, we wanted to understand how students interact and use Moodle for collaboration during coursework. Co-ordination through communication and wikis are important to students, as the majority of coursework are group oriented. Not surprisingly, Facebook and e-mail are the most frequently used tools to co-ordinate group coursework, closely followed by Google's wiki function 'Drive', and Dropbox's file sharing platform. Only 4% of students use Moodle during group work. This may derive from the issue that students are not able to create custom groups on Moodle where knowledge and file sharing as well as discussion may take place, or due to the absence of wikis. For this particular cohort, wikis have only been used at a few occasions, which is an essential part of group collaboration, as we can see from the usage rate of Google docs.

Our research indicates that there are three main factors why students use other tools than Moodle:

- They are more user friendly
- Students regularly use them for other purposes
- They provide better functionality

Furthermore, circa one out of ten of the participants say that they prefer using platforms that the university does not control, that group spaces are not enabled, and that they want to use Moodle but other group members do not. The two later opinions support the previous recommendations that there should be consistency in the tools enabled in Moodle and that achieving critical mass is key to success.

Regarding Moodle as a collaboration tool there are improvements to be made, however their competition is very fierce. Even if recommendations in this report are implemented and Moodle reaches a level of critical mass, there will undoubtedly exist other online tools that are more frequently used, are more user friendly and provide better functions. Moodle as an open-source platform will have difficulties competing with giants such as Google, thus we do not define exhaustive collaboration through Moodle as an immediate priority. It is rather advisable to enable repositories on Moodle for Dropbox and Google Drive, to create a distinct link between them.

## Conclusion

Our research indicates that the overall experience with Moodle is good, but participants agreed there is potential for improvement. Moodle is generally used to access information, but to a much smaller extent as an interactive platform. A key to improving the benefits Moodle brings to teaching is increasing the overall use of the portal, both by students and teachers, and to make it easier to overview, access, and engage in its content and tools.

The output of this report is a set of recommendations that hopefully will be used as guidelines for Moodle development. If implemented, students' experience and usage of Moodle is likely to increase, and consequently increase the value of Moodle as an essential tool throughout our university education. Our recommendations for Moodle are summarised below.

We recommend that:

- The university's timetables function should become a function within Moodle
- The university's email system should become more integrated with Moodle in terms of interface and linkages
- A navigation bar should be created which holds shortcuts to the university's timetables function and email system
- A page should be created that aggregates all forums and highlights recent activity
- A notifications system should be introduced
- Academic staff should be given minimum requirements on what forums and calendar entries to upload
- Moodle should be the mandatory method for submission and feedback on coursework
- Moodle forums should be compulsory for non-personal enquiries regarding course content
- Forums should be enabled in all modules
- Teacher participation should be more strongly encouraged by the university
- Dropbox and Google Drive repositories should be enabled

## References

- Alexander, B. (2006) "Web 2.0: A new wave of innovation for teaching and learning?", *Educause review*, 41 (2) pp.32.
- Bremer, D. & Bryant, R. (2005) "A Comparison of two learning management Systems: Moodle vs Blackboard", *Proceedings of the 18th Annual Conference of the National Advisory Committee on Computing Qualifications*. NACCQ, New Zealand. Retrieved February, pp. 2008.
- Cavus, N. & Momani, A.M. (2009) "Computer aided evaluation of learning management systems", *Procedia-Social and Behavioral Sciences*, 1 (1) pp.426-430.



- Costa, C., Alvelos, H. & Teixeira, L. (2012) "The Use of Moodle e-learning Platform: A Study in a Portuguese University", *Procedia Technology*, 5 pp.334-343.
- Harris, C.S. & Rausch, D.W. (2013) "Systems in Higher Education", *Learning Management Systems and Instructional Design: Metrics, Standards, and Applications*, pp.248.
- Machado, M. & Tao, E. (2007) "Blackboard vs. Moodle: Comparing user experience of learning management systems", *Frontiers In Education Conference-Global Engineering: Knowledge Without Borders, Opportunities Without Passports, 2007. FIE'07. 37th AnnualIEEE*, , pp. S4J.
- Moodle (2013) "About" [online] Available at: < <https://moodle.org/about/>> [Accessed 24 April 2013].
- Paulsen, M.F. (2003) "Experiences with learning management systems in 113 european institutions", *Educational Technology & Society*, 6 (4) pp.134-148.
- Sánchez-Santamaría, J, Ramos, FJ, Sánchez-Antolín, P. (2012) "The Student's Perspective: Teaching Usages of Moodle at University". ICERI2012 Conference. Madrid, Spain, 19-21 November 2012.
- Salado Rodríguez, LI., Ochoa Landín, RI. & Álvarez Flores, EP. (2012) "Análisis del Impacto Académico de la Implementación de la Plataforma Moodle en el CESUES". *Revista Internacional Administracion & Finanzas*, Volume 5 (2).
- Tullis, T. and Albert, W. (eds.) (2010) *Measuring the user experience: collecting, analyzing, and presenting usability metrics*. Morgan Kaufmann.

## Acknowledgements

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## Appendix 1. Survey questions and results

Number of participants: 83

Question 1. Gender

a) Male:	51%
b) Female:	49%

Question 2. What course are you in?

a) Accounting & Finance:	1%
b) Actuarial Science:	11%
c) Banking & International Finance:	7%
d) Business Studies:	42%
e) Investment & Financial Risk Management:	2%
f) Management:	36%

Question 3. How frequently do you use Moodle?

a) Several times per day:	13%
b) Every day:	35%
c) 1-5 times per week:	46%

- d) Every month: 4%
- e) Less often: 2%
- f) Never: 0%

Question 4. How do you rate your overall experience of Moodle?

- a) Very good: 7%
- b) Good: 51%
- c) Fair: 34%
- d) Poor: 8%
- e) Very poor: 0%

Question 5. Which three functions do you mainly use on Moodle (rank 1 to 3, 1=most often, 2=second most often, 3=third most often)?

Function	Most often	Second most often	Third most often
Uploading coursework:	14%	43%	36%
Calendar:	0%	1%	4%
Forums:	0%	4%	5%
Accessing grades:	2%	40%	47%
Accessing lecture notes/materials:	83%	12%	5%
Personal messages:	0%	0%	0%
Other:	0%	0%	0%

Question 6. How important would the following be for you to use Moodle to a larger extent, on a scale of 1 to 5:

- Integration with Cassmail: 4.02
- Integration with timetables: 4.34
- Integration with Cass events: 3.53
- Better design: 3.59
- Better overview of content: 3.83
- More accessible through mobile devices: 4.23

Better group collaboration:	4.11
Other (please specify):	2.80

Question 7. How easy to use find each of the following tools in Moodle on a scale of 1 to 5:

Uploading coursework:	3.95
Calendar:	3.14
Forums:	3.19
Accessing grades:	3.88
Accessing lecture notes/materials:	4.20
Personal messages:	2.75

Question 8. If you find that some of Moodle's tools are not easy to use; why is that? Select all that apply:

Hard to locate information on Moodle:	53%
Does not connect well with my personal devices:	42%
Lack of instructions on how to use the tools:	22%
Poor consistency of materials/information:	31%
I find all the tools easy to use:	19%
Other (please specify):	6%

Question 9. Moodle has been used enough in my course to support my learning:

Strongly agree:	13%
Agree:	55%
Neither agree nor disagree:	22%
Disagree:	7%
Strongly disagree:	2%

Question 10. How do you prefer to submit your coursework?

Electronically via Moodle:	73%
Hardcopy via Course Office:	6%

I have no preference: 21%

Question 11. I prefer getting feedback on my work through Moodle instead of hard copy:

Strongly agree: 30%

Agree: 32%

Neither agree nor disagree: 23%

Disagree: 9%

Strongly disagree: 6%

Question 12. Would you prefer to use Moodle for carrying out tests and exams instead of writing these by hand?

Yes: 26%

No: 44%

Not sure: 30%

Question 13. To what extent do you communicate with lecturers about module queries using the following (1=Never, 2=Rarely, 3=Occasionally, 4=Often, 5=Always)?

Emails: 3.77

Moodle forums: 1.97

Moodle messaging: 1.43

In person: 3.66

Other: 2.25

Question 14. To what extent have you used the Moodle forums? Please tick all that apply:

I have started threads: 5%

I have posted questions: 23%

I have replied to other students' queries: 9%

I have checked what others have asked and answered: 56%

I have never used forums: 29%

I don't know what forums are: 6%

Question 15. How important would the following be for you to use the forums to a larger extent, on a scale of 1 to 5?

If they were more user friendly:	3.30
If they were enabled in all modules:	3.45
If more students posted questions:	3.76
If more lecturers posted answers:	4.24
If I could be anonymous when posting:	2.97
If all forums were easier to overview/access:	3.54

Question 16. What online tools do you use to coordinate group work? (Please tick all that apply)

Dropbox:	46%
Google Drive:	57%
Facebook:	91%
Email:	86%
Google+:	1%
Adobe Connect:	1%
Other:	0%
Moodle:	4%
I don't use online tools to co-ordinate group work:	0%

Question 17. If you use other tools than Moodle, why is that? (Please tick all that apply)

They are more user friendly:	82%
They provide more/better functions:	71%
I regularly use them, and therefore find it easy to coordinate coursework there as well:	73%
I prefer using platforms the University does not control:	10%
I want to use Moodle, but other team members decide not to:	8%
I want to use Moodle, but lecturers have not enabled group spaces (as far as I am aware):	9%
I only use Moodle:	4%
Other:	3%