

MOODLE IN ENGLISH FOR SPECIFIC PURPOSES AT MYKOLAS ROMERIS UNIVERSITY

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Abstract

Recently, e-learning has become part of subject studies at university level. By now, Moodle has had a user-base in over 4 million courses in 211 countries and 75 languages. Moodle area has been used for a variety of subjects, however there is lack of information on its application for language education.

This study is based on an analysis of students' responses to Moodle tasks in English for Specific Purposes (ESP). Learners' performance in Moodle tasks is studied by comparing two specializations—psychology and social work. This paper examines the application of Moodle tasks for subject revision and testing in ESP classes, students' performance in various assignments and presents some excerpts from student weblogs to demonstrate their feedback on e-learning in the Moodle area. The findings demonstrate that learners prefer Moodle tasks to formal testing, considering them as less stressful. Statistical processing of the data by a means of Software Package for Social Sciences (SPSS) shows that the obtained data is reliable in spite of the limited sample of respondents. Application of Moodle for language testing is recommended due to its advantages over traditional testing.

Keywords: e-learning, Moodle tasks, English for Specific Purposes, formal tests, performance, feedback, statistical processing.

Introduction

E-learning comprises all forms of electronically supported learning and teaching. It essentially refers to using electronic applications and processes such as Web-based learning, computer-based learning, virtual classrooms and digital collaboration. Recently, e-learning has become part of subject studies at a tertiary level.

This paper aims at examining application of Moodle tasks for subject revision in English for Specific Purposes (ESP) and drawing conclusions about its suitability for language learning and testing at the university level.

The aims of the research: to investigate students' attitudes towards e-learning in the Moodle area at a tertiary level for revising ESP vocabulary and self-checking reading comprehension of professional materials.

Research methods used: 1) a specially designed questionnaire to examine students' attitudes to learning in the Moodle area; 2) actual performance in the Moodle assignments; 3) statistical processing of the data by the means of Software Package for Social Sciences (SPSS); 4) the written students' responses intended to find out learners' opinions on Moodle application in ESP.

The respondents in this study are the students of two different specializations, social work and psychology, who study ESP at the Faculty of Social Policy, Mykolas Romeris University, Vilnius, Lithuania.

1. Research Background

The use of open source software to deliver e-learning is becoming increasingly popular, and Moodle (or Modular Object Oriented Dynamic Learning Environment) is one of the most widely used packages. Developed by Martin Dougiamas in Australia in the 1990s as part of his Ph.D. in education, Moodle has gotten stronger ever since. One of the features used in Moodle are quizzes, generally with automatic feedback, which might allow students to consolidate their learning and put it into context after receiving new information. Although the most commonly used form of quiz is multiple choice, other formats are available, including blank filling, short answers, and true/false questions. By 27 December 2010, Moodle had a user-base of 50,474 registered sites with 39,435,379 users in 4,119,170 courses in 211 countries and in more than 75 languages <<http://moodle.org/stats>>. Among the top ten sites, by courses, is the Lithuanian VDU Moodle site. The development of Moodle continues as a free software project supported by a team of programmers and an international user community. Moodle benefits are numerous <http://www.unisa.edu.au/learnonline/staff/moodle_benefits.asp>: 1) A robust and flexible online environment that fosters student learning and facilitates interactions between learners and between learners and teachers. 2) A stable, responsive and seamless online teaching and learning environment that significantly reduces the current operational risks associated with the current in-house developed learning management system. 3) A stimulating and rewarding higher education experience for students which will strengthen the University's capacity to attract and retain future students. 4) Better collaboration and content creation tools for students leading to higher levels of engagement with the online environment and ultimately improved learning outcomes. However, there are some disadvantages such as the lack of flexibility when obtaining data about groups of students or the answers in the quizzes shuffle automatically and cannot currently be switched off. These minor points should be resolved by forthcoming developments. According to some preliminary findings by Lei Chunlin (online), 37.5% of respondents are fully satisfied with Moodle activities, 50% are moderately satisfied and 12.5% are not satisfied. Moreover, 87.5% believe that Moodle is "obviously advantageous" or "advantageous over other e-learning mean;" 87.5% of respondents are either satisfied or fully satisfied with learning needs; 87.5% either agreed or strongly agreed that Moodle is user-friendly and easy to use. However, 25% of respondents reported a few technical problems with Moodle. J. Stanford (2008) claims that there are ten reasons for choosing Moodle: easy to use, access to resources via the web, interaction between learners and tutors, collaboration between learners, independent learning pathways, learner tracking, feedback on tasks, secure environment, automatic backup, detailed grade-book-based on work submitted by students.

There is neither theoretical nor experiential research published on the application of Moodle area in language education, although this area seems to be relevant and promising. The novelty of this problem encouraged me to design e-assignments in ESP and upload them in the Moodle area of Mykolas Romeris University website (Kavaliauskienė, <<https://moodle.mruni.eu>>). As I have already used Moodle activities for two academic years, I would like to share my experiences that might be of interest to other ESP practitioners, particularly the issues of students' perceptions and feedback to e-learning and the prospects of its application at university level.

2. Respondents and Research Methods

The aims of this research are to identify learners' perceptions of subject revision in Moodle area (Kavaliauskienė, <<https://moodle.mruni.eu>>) as a tool for self-checking the acquisition of the ESP subject and vocabulary, analyze students' performance in Moodle tasks and examine Moodle application for learning and testing.

The respondents were the full-time students who study either psychology or social work at university level. There were 45 psychology students and 27 social work students, with 72 participants altogether. The respondents were predominantly females between 19 and 22 years old. Students were spread over two English proficiency levels: intermediate and upper-intermediate according to their score on the Oxford Placement Test at the beginning of the course. The amount of time spent in the second language environment was 3 hours a week for 2 semesters.

The most frequent method for identifying student attitudes is through self-reported data like questionnaires, interviews or diaries. This research used a brief questionnaire administered at the end of the term. The questions of the questionnaire are reproduced in the Appendix as well as in Tables below. The questionnaire consists of 5 statements, to which students responded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Statistical processing of the data by the means of Software Package for Social Sciences (SPSS) included the computations of Cronbach's Al-

pha coefficients of reliability (or consistency of the data) and Spearman correlation coefficients, which indicate the strength of relationships and their statistical significance. Furthermore, students' self-reported feedback to using Moodle can be found in their weblogs which are incorporated into the teacher's website (Kavaliauskienė, <<http://gkaval.home.mruni.eu>>). Moreover, students' performance in Moodle assignments has been presented in the Results section of this article.

3. Findings and Discussion

3.1 Results

Responses of students of psychology and social work have been summarized in Table 1. For clarity, responses are shown on 3-point scale, i.e. by adding up "strongly agree" and "agree" as well as "strongly disagree" and "disagree." The first column displays the statements of the questionnaire, the second, third and fourth columns show positive, neutral and negative responses in percentage, respectively. The data on the left are PS responses and on the right—SW responses.

Table 1. **Positive, neutral and negative responses of psychology (PS) and social work (SW) students.**

| Survey statements | Positive responses, % | | Neutral responses, % | | Negative responses, % | |
|---|-----------------------|----|----------------------|----|-----------------------|----|
| | PS | SW | PS | SW | PS | SW |
| 1. While doing the tests in the Moodle area, I usually check my answers in the course book. | 81 | 86 | 7 | 7 | 12 | 7 |
| 2. Moodle tests are easy to do. | 10 | 7 | 18 | 43 | 72 | 50 |
| 3. Moodle tests are useful for revision of ESP vocabulary or definitions. | 66 | 79 | 16 | 7 | 18 | 14 |
| 4. While writing ESP tests in class, I usually try to retrieve information from my memory. | 84 | 93 | 16 | 7 | - | - |
| 5. Writing ESP tests in class is stressful and not enjoyable. | 63 | 50 | 18 | 14 | 9 | 36 |

Comparing the responses of psychology and social work students, it may be seen that the responses are very similar. The majority of students consult their course-book while doing Moodle exercises (the 1st statement, 81% and 86%, respectively). According to the 2nd statement, the respondents do not feel that Moodle exercises are easy: 10% and 7%, respectively. Majority of students, namely 66% and 79%, respectively, agree that Moodle is useful for revision of ESP vocabulary and definitions (the 3rd statement). In formal ESP tests (the 4th statement) respondents rely on their memory: 84% and 93%, respectively. Moreover, students agree that formal tests are hardly enjoyable (the 5th statement)—63% and 50%, respectively.

3.2 Statistical Processing of Data

The obtained data have been processed statistically using Statistical Package for the Social Sciences (SPSS) in order to determine how comparable and reliable the data are. Internal consistency reliability was estimated by computing Cronbach's Alpha coefficient. According to the theory (Dornyei, 2003), results are reliable if the value of Cronbach's Alpha coefficient is at least 0.60. The findings are presented below in Table 2.

Table 2. **Reliability statistics for psychology (PS) and social work (SW) students.**

| Survey statements | Cronbach's Alpha | |
|---|------------------|------|
| | PS | SW |
| 1. While doing the tests in the Moodle area, I usually check my answers in the course book. | .710 | .778 |
| 2. Moodle tests are easy to do. | .738 | .612 |
| 3. Moodle tests are useful for revision of ESP vocabulary or definitions. | .676 | .820 |
| 4. While writing ESP tests in class, I usually try to retrieve information from my memory. | .769 | .573 |
| 5. Writing ESP tests in class is stressful and not enjoyable. | .961 | .595 |

Table 2 displays two values of Cronbach's Alpha in each row: the first value is computed for the responses of PS students, and the second value—for SW students. It is obvious that within the error limits of .005 the data are consistently reliable in all cases as the values of Cronbach's Alpha exceed 0.6 or very close to it (statements 4 and 5, SW responses).

Computations of non-parametric Spearman correlation coefficients for each survey statement and a set of respondent groups have been conducted by means of SPSS and displayed in Table 3.

Generally Spearman correlation coefficients can range between negative one (-1.00) and positive one (+1.00) (Brown and Rodgers, 2002). Positive coefficients indicate direct relationships, while negative coefficients indicate inverse relationships. The larger the coefficient, positive or negative, the stronger the relationship, so that a correlation that is close to one, either positive or negative, indicates a very strong relationship, while coefficients that are near zero indicate very weak relationships (Lyle F. Bachman, 2005). The value of statistical significance of correlation coefficients is important for the interpretation of the relationship between two samples. In other words, its appropriate value, at least 0.05, means that the relationship is not likely to be due to chance. Larger than 0.05 values of the significance level, even if there is a correlation coefficient close to +1.00 or -1.00, mean that the probability of the significant relationship between two items is smaller than 95% and, therefore, the relationship is likely to be due to chance.

Table 3. Spearman correlation coefficients for the responses of psychology (PS) and social work (SW) students.

| Survey statements | Spearman correlation coefficients for PS | Significance level (2-tailed) for PS | Spearman correlation coefficients for PS vs SW | Significance level (2-tailed) for PS vs SW |
|---|--|---|--|--|
| 1. While doing the tests in the Moodle area, I usually check my answers in the course book. | .677(*) | * Correlation is significant at the 0.05 level | 0.645(*) | * Correlation is significant at the 0.05 level |
| 2. Moodle tests are easy to do. | .671(*) | * Correlation is significant at the 0.05 level | 0.442 | Correlation is significant at the 0.113 level |
| 3. Moodle tests are useful for revision of ESP vocabulary or definitions. | .678(*) | * Correlation is significant at the 0.05 level | 0.430 | Correlation is significant at the 0.088 level |
| 4. While writing ESP tests in class, I usually try to retrieve information from my memory. | .816(**) | ** Correlation is significant at the 0.01 level | 0.458 | Correlation is significant at the 0.1 level |
| 5. Writing ESP tests in class is stressful and not enjoyable. | .949(**) | ** Correlation is significant at the 0.01 level | 0.437 | Correlation is significant at the 0.118 level |

The computation data in Table 3 demonstrates good correlations between the responses of PS groups at the significant levels either 0.05 (the probability 95%) or 0.01 (the probability 99%) with the approximated values of Spearman coefficients around 0.7, 0.8 and 0.9, which means that the relationship is not likely to be due to chance. Thus, in spite of the limited sample of respondents in this study, the results can be applied beyond it.

The comparison of statistical processing of responses for different specializations (PS and SW) demonstrates that the data correlate on the 1st statement only with the value of Spearman coefficient of about 0.65 and the significance level 0.05 (the probability is 95%). However, there are no correlations for other statements. In other words, for the statements from the 2nd to the 5th the values of Spearman coefficients are rather small, around 0.4, and the significance levels are too high, i.e. the probabilities are around 90%. It means that the observed differences between the responses might be due to chance.

3.3 Student Performance in Moodle tasks

Student performance in Moodle exercises during the academic term is presented in the Moodle area <<https://moodle.mruni.eu>> in two ways: a separate grade for each theme/module and, finally, as the term total grade. Each student can see his/her grade as well as electronic feedback of their responses, i.e. whether their answers are right or wrong. In the latter case, the right answer is displayed on the screen in the Moodle area.

As a matter of interest, the final performance of PS and SW students is shown in Charts 1 and 2, respectively. The awarded grade in percentage, or in other words, the percentage of the right answers, is displayed on Y axis, and the number of students—on X axis. Moodle software computes the percentage of the right answers on student answer sheet immediately after the task has been completed. In Chart 1, student performance is grouped around the average grade: at about 70%, 80% and 90% with some fluctuations. It is seen that the lowest grade is 65% and the highest grade is 95%.

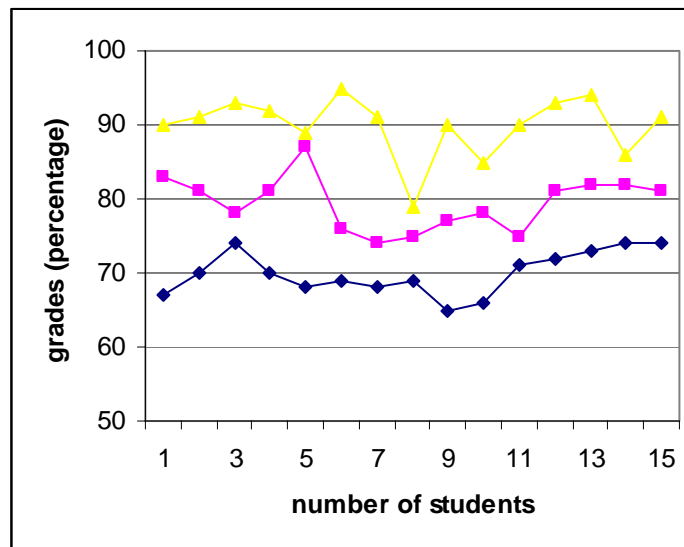


Chart 1. Computed total grades of PS students in Moodle exercises.

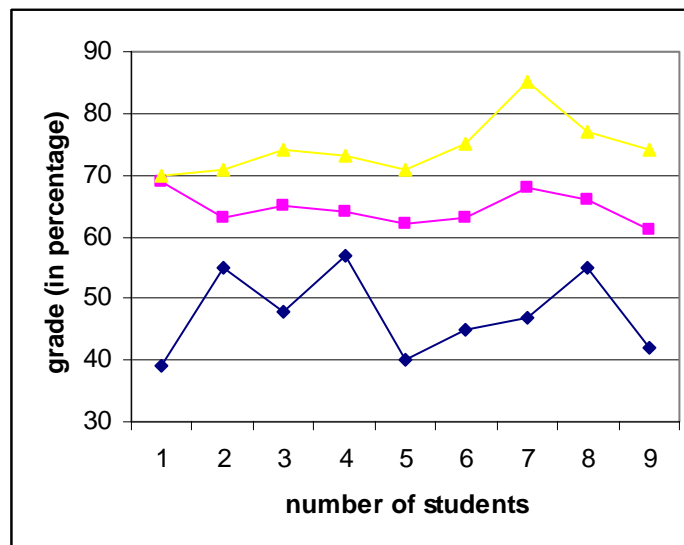


Chart 2. Computed total grades of SW students in Moodle exercises

The grades of SW students are displayed in Chart 2. By comparing Chart 1 and Chart 2, it can be seen that on average, the final grades of PS students are better than the grades of SW students: just a few PS students are awarded grades below 70%, while the grades of half of SW students do not exceed 70%. One reason for the significant difference in performance might be the fact that proficiency of PS students in ESP is higher than proficiency of SW students. Another possible reason might be the different formats of Moodle exercises. Namely, the Moodle tasks for psychology students include such exercises as Multiple Choice, True/False, to which the answers are indisputable, or Gap Filling exercises, which might be disputable if alternative answers are possible. However, tasks for SW

students are quite different: they involve translation of ESP terms from English to Lithuanian and vice versa, which might seem to be easier, but proved to be quite difficult for them. Moreover, students' answers are usually rejected by the Moodle software if they are entered in the wrong order, contain spelling errors or out of the context.

3.4 Student Feedback

At the end of the semester, students were requested to give written feedback on their activities in Moodle area. A few extracts from the students' weblogs are presented below (Kavaliauskienė, <<http://gkaval.home.mruni.eu>>, section "Studentų darbai"). Students' surnames have been withdrawn for the sake of anonymity. It would have been unethical to refer to a particular student without their consent.

Student 1. I like Moodle exercises, however, it's difficult to get an impartial evaluation, because the answers in exercises do not coincide with the selected terms that I looked up in a dictionary.

Student 2. The results of Moodle testing do not reflect my knowledge of ESP. I tend to ignore the right word order or miss the articles, which aren't that important.

Student 3. I like Moodle tasks because it is easy to get a good grade. Unfortunately, the computer evaluation cannot be disputed online—I had to talk it over with my teacher.

Student 4. I do not consider Moodle self-checking favorably because of its faulty evaluation. Either misspelt word or wrong word order reduced my grade.

Student 5. Moodle tasks are not difficult. However, I found some of them tricky because of my inability to select the right answer.

Student 6. Moodle tests are very useful for revising the ESP vocabulary. As I was often unable to enter the right terms, it might be better if a few possible answers were included in the computer software.

Student 7. Moodle area is helpful for checking my knowledge of the subject. I like the tasks and I am well satisfied with my performance.

Student 8. I like Moodle tests because they allowed me to revise vocabulary and to see my results immediately. They are useful in preparation for formal testing in class.

In general, all students expressed their positive attitudes to doing Moodle tasks. Some students attributed failure to complete assignments to inability to select the right term. Most students claim they enter several terms as there are a few meanings of the same expression or word in both languages, but the Moodle software accepts only the first entered item and rejects other terms. This problem should be solved in the future by the technical experts who administer Moodle software in the University website. Moreover, as it has already been mentioned, misspelled entries have also been rejected by the software, which caused students' dissatisfaction.

It should be emphasized that, first, students are pleased to have their work graded immediately; second, they can do the task repeatedly and not only improve their performance but also revise terminology and contents of professional modules; students prefer Moodle to traditional testing because it is devoid of stress.

Summing up the findings, it is obvious that the respondents are positive about e-learning in the Moodle area. Some dissatisfaction of students is caused by the imperfections of Moodle software which fails to account for several entries to the same question. Total grades in Moodle tasks are better of psychology students than social work students. Psychology students tend to be more stressed by formal testing of the ESP vocabulary than social work students.

Conclusions

This research identified learner perceptions of subject revision in the Moodle area <<https://moodle.mruni.eu>> as a tool for self-checking the knowledge of ESP vocabulary of the subject as well as compared Moodle activities with formal testing of the ESP vocabulary in class.

In general, respondents are satisfied with their activities in the Moodle area and basically their attitudes are positive. Psychology students performed better than social work students, which is possibly due to their higher level of proficiency in English.

Statistical processing of students' responses has shown that the values of Cronbach's Alpha coefficients have been at least 0.60 or higher, which means that obtained data are reliable. The research into correlation of responses has shown that non-parametric Spearman coefficients for psychology groups vary between 0.7 and 0.9 at the significance levels either 0.05 or 0.01. It means that the relationship is significant and not likely to be due to chance. The comparison of psychology and

social work students' responses demonstrates that the data correlate on the 1st statement only with the value of Spearman coefficient of about 0.65 and the significance level 0.05. There are no correlations between the responses to the statements 2 to 5. It means that the observed differences between the responses might be due to chance. In spite of the limited sample of the respondents, the obtained findings can be extended beyond this sample.

As e-learning has become mandatory at university level, application of learning and testing English for Specific Purposes in the Moodle area is to be recommended. First, it is less stressful for students. Second, it helps students to revise subject material and professional terms in a foreign language at their own pace and at the convenient time. Third, performance is electronically evaluated as soon as the assignment has been completed. Finally, students can improve their performance by exercising tasks repeatedly, which is impossible in traditional classroom testing.

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Appendix. Questionnaire on perceptions.

1) While doing the tests in the Moodle area, I usually check my answers in the course book or dictionary.

A) Strongly disagree B) Disagree C) Not sure D) Agree E) Strongly agree

2) Moodle tests are easy to do.

A) Strongly disagree B) Disagree C) Not sure D) Agree E) Strongly agree

3) Moodle tests are useful for revision of ESP vocabulary or definitions.

A) Strongly disagree B) Disagree C) Not sure D) Agree E) Strongly agree

4) While writing ESP tests in class, I usually try to retrieve information from my memory.

A) Strongly disagree B) Disagree C) Not sure D) Agree E) Strongly agree

5) Writing ESP tests in class is stressful and not enjoyable.

A) Strongly disagree B) Disagree C) Not sure D) Agree E) Strongly agree

SPECIALYBĖS ANGLŲ KALBA MOODLE APLINKOJE MYKOLO ROMERIO UNIVERSITETE**Doc. dr. Galina Kavaliauskienė**

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Santrauka

Straipsnyje nagrinėjama, kaip taikyti *Moodle* aplinką mokant(is) specialybės anglų kalbos. Tyrimai remiasi Mykolo Romerio universiteto Socialinės politikos fakulteto dviejų skirtingų specializacijų studentų apklausos duomenimis. Gauti rezultatai analizuojami, taikant statistikos metodus: naudojamas SPSS (angl. – Software Package for Social Sciences) programinės įrangos paketas rezultatų patikimumo Cronbacho koeficientams bei Spearmano koreliacijos koeficientams skaičiuoti. Nustatyta, kad psichologijos specializacijos studentų atsakymams Cronbacho koeficientų vertės yra tarp 0,7 ir 0,9, esant patikimumo lygiui 0,05 (tikimybė 95 proc.) arba 0,01 (tikimybė 99 proc.). Tokie rezultatai liudija, kad ryšys nėra atsitiktinis ir galioja ne tik mažos imties atvejais. Tačiau nėra pastebėtos koreliacijos tarp psichologijos ir socialinio darbo studentų atsakymų, išskyrus pirmąjį anketos teiginį. Studentų požiūris į elektroninį mokymą(si), taikant *Moodle* aplinką, yra teigiamas. Privalumai, dirbant *Moodle* aplinkoje: nesukeliamas stresas, padedama studentams kartoti ir tikrinti specialybės kalbos terminologiją, gauti rezultatai įvertinami iš karto, atlikus užduotį, bei suteikiama galimybė pagerinti rezultatą, atlikus užduotį pakartotinai. Kai kurių problemų, interpretuojant studentų darbo rezultatus, kelia *Moodle* programinės įrangos netobulumai, kurie taisytini kompiuterijos specialistų. Straipsnyje pateikiami studentų rezultatai, atliekant *Moodle* užduotis, bei jų interpretacija. Rekomenduojama taikyti *Moodle* aplinką, mokant ir testuojant specialybės užsienio kalbą.

Reikšminiai žodžiai: specialybės anglų kalba, elektroninis mokymas(is), *Moodle* aplinka, statistikos skaičiavimai, testavimas, grįžtamasis ryšys.