

E-LEARNING IN INTERNATIONAL SETTINGS: INSTRUCTOR SUPPORT AS SUCCESS FACTOR

THOMAS RICHTER

TELIT at University of Duisburg-Essen, Thomas.richter@icb.uni-due.de

Abstract: Many e-Learning-based offers, such as international programs and MOOCs have long since overcome the concept of national education and are designed to attract learners distributed throughout the world. In order to cope with the differences between learners, related offers often include opportunities to support the particular learning styles and learning pace beyond the advantages, which the technology itself naturally provides. Examples are the individual configuration of the learning platform and display of contents and the provision of stylistically diverse and supplementary learning material. Such measures are relatively easy to implement and once established, do not generate further expenses. Just, is it appropriate to lay the full responsibility for designing a comfortable (and supportive) learning environment into the hands of the learners and do they get along with such a responsibility? We asked university students from three continents regarding their expectations towards instructor-support and found major differences.

Keywords: E-Learning, Instructor Support, Learner's Preferences, Educational Culture, Learning Culture Survey

1. INTRODUCTION

With the Internet as a central platform for education, learners from all over the world can easily be connected in the context of technology-enhanced learning (e-Learning). What on the one hand is a great opportunity, e.g., to foster international exchange and reaching a larger amount of customers, must be understood as a tough challenge on the other hand: Related Internet-based courses do not only need to be comprehensible and manageable for the learners from the different national contexts, but should also meet their culture-specific understanding of what actually is motivating. Motivation generally is a critical condition for productive and successful learning [1]. In the context of technology-enhanced learning, which widely bases on the concept of self-learning, motivation is the most important factor influencing the learners' success [2]: In the traditional face-to-face education, decreasing motivation can be recognized through observation and thus, appropriate interventions can be implemented at an early stage [3]. In scenarios of technology enhanced learning, in contrast, timely recognizing decreasing motivation is extremely difficult because the visual indicators, i.e. mimics and gestures of the learners, are completely missing [4]. Thus, interventions can only follow if the learners explicitly communicate their satisfaction and/or frustration [5]. Depending on their cultural background, learners may rather endure unmet expectations or silently drop out than stating critique or communicating their growing frustration: Particularly in Asian contexts, direct criticism towards instructors or program is perceived as an expression of lacking respect or at least as impoliteness [6]. For learners from such cultural contexts, an open confession of unmet demands would mean an unacceptable violation of fundamental rules of social behaviour.

Nilsen's [7] central research question inspired our investigation: 'How can lecturers maintain student's initially high motivation?' Any proactive efforts to increase the learners' motivation during a running program through the providers of educational programs surely are reason-

able and helpful. However, due to the special conditions in the context of technology-enhanced learning the learners' initial motivation firstly should be preserved for as long as possible or at least not 'destroyed' [8] by confronting them with unnecessary conflicts. While there is a high number of publications available, which theoretically and experimentally investigate what learners understand as being motivating and which activities raise motivation ([9],[10]), research of influences that lead to decreasing motivation is rare. Nilsen [11] found that the main reasons for students' dropping out were ineffective study strategies, a mismatch between expectations and content in the study-program and a lack of motivation. According to Bekele [12], support services through instructors always play a central role for the level of satisfaction of students in Higher Education (HE).

In his experiments, Nilsen [7] implemented practical work elements and social activities in order to maintain the initial motivation by putting the program into a practical context and fostering social relationships between learners and educators. With such activities, he was able to significantly lower the dropout rate; he neither focused on finding out which (missing) activities might threaten the learners' motivation. Related investigations, however, would be very problematic from an ethical perspective if conducted in the context of experiments. An alternative approach would be the implementation of a questionnaire in which issues are focused that already are known as threatening (or expectedly supportive). From Bekele's [12] results, we assumed that the students' motivation could directly be threatened by not meeting substantial expectations towards instructor-support. In accordance, Paechter et al. [13] found that 'students experience the instructor's support and expertise as especially important for the acquisition of knowledge, skills, and competences, and for course satisfaction'.

For our study, we focused on the learners' perception of relevance towards particular services that can be provided by the instructor during the educational process. Since it would be very comfortable to transfer related insights to

the national level, one central question for our research was if the learners' expectations regarding the type and intensity of instructor-based services are generalizable at all, and on which level. Cronbach and Snow [14] claim that the learners' understanding of aspects that are motivating for them differs individually. In contrast, Bye et al. [15] found that students had related expectations in common; but those differed with increasing age. Both studies were each limited to a single national context and did not take national differences into consideration.

We started with the basic assumption that learners from different national contexts generally have different educational experiences. We expected that the learners would have such experiences in common because the institutions they visited followed the national demands and regulations regarding curricula and (as far as designed) educational conditions and style. However, according to Garfield [16], '*no [teaching] method is perfect and will work with all students*'. Given our assumption were right, the students also should have specific expectations in common, how education should take place. As expectations, we understand '*the standards against which a vendor's or service provider's performance should be judged*' [17]. Meeting such expectations is relevant to achieve a high level of student satisfaction [18]; a high level of satisfaction is crucial to keep the students' motivation up [19].

We wanted to achieve a better understanding regarding context-specific differences of such expectations. We chose to investigate university students in the context of face-to-face education. We assumed that a subsequent transfer of the results from the context of traditional face-to-face education to the context of technology-enhanced learning would be legitimate due to two reasons: First, the general model that originally led to the design of technology-enhanced learning based on our experiences which we earlier made in the context of traditional face-to-face education. Second, limiting our investigation on students who already achieved practical experiences within environments of technology-enhanced learning or currently are in the process of making such experiences rather would reflect their practical experiences and assumed knowledge of opportunities and limitations than providing a picture of their actual needs. It generally is very difficult to decide if the responses from a questionnaire reflect the actual situation of the participants within the investigated context or their wishes regarding how it should be. When dealing with fully unknown contexts, this differentiation is impossible without implementing a lot of additional questions; such would have lowered the general acceptance of the questionnaire and thus, massively decreased the response-rate. By focusing on HE students in traditional learning contexts and without regard of their already made experiences with technology-enhanced learning, we considered the respondents of our questionnaire as potential (future) customers for whom related applications are to be developed.

We comparatively investigated the learners' understanding of tasks and responsibilities of lecturers/educators in the context of HE in Ghana, Germany, and South Korea.

2. OPERATIONALIZATION

In order to get an impression of services students might expect their instructors to provide, we conducted a small qualitative survey: We informally interviewed students in Seoul, South Korea on their opinion regarding the tasks and responsibilities of a lecturer. Besides lecturing, their expectations were related to technical support, preselecting contents, support of the organization of learning processes, individual support regarding information research (e.g., by providing books/papers or at least comprehensive literature lists), and evaluation (results, knowledge status, and potential for further development). Their claims for particular instructor services fully are backed up in the common literature [20] [21] [22]. The following five items derived for our questionnaire:

What do you consider being the lecturer's/professor's tasks and responsibilities in the learning process? A lecturer's/professor's tasks and responsibilities base on ...

1. *giving support according to technical matters, which are relevant for the learning process (e.g. in case of computer problems or installation of software).*
2. *providing well-selected contents and contextual information.*
3. *giving support according to organizing the learning process.*
4. *assisting within the individual student's process of finding information.*
5. *giving feedback on my knowledge base, working results and general professional development.*

First, we wanted to know, if the demands generally differ between the investigated contexts and if the results can be generalized on national level. Second, if a transfer to the national level would be possible, we wanted to understand how different the extent of the claims could be between national contexts. Knowing about such differences would help us decide which level of learner-support would be necessary if students from related contexts were involved within a program; be it in the context of international e-Learning or, e.g., within scenarios of urban education or student exchange. We think that understanding such national differences is crucial in order to install preventive activities that can avoid potential conflicts in whatever kind of intercultural learning scenarios. Related preventive activities can consist of simply informing learners regarding the differences between their actual (nationally biased) experiences and the context in which a particular educational scenario takes place (as preparatory activity). They also can include the implementation of culturally adapted programs (individualized platforms, contents, and/or didactics), in which learners can freely choose the course design, which they consider best fitting.

3. STUDY SETTING

In the first implementation phase of our Learning Culture Survey, we limited our questionnaire to German and South Korean university students. We provided the questionnaire in each national language. In Germany, we conducted a vertical design (in-depth), addressing a high number of students from a low number of universities: We invited the entirety of students from three German universities via the local e-mail distribution systems and

received a total of 1817 fully completed questionnaires. General criteria for the acceptance of responses as valid were the student status, nationality and completeness. For the South Korean context, we chose a horizontal design (broad), which meant involving a high number of universities with each a low number of students: We eventually received 286 fully completed questionnaires from 39 universities. We chose the in-depth design for the German universities because we had the chance to address all students of these universities online and because in terms of transferability, we needed to contrast the responses not just on university but also on faculty-level. Thus, we contrasted the German results on faculty and on university level. We generally chose the countries Germany and South Korea for the initial investigation because both countries are culturally more or less homogeneous [23], have a similar technological infrastructure, living standard, a single national language (see limitations), and anyways, are culturally very diverse to each other. In contrast to the German online survey, where the university administrations directly supported us by forwarding our invitations to the local students, we had to implement the survey in its paper form in South Korea due to legal reasons (according to the regulations of the Korean universities, sending mass e-mails via e-mail distribution systems was impossible). As a consequence of the different surveying methods, the response-rates varied; while in Germany, in the online survey, we received fully completed questionnaires from about 4% of the actually addressed students, the non-response rate from the South Korean students, who all were invited in face-to-face situations, was about 50%. In order to reach students from a high number of South-Korean universities, we conducted our paper-based Korean investigation in the subway in Seoul, including all subway lines and following a random path algorithm for the choice of participants.

Later on, with the support of an exchange student, we were able to extend our survey to students at the university of Accra, in Ghana. The questionnaire, also here, was provided in the country's national language (for Ghana, English) and carried out in paper form. The selection process in the case of the Ghanaian sample did not follow a defined algorithm. Instead, students were "randomly" chosen from the campus. We received a total number of 457 fully completed questionnaires. Ghana has a very limited number of general universities (without field specifications, such as the university for telecommunication) and the university of Accra is said to be the most prominent one in the country. Considering the students' origins, the sample included students from all over the country. Thus, even though Ghana consists of a multitude of different regional and distributed ethnic groups, we think our sample provides a good impression on what could be expected if the survey would be conducted on a larger and more regionally focused scale. Further on, after investigating randomly chosen subsets of the full samples from the German context, we found that a larger sample size mainly influences the answer-spectrum. The general answer-patterns (tendencies) actually remained very similar: For this particular investigation, we randomly chose 100 response-clusters with each a size of 30 sample elements of the German overall sample. In 2% of the results, we found accumulations of extreme values, which obviously re-

flected impossible answer-constellations. For the other randomly built response-clusters, the data per item reflected the patterns of the full sample. In order to cope with possible misinterpretations of extreme values due to differently sized samples, the responses from the originally 4-point Likert scale were binarized into positive (answer values 1 & 2) and negative (answer values 3 & 4) responses and calculated as percentage values.

4. STUDY RESULTS AND FINDINGS

In the following Table 1, the "Item #" refers to the initial numbers at each item of the above listed statements. For each country, Ghana, Germany, and South Korea, the mean values (m) and the results in percentage of positive answers (% p.) are displayed per item.

Table 1: Tasks and responsibilities of a lecturer

item #	Ghana		Germany		Korea	
	m.	% (p.)	m.	% (p.)	m.	% (p.)
1	1.88	84.97	2.91	28.23	1.92	81.82
2	1.56	94.77	1.38	97.69	1.77	89.86
3	1.65	92.81	2.39	54.76	1.65	89.86
4	2.01	79.74	2.47	53.11	1.80	86.01
5	1.66	89.54	2.07	71.77	1.59	90.21

The results (Table 1) clearly show that the level of expected support can widely differ between countries. For a better recognition, we display the results (percentage of positive answers) within a net diagram in Image 1. Please note, that even though the resulting patterns help the eyes to easily detect differences, just the points at each of the axes actually are defined. For the interpretation, we consider results between 40 and 60 % as being too close to an equal distribution and thus, we assume these rather express individual preferences than a matter of culture.

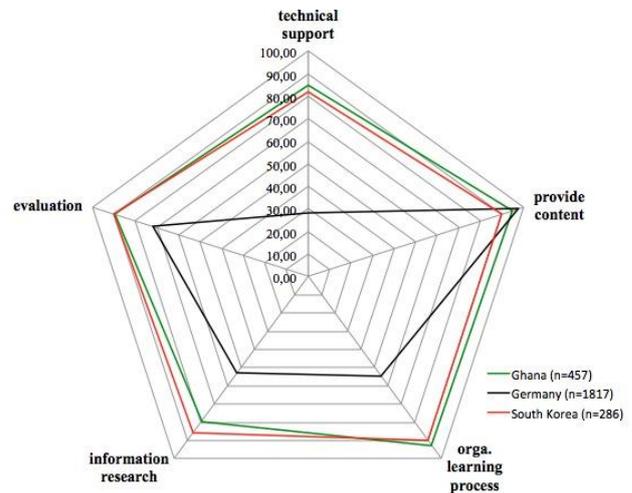


Image 1: Tasks and responsibilities of a lecturer/professor: visual comparison of answers from five-countries

In Germany, the students' expectations regarding their lecturers'/professors' tasks and responsibilities are limited to an appropriate selection of contents and the evaluation of their efforts and results. In contrast, the students from the investigated South Korean and Ghanaian universities additionally expect diverse services in order to provide support for their organization of individual learning proc-

esses and for individual literature research as well as in case of individual technological problems. The results from the South Korean and Ghanaian students are remarkably similar to each other.

We found a certain variance (spectrum) in the answers between faculties and universities (images 2, 3, and 4).

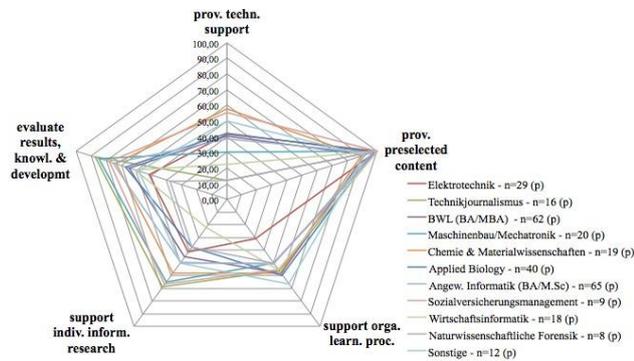


Image 2: Tasks and responsibilities of a lecturer/professor: Faculties Univ. BRS (in-depth study)

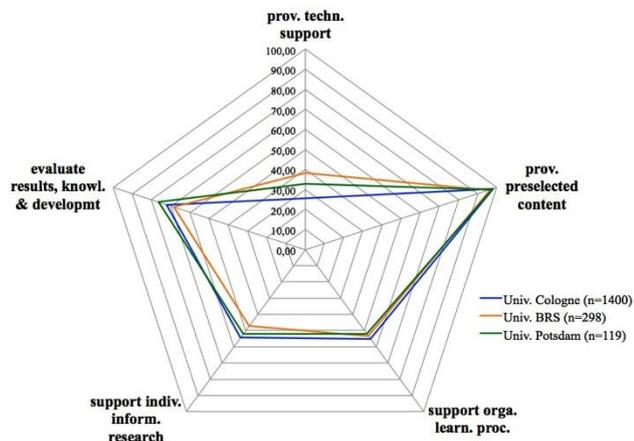


Image 3: Tasks and responsibilities of a lecturer/professor: German universities (in-depth study)

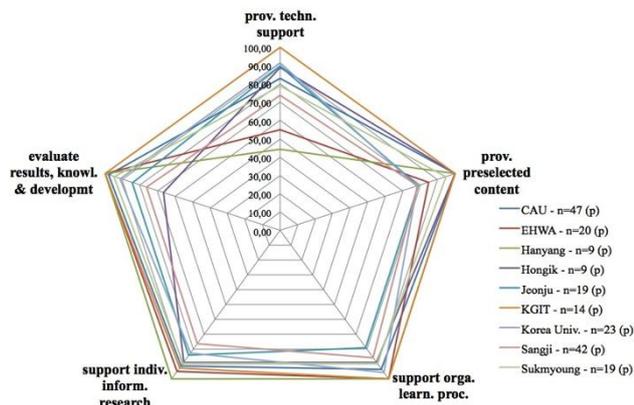


Image 4: Tasks and responsibilities of a lecturer/professor: Korean universities (broad study)

However, the average patterns of the sub-contexts still were very similar to one other and generally, distinguishable from other national patterns (considered the German and the South Korean contexts).

We additionally conducted a small-scale study in Germany, which was meant to investigate whether results from the context of HE could be transferred to the context

of Adult Education. For this purpose, we conducted the questionnaire in a slightly changed version (e.g., “professors” became “instructors”) within German DAX-noted enterprises (paper-based). The sample sizes were too small to being considered representative but the respondents’ answers reflected the peculiarities of each of the enterprises and thus they were sound [24]. The results clearly indicated that a generalization to any educational scenario within the national context would be inappropriate: The patterns of the enterprises (Adult Education) basically differed between each other and in average, even more extreme, from those of the HE context (Image 5).

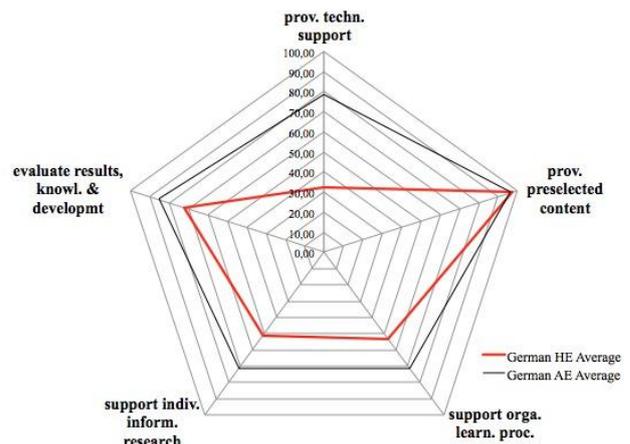


Image 5: Tasks and responsibilities of a lecturer/professor: German Higher vs. Adult Education

Even though the comparison of the average positive answers (Images 1-5) suffices to get an impression of the level of differences between the cultural contexts and to generally decide if further activities are required in order to make a program better manageable for a certain group of learners, a decision on the possible impact of conflicting potential, requires further information. For this purpose, the full spectrum of answers for each item is to be analysed and compared (Image 6).

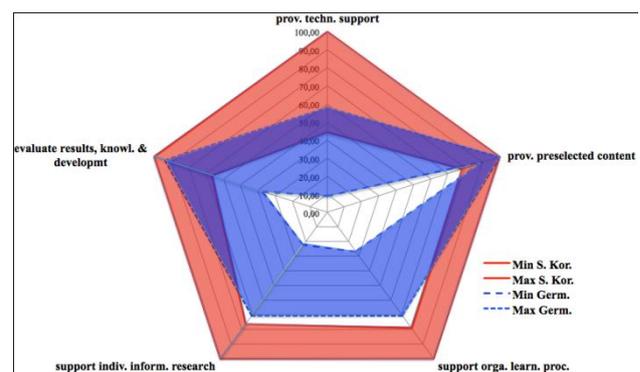


Image 6: Contrasting the spectrum of German and South Korean students’ expectations

In Image 6 we exemplarily show such a comparison for the contexts of Germany and South Korea for the contexts of HE. Since the results from the Ghanaian context were found very similar to those of the South Korean context, we resign from integrating this additional context in the figure in order to keep the displayed results clearer. We understand the spectrum of answers as the level of acceptance regarding deviances from the expected (and/or already experienced) circumstances. We expect that stu-

dents generally will experience serious conflicts in their learning processes, as soon as differences exceed their level of acceptance. Pless and Maak promote the level of acceptance as a comparative indicator for cultural differences [25].

We think that in our context of education, the level of acceptance is a good indicator: The average German student can be expected being able to study his/her specific subject at any German university without experiencing conflicts that seriously jeopardize his/her motivation (in this thought, individual happiness is not taken into consideration). This can be understood as a crucial precondition for the appropriateness of the nation-wide centralized distribution of students in Germany.

If we now contrast the spectrum of answers (Image 6) from Germany (blue) and South Korea (red), just the small overlaying part defines expectations on services, which the students of each context actually have in common. Receiving more services than expected may rather be positive (Germ. students) while in contrast, relying on an instructor's support and not receiving it, might be very frustrating and thus, demotivating (Korean and Ghanaian students). In this case of Ghana, Germany and South Korea, it is strongly recommended to at least prepare the Ghanaian and Korean students for the educational situation, which they are going to face when wanting to study in the German university context. Also, the German instructors should be aware of the different expectations in order to avoid misjudgements.

5. LIMITATIONS AND CONCLUSION

As outlined, the herein presented results from HE scenarios cannot be transferred to the context of Adult Education. Further on, the experiments of Buehler et al. [26] in the context of school education revealed that learning culture does not yet bias pupils below an age of twelve years; related consequences are unclear. Another limitation must be set for culturally inhomogeneous contexts. In such cases, the different societies within a national context might need to be separately investigated in order to achieve valid results instead of defining national average values. The use of different languages within a single national context can serve as a first indicator for cultural diversity within such national contexts [27].

While our study results show that there actually can be significant differences in the students' expectations regarding instructor-based services between national contexts, we still have no evidence, from which level of differences conflicts result that are serious enough to jeopardize the learning motivation. Further (experimental) research is required and will be conducted within the next years.

CALL FOR CONTRIBUTION

The Learning Culture Survey investigates several further culturally biased issues in education, such as motivation, the perception of feedback, group-work-related issues, time management, gender issues, etc. (102 items in total). As for now, we have managed to organise translations of the questionnaire into Bulgarian, Chinese (simplified &

traditional), English, German, Greek, Japanese, Portuguese, Russian, and Turkish. The translations to Bulgarian, Russian and Turkish still require the acknowledgment of correctness (the back translation is yet missing).

We hereby heartily invite universities from all over the world to take part in and contribute to the survey, be it through conducting (or acknowledging) further translations or through inviting their local students for participation. In the latter case, if the conduction of the online survey is possible and the translation is already available, the required involvement could be limited to addressing a letter of invitation to the students while we take care of the survey implementation and the analysis of the data. On request the resulting data of course would be shared.

The full questionnaire in its English language version is openly published and can be found under the following address on the Internet: http://duepublico.uni-duisburg-essen.de/servlets/DerivateServlet/Derivate-34756/201402_Learning_Culture_Due_Publico_Version.pdf

LITERATURE

- [1] Pintrich, P.R. & Schunk, D.H. (1996). *Motivation in education*. Prentice Hall, London.
- [2] Richter, T. & Adelsberger, H.H. (2011). E-Learning: Education for Everyone? Special Requirements on Learners in Internet-based Learning Environments. In: T. Bastiaens & M. Ebner (Eds.), *Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications 2011*, Chesapeake, VA: AACE, pp.1598-1604.
- [3] Rothkranz, L., Dactu, D., Chiriacescu, I., & Chitu, A.G. (2009). Assessment of the emotional states of students during e-Learning. In: A. Smirkarov, W. Bodrow, & A. Ivanova (Eds.), *Proceedings of the International Conference on e-Learning and Knowledge Society*, pp.77-82.
- [4] Moore, M.G. (1991). *Editorial: Distance education theory*. American Journal of Distance Education, 5(3), pp.1-6.
- [5] Sandanayake, T.C. & Madurapperuma, A.P. (2011). Novel Approach for Online Learning Through Affect Recognition. In: *Proceedings of 5th International Conference on Distance Learning and Education IPCSIT*, vol.12, IACSIT Press, Singapore, pp.72-77.
- [6] Hofstede, G. & Hofstede, G.J. (2005). *Cultures and Organizations*. McGraw-Hill, New York.
- [7] Nilsen, H. (2009). *Influence on Student Academic Behaviour through Motivation, Self-Efficacy and Value Expectation: An Action Research Project to Improve Learning*. Issues in Informing Science and Information Technology, 6/2009.
- [8] Bowman, R.F. (2007). *How can students be motivated: A misplaced question?* Clearing House, 81(2), pp.81-86.
- [9] Dörnyei, Z. (1994). *Motivation and motivating in the foreign language classroom*. The Modern Language Journal, 78(3), pp.273-84.

- [10] Williams, M. & Burden, R. (1997). *Psychology for language teachers*. Cambridge University Press, Cambridge.
- [11] Nilsen, H. (2006). *Action research in progress: Student satisfaction, motivation and drop out among bachelor students in IT and information systems program at Agder University College, Nokobit*. Tapir Akademisk Forlag, Nokobit.
- [12] Bekele, T.A. (2010). *Motivation and Satisfaction in Internet-Supported Learning Environments: A Review*. Educational Technology & Society, 13(2), pp.116–127.
- [13] Paechter, M., Maier, B., & Macher, D. (2010). *Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction*. Computers & Education, 54(1), pp.222-229.
- [14] Cronbach, L.J. & Snow, R.E. (1981). *Aptitudes and instructional methods: A handbook for research on interactions*. New York: Irvington.
- [15] Bye, D., Pushkar, D., & Conway, M. (2007). *Motivation, Interest, and Positive Affect in Traditional and Non-traditional Undergraduate Students*. Adult Education Quarterly, 57(2), pp.141-158.
- [16] Garfield, J. (1995). *How students learn statistics*. International Statistical Review, 63(1), 25-34.
- [17] Cooper, R., Dempsey, P.R., Menon, V., & Millson-Martula, C. (1998). *Remote Library Users – Needs and Expectations*. Library Trends, 41(1), pp.42-64.
- [18] Kotler, P. & Clarke, R.N. (1987). *Marketing for health care organizations*. Prentice-Hall, New Jersey.
- [19] Eom, S.B., Wen, H.J., & Ashill, N. (2006). *The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation*. Decision Sciences Journal of Innovative Education, 4(2), pp.215-235.
- [20] Zeithaml, V.A., Parasuraman, A., & Berry, L.L. (1990). *Delivering quality service: balancing customer perceptions and expectations*. Free Press, New York.
- [21] Phillips, M.R. & Peters, M.J. (1999). *Targeting Rural Students with Distance Learning Courses: A comparative study of determinant attributes and satisfaction levels*. Journal of Education for Business, 74(6), pp.351-356.
- [22] Steyn, G.M. & Schulze, S. (2003). *Assuring Quality of Module in Human Resource Management: Learners' Perceptions*. Education, 123(4), pp.668-680.
- [23] Ziltener, P. (2006). *Societal Heterogeneity in Africa and Asia: A Comparative Analysis of Its Impact on Development*. Zeitschrift für Soziologie, 35(4), pp.286–304.
- [24] Richter, T. & Adelsberger, H.H. (2012). On the myth of a general national culture: Making specific cultural characteristics of learners in different educational contexts in Germany visible. In: F. Sudweeks, H. Hrachovec, & C. Ess (Eds.), *CATaC'12 Proceedings (Aarhus, Denmark): Cultural Attitudes towards Technology and Communication*. School of Information Technology, Murdoch University: Murdoch.
- [25] Pless, N.M. & Maak, T. (2004). *Building an Inclusive Diversity Culture: Principles, Processes and Practice*. Journal of Business Ethics, 54(2), pp.129-147.
- [26] Buehler, E., Alayed, F., Komlodi, A., & Epstein, S. (2012). „It Is Magic“: A global perspective on what technology means to youth. In: F. Sudweeks, H. Hrachovec, & C. Ess (Eds.), *CATaC'12 Proceedings: Cultural Attitudes towards Technology and Communication*, School of Information Technology, Murdoch University: Murdoch.
- [27] Leonardi, P. (2002). Cultural variability and web interface design: Communicating US Hispanic cultural values on the Internet. In F. Sudweeks & C. Ess (Eds.), *CATaC'02 Proceedings: Cultural Attitudes towards Technology and Communication*, School of Information Technology, Murdoch University: Murdoch, pp.297–316.