European Journal of Education and Pedagogy
www.ej-edu.org

Analysis of Factors Affecting Online Learning at Nommensen HKBP University of Medan

Mian Siahaan, Sanggam Pardede, Lisbeth L. Silitonga, Sahat Maruli,
Rinawati Lumbansiantar, Adelina Sinaga

ABSTRACT

The purpose of this research is quality assurance of implementing lectures during the pandemic. Evaluation of students' learning experiences is necessary to fully understand what influences their approach to learning and the subsequent outcomes. The Deep Learning Approach is expected to continue to be improved through lectures in order to produce Generic Skills for students, and on the contrary, the Surface Learning Approach is reduced. Researchers conducted this research at HKBP Nommensen University of the economics education study program for first- and second-year students who experienced full online learning during the disruption period of the global pandemic. The research type is quantitative descriptive research with survey techniques to be able to describe the experiences and perceptions of students to gain learning outcomes. The Course Experience Questionnaire and Study Process Questionnaire were used in this study. A total of 44 people out of 60 students submitted an online questionnaire that was distributed. Structural Equation Modeling was the main method to process the data in order to provide a more detailed depiction of the relationships between research variables. This study found there was no correlation between Appropriate Workload and intended outcomes. Appropriate Workload related to Good Teaching and Deep Learning Approach. Appropriate Workload could be improved by developing staff competencies to manage the online class. Researchers recommended examining the curriculum and developing the staff's ability in student-centered learning. In addition, researchers provide the need for further research.

Keywords: course satisfaction, deep learning approach, generic skills, surface learning approach, workload.

Published Online: January 16, 2023

ISSN: 2736-4534

DOI: 10.24018/ejedu.2023.4.1.553

M. Siahaan*
Faculty of Education and Teacher Training, Universitas HKBP Nommensen, Medan, Indonesia
(e-mail: miansi1960@gmail.com)
S. Pardede
Faculty of Education and Teacher Training, Universitas HKBP Nommensen, Medan, Indonesia
(e-mail: Sanggam2005@yahoo.com)
L. L. Silitonga
Department of Nursing, Universitas Prima Indonesia, Medan, Indonesia
(e-mail: lisbethlaorasilitonga@unprimdn.ac.id)
S. Maruli
Department of Instructional Design, BBPPMPB BBL, Medan, Indonesia
(e-mail: sahatmaruli@gmail.com)
R. Lumbansiantar
Student at Universitas HKBP Nommensen, Medan, Indonesia
(e-mail: rinawati.lumbansiantar@student.uhn.ac.id)
A. Sinaga
Student at Universitas HKBP Nommensen, Medan, Indonesia
(e-mail: adelina.sinaga@student.uhn.ac.id)

Corresponding Author

I. Introduction

Course evaluation needs to be conducted periodically as part of internal quality assurance to nurture the program's accountability for the students (Hansen, 2019). A comprehensive evaluation is needed as feedback to ensure the strengths and weaknesses of program performance, and opportunities for improvement (Hernandes, 2012). During the pandemic, HKBP Nommensen University was searching for the appropriate instrument to provide a robust overview of the quality of a purely online learning environment and its impact on student learning outcomes.

In addition, an assessment of purely online learning is also necessary to be performed to see student satisfaction with online lectures as part of program accountability (Lackey & Neill, 2001). Identifying weaknesses is the key to continuous improvement to provide a learning environment that meets students' needs. Students, as the primary customer, are the best targets of a survey instrument for measuring the quality of courses because they are valid, multi-dimensional, and reliable (Wachtel, 1998). Moreover, lecturers are threatened by student feedback on the effectiveness of their class activity because of shortfall objectivities and may be used unprofessionally by the institutions (Stringer *et al.*, 2019). Thus, evaluating teaching at the course level is usually considered more emphatically by staff and can maintain and improve the quality of teaching within an institution (Ramsden, 1991).

Researchers are concerned that it is critical to examine the quality of online teaching during a pandemic in synchronous and asynchronous learning. Researchers want to explore the role of academic environmental factors, approach to learning,

and student achievements in online learning at the level of the course program, especially the Economics Education Study Program. Students' voices were the primary source of data to evaluate the effectiveness of the course (Lackey & Neill, 2001; Harvey, 2003). The learning environment to be evaluated includes elements of the curriculum, teaching, and workload of the course task.

Ko and Chiu (2014) summarized the opinions of scholars about teaching quality and stated that its components are fostering instructional and university programs (Hunter, 1979), conforming to student needs for learning (Vermeule & Schmidt, 2008), creating unique learning process characteristics (Ander & Burns, 1990), and meet the expectations of students and parents (Kyriakides *et al*., 2002). Ramsden (1991) stated that there are 6 dimensions of quality of teaching, namely: clear goals and standards, appropriate assessment, AW, GT, and being able to produce the GS students need to actively contribute to their Course.

Marton (1976) and Säljö (1975) used a phenomenography research approach to reveal differences among students in the way they approached a particular task from the point of view of learning motives and strategies. Biggs (1987) divides it into two types of approaches to learning: the Deep Approach and the Surface Approach. Students who attend courses with the intention to understand and have an intrinsic interest in the course, appropriate involvement in the assignment, search for meaning as a learning strategy, and use space and time effectively to maximize value are called Deep Learning Approach (DLA) (Biggs *et al*., 2001). On the other hand, students with the intention of reproducing learning material, driven by fear of lack of success and an inclination to avoid problems with as little effort as possible with selective rote learning strategies are called Surface Learning Approach (SLA). Learning approaches can be changed through teaching methods (Nijhuis *et al*., 2005), and the context in which learning activities take place (Entwistle & McCune, 2004). Thus, a student may embrace one approach in a particular context and differ in other contexts, determined by the type of context and interpretation of the learner (Biggs, 2001).

Shuell (1986) defines learning as a relatively permanent change in behavior or ability in response to practice or experience. Learning outcomes are associated with academic performance and student satisfaction (Harvey, 2001). Ko (2012) suggests that learning satisfaction is concerned with the student's contentment with the learning process and student learning outcomes which include Generic Skills (GS), Course Satisfaction (CS) and Grade Point Average (GPA). Although many oppose the use of GPA as a measure of educational quality, in practice HKPB Nommensen University uses it. Satisfaction with learning as an indicator for measuring learning performance, or viewing students as a focus in providing feedback, to evaluate the achievement of the learning goals and aspirations that have been achieved.

Students are key stakeholders in the quality assurance process, and it is critical to explore and analyze their views (Harvey, 2003). Student evaluation is very important and has an important role in the quality assurance process (Lackey & Neil, 2001). Student feedback is a major source of evidence for assessing the quality of teaching and learning which can be used to report efforts to improve aspects requiring attention (Richardson, 2005). Richardson (2005) states that the formal quality assurance survey is an assessment instrument designed to gather data on students' insights of the learning environment, collected after relevant educational activities, takes into account the diversity of educational contexts and student populations, and focuses on key aspects of teaching and quality.

II. Research Objectives and Hypotheses

This research aimed to (1) Investigate the feature of teaching in pure online mode amid the Covid-19 pandemic; (2) To investigate the feature of learning in pure online mode amid the Covid-19 pandemic; and (3) Investigate the effect of the learning environment on student approach to learning and achievement in the solid online course.

The Hypotheses of this research are (1) The DLA, GPA, CS, the development of self-reported GS, and GT are affected by AW; (2) The DLA, GPA, CS, and the development of self-reported GS are positively affected by GT; (3) GPA and GS are significantly affected by the DLA; (4) AW and GT have a negative effect on the SLA; and (5) The GPA and GS are negatively affected by SLA.

III. Method

This research is a descriptive quantitative method which is a survey as a technique for gathering data. Data was collected through an electronic questionnaire. The data were then grouped based on variables and sub-variables for later analysis so as to describe the experiences of first- and second-year students of the Economics Education Study Program in pure online lectures.

A. The Research Population

Respondents who submitted the online questionnaire were 46 people from a total of 60 research populations. Male students, apart from being few in number, were less reactive than female students, so the number of respondents for both males and females was 13.04% and 86.96%, respectively. Of this total, 56.5% of the first-year students submitted the survey, and 43.5% of them are second-year students.

B. The Research Instruments

The Course Experience Questionnaire (CEQ) was used to measure the quality of teaching and learning and GS. CEQ is broadly used in various countries as an instrument of quality assurance (Richardson, 2005) and was recently used by Warfvinge *et al*. (2021) in pure online classes amid Covid-19. It used a 5-point Likert scale from strongly agree to strongly disagree. Three of the six dimensions of CEQ were used to depict students' perceptions: 6 items of GT, 4 items of AW (Ramsden, 1991), and 6 items of the GS scale (Wilson *et al*., 1997). AW has some contrary meanings on items 1, 3 and 4. The Cronbach alpha coefficient for those three dimensions had satisfactory internal consistency with values of 0.934; 0.950; and 0.878, severally. The loading factor of confirmatory factor analysis for each indicator of AW was 0.856; 0.865; 0.881; and 650. The loading factor for each of the GT indicators was 0.919; 0.822; 0.936; 0.934; 0.848; and 0.938. Confirmatory factor analysis of each indicator of the

GS was valid with values of 0.821; 0.849; 0.875; 0.871; 0.876; and 0.885. To measure CS, researchers use one general question on a five-point Likert scale from strongly agree (5) to strongly disagree (1) about students' experience of the course quality.

The Study Process Questionnaire (SPQ) is one of the more widely used instruments developed to measure both surface and DLA. The deep and surfaced construction of learning identified by Marton and Saljo (1976) formed the conceptual basis for the work of Biggs (1979), which later used the terms deep learning and surfaced learning influenced by congruent motivations and corresponding learning strategies. The SPQ used in this research was in a short form with 12 items from instruments developed by Fox *et al*. (2001). Items of motive and surface strategy (SS) have a negative meaning. Each item was scored on a 5-point scale: (1) Rarely true, (2) Sometimes true, (3) Half-time correct, (4) Often true, (5) Usually true. The surface approach consisted of 3 items on surface motives (SM) (Cronbach's coefficient alpha (α)=0.889) and 3 items on SS (α=0.770), as well as the deep approach consisting of 3 items on deep motive (DM) (α=0.828) and 3 items on deep strategy (DS) (α=0.858). Cronbach's coefficient alpha showed very satisfactory internal consistency. The validity of the construct is confirmed through the analysis of confirming factors. The loading factor for each SM indicator was 0.833; 0.844; and 0.886, while for each SS indicator was 0.764; 0.849; and 0.574. We still include the 3rd item of the SS even though the value is 0.574. The factor matrix value for each indicator of DM was 0.761; 0.793; and 0.802, while for DS was 0.871; 0.724; and 0.860. Thus, the instrument was stated to be valid in this study.

In addition, we collected students' GPA data measured on a scale from 1 (low) to 4 (high). GPA is an academic achievement and part of academic success (York *et al*., 2015). Another source of academic success data in this study was drawn from the CEQ instrument: perceptions of CS and GS.

C. Structural Model Conformity Test

The structural model conformity test with the Goodness-Of-Fit (GOF) criteria showed the model was a fit. The root mean square error of approximation (RMSEA) of model fit indices was 0.066 which is smaller than 0.08 so it is acceptable (Fabrigar, 1999). Some other indicators that were acceptable were TLI and CFI with values of 0.926 and 0.934, respectively (Hu & Bentler, 1999). While the indicators that did not fit are GFI and AGFI with values of 0.736 and 0.684, respectively.

D. Description of Statistics

The AW was reported quite high by students. The weight of the workload was stated to be quite appropriate, the time given to work was also sufficient, and there was a lack of pressure in doing the work. GT was reported in a fairly high category where the students said that the lecturers were able to motivate, explain, provide time, provide feedback, understand difficulties, and increase their interest in the subject. Table I depicts the statistics of each indicator.

Furthermore, students of the Economic Education Study Program stated that they were doing a relatively high DLA, which was undertaken fairly high for both DM and DS. Students practice of the SLA was also experienced moderately high, especially through a high SS performance and a low SM.

Students reported that their GS have increased relatively high following attending lecturing. The 6 GS were stated to be quite highly possessed by students due to lectures. Student satisfaction with the course quality overall is reassuringly satisfied with a score of 3.99. Second-year students expressed high satisfaction with lectures, while first-year students stated that their satisfaction with the courses was fairly high.

IV. RESULTS

A. Hypothesis Results

To determine whether there is an effect and the magnitude of effect between constructs, it can be seen from the p-value and its regression. AW affected the SLA, DLA, and GT, but had no effect on learning outcomes directly. The p-value of the AW to the SLA=***<0.05 with a regression of -0.595 so it was concluded that the AW negatively and significantly affected the SLA. The p-value of the AW to the DLA was 0.003<0.05 with a regression of 0.358 so the AW had a positive and significant effect on the DLA. The p-value of the GT variable to AW=0.005<0.05 so that there was a reciprocal influence between the GT and the positive and significant AW. The p-values of AW to GPA, CS, and GS were 0.126, 0.185, and 0.99>0.05, respectively, so that the AW did not affect the GPA, CS, and GS. Table II provides data on the p-value and structural coefficient of the construct.

TABLE II: P-VALUE AND STRUCTURAL COEFFICIENT OF THE CONSTRUCT

			P	Structural Coefficient
SLA	<---	AW	***	-0.595
DLA	<---	AW	0.003	0.358
GPA	<---	AW	0.126	0.253
CS	<---	AW	0.185	0.127
GS	<---	AW	0.099	0.177
AW	<-->	GT	0.005	0.356
DLA	<---	GT	***	0.366
SLA	<---	GT	***	-0.367
GPA	<---	GT	0.028	0.277
CS	<---	GT	***	0.563
GS	<---	GT	0.017	0.190
GPA	<---	DLA	0.773	0.035
GS	<---	DLA	***	0.313
GPA	<---	SLA	0.433	-0.148
GS	<---	SLA	***	-0.474

GT affected the SLA, the DLA, and learning outcomes. The p-values of the GT to the DLA, GPA, CS, and GS are ***, 0.028, ***, 0.017<0.05 respectively, so that the GT had significant effects on the DLA, GPA, CS, and GS with regressions of 0.366, 0.277, 0.563, 0.190, respectively. The p-value of the GT to the SLA=***<0.05 with a regression of -0.367 so the GT had a negative and significant effect on the SLA.

The DLA affected GS but not the GPA. The p-value of the DLA to GPA=0.773>0.05, so the DLA did not affect the GPA. The p-value of the DLA to GS=***<0.05 with a regression of 0.313 so that the DLA had a positive and significant effect on the GS.

The SLA affected GS but had no effect on the GPA. The p-value of the SLA to GPA=0.433>0.05 so the SLA variable

did not affect the GPA. The p-value of the SLA to on the GS. GS=***<0.05, so the SLA had a significantly negative effect

TABLE I: SUMMARY OF RESEARCH INDICATORS STATISTIC

Indicators	Totals	Y1	Y2
AW (α=0.944, mean=3.413)			
AW1. Beban kerja terlalu berat.	3.71	3.92	3.5
AW2. Kami biasanya diberikan waktu yang cukup untuk memahami hal-hal yang harus dipelajari.	3.72	3.69	3.75
AW3. Ada banyak tekanan pada saya sebagai mahasiswa di sini.	2.91	2.96	2.85
AW4. Banyaknya pekerjaan yang harus diselesaikan dalam program studi ini berarti saya tidak dapat memahami semuanya secara menyeluruh.	3.29	3.23	3.35
GT (α=0.960, mean=3,688)			
GT1. Staf pengajar program studi ini memotivasi mahasiswa untuk melakukan pekerjaan terbaik mereka.	3.9	3.85	3.95
GT2. Staf di sini meluangkan banyak waktu untuk mengomentari pekerjaan mahasiswa.	3.17	3.19	3.15
GT3. Staf berusaha keras untuk memahami kesulitan yang mungkin dialami mahasiswa dengan pekerjaan mereka.	3.7	3.65	3.75
GT4. Staf pengajar di sini biasanya memberikan umpan balik yang membantu tentang perkembangan saya.	3.67	3.54	3.8
GT5. Dosen kami sangat pandai menjelaskan sesuatu kepada kami.	3.96	3.81	4.1
GT6. Staf pengajar di sini bekerja keras untuk membuat mata kuliah menarik.	3.79	3.77	3.8
DLA (mean=3,561)			
DM (α=0.828, mean=3.52)			
DL1. Saya merasa bahwa terkadang belajar memberi saya perasaan kepuasan pribadi yang mendalam.	3.6	3.54	3.65
DL2. Saya menemukan bahwa mempelajari topik akademis terkadang bisa semenarik membaca novel atau menonton film yang bagus.	3.44	3.23	3.65
DL3. Saya biasanya menjadi semakin asyik dengan pekerjaan saya sehingga semakin banyak yang saya lakukan.	3.53	3.46	3.6
DS (α = 0.858, mean = 3.62)			
DL4. Ketika saya sedang belajar, saya sering memikirkan situasi kehidupan nyata dimana materi yang saya pelajari akan dapat berguna..	3.67	3.54	3.8
DL5. Saya merasa bahwa saya harus menggali lebih banyak pengetahuan pada suatu topik agar saya dapat membentuk sudut pandang saya sendiri sehingga saya merasa puas.	3.75	3.54	3.95
DL6. Saya mencoba menghubungkan materi baru, saat saya membacanya, dengan apa yang sudah saya ketahui sebelumnya tentang topik tersebut.	3.48	3.5	3.45
SLA (mean=3.0)			
SM (α=0.889, mean=2.64)			
SL1. Saya memilih program studi saya saat ini sebagian besar dengan melihat situasi pekerjaan (seperti peluang bekerja dan kesejahteraan) ketika saya lulus daripada ketertarikan terhadap intrinsik program studi tersebut bagi saya.	2.61	2.62	2.6
SL2. Saya hampir tidak suka harus melanjutkan studi bertahun-tahun di perdosenan tinggi setelah lulus universitas, tetapi menyadari betapa penting hasil akhirnya membuat semuanya berharga.	2.76	2.81	2.7
SL3. Suka atau tidak suka, saya dapat melihat bahwa pendidikan tinggi, menurut saya, adalah cara yang baik untuk mendapatkan pekerjaan dengan gaji yang baik atau pekerjaan yang aman.	2.56	2.42	2.7
SS (α=0.770, mean=3.36)			
SL4. Menurut saya mencari lebih banyak materi perkuliahan itu membuang-buang waktu, jadi saya hanya serius belajar dari apa yang diberikan di kelas atau di outline saja.	3.74	3.83	3.65
SL5. Saya biasanya membatasi pembelajaran saya pada apa yang secara khusus ditetapkan saja karena saya pikir tidak perlu melakukan sesuatu yang ekstra.	3.45	3.54	3.35
SL6. Saya merasa lebih baik untuk menerima pernyataan dan gagasan dosen-dosen saya dan mempertanyakannya hanya dalam keadaan khusus saja.	2.89	2.88	2.9
GS (α=0.888, mean=3.98)			
GS1. Program studi ini telah membantu saya untuk mengembangkan keterampilan pemecahan masalah saya.	4.01	3.96	4.05
GS2. Program studi ini telah mengasah kemampuan analisis saya.	4.12	4.08	4.15
GS3. Program studi ini telah membantu mengembangkan kemampuan saya untuk bekerja sebagai anggota tim.	4.12	4.08	4.15
GS4. Sebagai hasil dari mengikuti program studi ini, saya merasa lebih percaya diri dalam mengatasi masalah yang tidak biasa.	3.89	3.77	4
GS5. Program studi ini telah meningkatkan keterampilan komunikasi tertulis saya.	4.05	4	4.1
GS6. Kursus ini telah membantu saya mengembangkan kemampuan untuk merencanakan pekerjaan saya sendiri.	3.8	3.85	3.75
CS	3.99	3.88	4.1
Secara keseluruhan, saya puas dengan kualitas program studi ini.			
GPA	3.56	3.57	3.55

B. Discussion

Self-reported students' experiences on the course revealed that they had a shortage of deep understanding of the course content. This condition is related to an overload of the content in the curriculum which is characterized by the abundance of tasks or workloads (Cheung *et al*., 2020) so it intercepted students of focused and comprehensive learning as they desire (Hailikari *et al*, 2018). Students encountered moderately high learning pressure. For this reason, the Economic Education Study Program has to restructure the number of tasks that need to be done by students (Patrice *et al*., 2022) to manage workloads for diverse student groups so that it ends up improving their academic achievement (Cheung *et al*., 2020). Moreover, students' perceptions of AW could be enhanced through constant communication about lecturer expectations and reviews of courses that are targeted for implementing a constructively aligned curriculum (Scully & Kerr, 2014).

GT has a significantly reciprocal relationship with AW, and this result is underpinned by Kyndt *et al*. (2014). Kyndt *et al*. (2014) stated that AW has a significant effect on GT so having advancement in these two components has the potential to transform the learning environment which leads to an improved student learning approach (Smith, 2019). Therefore, faculty members are encouraged to use student-centered teaching methods and enhance their relationship with their students since it will affect their concept of an overload workload (Kember & Leung, 2006). Furthermore, faculty members have to improve their ability to increase students' interest in the subject taught since it has a correlation with the AW (Kyndt *et al*., 2014).

Since the SLA has a negative correlation with the AW and GT, it means constructive learning environments negatively affect the SLA (Vermunt & Donche, 2017). This finding has proven that students' learning approaches do consistently change as a consequence of the learning environment (Vermunt & Donche, 2017). The faculty staff need to consider constructivism as their teaching approach to change students' learning approaches to nurture a deep approach. Dolmans *et al*. (2016) suggested Problem-Based Learning as a constructivist model of learning that is significantly enhancing DLA through collaborative activities to solve ill-structured problems.

DLA, AW, and GT correlated positively with each other but the three of these constructs are oppositely related to the SLA. Learning skills may be flourished through the development of constructive learning concepts, so staff have to stimulate the DLA through a constructivist learning environment that triggered students learning (Vermunt & Donche, 2017). The method to change students' learning approach is to escalate enterprise and authority in learning (Vermunt & Donche, 2017). Improving the circumstance of their learning conditions needs to be done to enable high-quality learning (Baeten *et al*., 2013) and undoubtedly lessen the SLA (Dolmans *et al*., 2016). Moreover, the faculty has to examine students' perceptions of the AW to assure that learning circumstances boost the DLA (Cope & Staehr, 2005). The data depicts that there is an escalation of students' perception of contextual construct–both AW and GT–of the first year to the second-year student. This is an indicator of an effectual adjustment to college that can sustain academic achievement and study success (Postareff *et al*., 2017).

The fact described that GS resulted from GT and DLA, however negatively correlated to SLA (Richardson, 2011). DLA is an element that consists of enhancing a deep understanding of what they are learning: understanding, analyzing, looking for the underlying principles, contrasting, distinguishing, linking, describing, and critically assessing knowledge (Dolmans *et al*., 2016), and thus relate to high-quality learning and achievement (Asikainen *et al*., 2014).

The element that affects students' GPA is GT. GT promotes active learning that eventually improves the learning outcomes as well (Vermunt, 2005). In summary, this finding indicates that students' opinions of the teaching-learning circumstance and approach to learning should be considered important factors that impact students' learning progress and achievement (Vermunt & Donche, 2017).

Students' satisfaction with courses was moderate, whereas first-year students reported moderate and second-year students reported high satisfaction. According to overall satisfaction level, students are more likely to forward their educational accomplishments and advocate their study program to others (Blackmore *et al*., 2006; Douglas *et al*., 2008). Students' Course Satisfaction is affected by GT. This finding is supported by Douglas *et al*. (2008) who stated that teaching and lectures are the aspects that contribute the most to the satisfaction of students.

V. Conclusion

CEQ and SPQ can be used to evaluate the environment of the pure online learning course and student approach to learning, and also can estimate learning outcomes of economic education. Faculty is recommended to evaluate the curriculum, enhance staff communication with students to boost student understanding of the curriculum and its expectations, improve staff ability to teach, and monitor the impact of program implementation on the alteration of learning approaches.

This research has some limitations. This research is focused on the major of the economy and needs to do research in other majors in the faculty of education. Furthermore, the size of the sample is small and needs to implement in a large sample of students. Quasi-experimental research needs to be implemented in this faculty to design a learning environment that enables a deep learning approach and monitors the progress. For this reason, mixed method research with the development of curriculum, action research, monitoring and evaluation of progress is needed to capture the process and elements of the deep approach. Finally, we focused on the dimensions that related to the process of learning and not counting the character and social-economic background of the student.

Conflict of Interest

The authors claim that conflict of interest is out of in this research.

REFERENCES

Asikainen, H., Parpala, A., Lindblom-Ylänne, S., Vanthournout, G., & Coertjens, L. (2014). The development of approaches to learning and perceptions of the teaching–learning environment during bachelor level studies and their relation to study success. *Higher Education Studies*, 4(4), 24–36. doi:10.5539/hes.v4n4p24.

Ander, L. W., & Burns, R. B. (1990). *Research in classrooms: the study of teachers, teaching, and instruction*. New York, Macmillan Pergamon presses.

Baeten M, Dochy F, & Struyven K. (2013). The effects of different learning environments on students' motivation for learning and their achievement. *British Journal of Educational Psychology*, 83, 484–501. https://doi.org/10.1111/j.2044-8279.2012.02076.x

Biggs, J. B. (1979). Individual differences in study processes and the quality of learning outcomes. *Higher Education*, 8, 381–394.

Biggs, J. B. (1987). *Study process questionnaire manual*. Melbourne: Australian Council for Educational Research.

Biggs, J. B. (2001). Enhancing learning: A matter of style or approach? In R. J. Sternberg, & L. Zhang (Eds.), *Perspectives on thinking, learning, and cognitive styles* (pp. 73–102). Mahwah, NJ: Lawrence Erlbaum Associates.

Borahan, N.G., & Ziarati, R. (2002). Developing quality criteria for application in the higher education sector in Turkey. *Total Quality Management*, 18(4), 224–242. http://dx.doi.org/10.1080/0954412022000017021.

Cheung, K., Yip, T. L., Wan, C. L. J., Tsang, H., Zhang, L. W., and Parpala, A. (2020). Differences in study workload stress and its associated factors between transfer students and freshmen entrants in an Asian higher education context. *PLoS One*, 15, 0233022. doi: 10.1371/journal.pone.0233022.

Cope, C., & Staehr, L. (2005). Improving students' learning approaches through intervention in an information system learning environment. *Studies in Higher Education*, 30(2), 181–197. https://doi.org/10.1080/03075070500043275.

Dolmans, D., Loyens, S. M. M., Marcq, H., & Gijbels, D. (2016). Deep and surface learning in problem-based learning: A review of the literature. *Advances in Health Sciences Education*, 21(5), 1087–1112. https://doi.org/10.1007/s10459-015-9645-6.

Douglas, J., McClelland, R. & Davies, J. (2008). The development of a conceptual model of student satisfaction with their experience in higher education. *Quality Assurance in Education*, 16(1), 19–35. doi:10.1108/09684880810848396.

Entwistle, N., & McCune, V. (2004). The conceptual basis of studying strategy inventories. *Educational Psychology Review*, 16(4), 315–345. doi:10.1007/s10648-008-9083-6.

Fabrigar L. R., MacCallum R. C., Wegener D. T., & Strahan E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272–299. https://doi.org/10.1037/1082-989X.4.3.272.

Fox, Robin A., McManus, I.C., Winder, & Belinda C. (2001). The shortened Study Process Questionnaire: An investigation of its structure and longitudinal stability using confirmatory factor analysis. *British Journal of Educational Psychology*, 71, 511–530. doi:10.1348/000709901158659.

Hailikari, T., Tuononen, T., & Parpala, A. (2018). Students' experiences of the factors affecting their study progress: Differences in study profiles. *Journal of Further and Higher Education*, 42(1), 1–12. https://doi.org/10.1080/0309877X.2016.1188898.

Hansen, H.F., Geschwind, L., Kivistö, J., Pekkola, E., Pinheiro, R., & Pulkkinen, K. (2019). Balancing Accountability and Trust: University Reforms in the Nordic Countries. *Higher Education*, 78(3), 557–573. https://doi.org/10.1007/s10734-019-0358-2.

Harvey, L, (2003). Student Feedback. *Quality in Higher Education*, 9(1), 3–20.

Hernandez, R. (2012). Does continuous assessment in higher education support student learning? *Higher Education*, 64, 489–502. doi:10.1007/s10734-012-9506-7.

Hu L, & Bentler PM (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. doi: 10.1080/10705519909540118.

Hunter, M. (1979). Teaching Is Decision Making. *Educational Leadership*, 37(1), 62–67.

Kember, D. & Leung, D. Y. P. (2006). Characterizing a teaching and learning environment is conducive to making demands on students while not making their workload excessive. *Studies in Higher Education*, 31, 185–198. https://doi.org/10.1080/03075070600572074.

Ko, W. H., & Chung, F. M. (2014). Teaching quality, learning satisfaction, and academic performance among hospitality students in Taiwan. *World Journal of Education*, 4(5), 11–20. http://dx.doi.org/10.5430/wje.v4n5p11.

Ko.W.H. (2012). A study of the relationships among effective learning, professional competence, and learning performance in culinary field. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 11, 12–20. http://dx.doi.org/10.1016/j.jhlste.2012.02.010.

Kyndt, E., Berghmans, I., Dochy, F., & Bulckens, L. (2014). Time is not enough. Workload in higher education: a student perspective. *Higher Education Research & Development*, 33, 4, 684–698. doi: 10.1080/07294360.2013.863839.

Kyriakides, L., Campbell, R.J., & Christofidou, E. (2002). Generating criteria for measuring teacher effectiveness through a self-evaluation approach: A complementary way of measuring teacher effectiveness. *School Effectiveness and School Improvement*, 13(3), 291–325. http://dx.doi.org/10.1076/sesi.13.3.291.3426.

Lackey, J. & Neill, N. (2001). Quantifying quality: The importance of student feedback. *Quality in Higher Education*, 7(1),19–32. https://doi.org/10.1080/13538320120045058.

Marton, F. (1976). On non-verbatim learning. II. The erosion of a task induced learning algorithm. *Scandinavian Journal of Psychology*, 17, 41–48.

Marton, F., & Säljö, R. (1997). Approaches to learning. In F. Marton, D. Hounsell, & N. Entwistle (Eds.). *The experience of learning. Implications for teaching and studying in higher education* (2nd ed., pp. 39–58). Edinburgh: Scottish Academic Press.

Nijhuis, J., Segers, M., & Gijselaers, W. (2005). Influence of redesigning a learning environment on student perceptions and learning strategies. *Learning Environments Research*, 8, 67–93. https://doi.org/10.1007/s10984-005-7950-3.

Patrice, M.A., Irenea, M.G., Malabuyoc, F.L.S., Sobrevilla, D.M., & Gumasing, J.J. (2022). Effect of academic workload on the mental fatigue of students during online class. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey.

Postareff, L., Mattsson, M., Lindblom-Ylänne, S., & Hailikari, T. (2017). The complex relationship between emotions, approaches to learning, study success and study progress during the transition to university. *Higher Education*, 73(3), 441–457. doi:10.1007/s10734-016-0096-7.

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: the course experience questionnaire. *Studies in Higher Education*, 16(2), 129–150.

Richardson, J. T. E. (2011). Approaches to studying, conceptions of learning and learning styles in higher education. *Learning and Individual Differences*, 21(3), 288–293. http://dx.doi.org/10.1016/j.lindif.2010.11.015.

Richardson, J. T. E. (2005). Instruments for obtaining student feedback: a review of the literature. *Assessment & Evaluation in Higher Education*, 30(4), 387–415. https://doi.org/10.1080/02602930500099193.

Säljö, R. (1975). *Qualitative differences in learning as a function of the learner's conception of a task*. Gothenburg: Acta Universitatis Gothoburgensis.

Scully, G. & Kerr, R. (2014). Student workload and assessment: Strategies to manage expectations and inform curriculum development. *Accounting Education*. 23(5), 443–466. https://doi.org/10.1080/09639284.2014.947094.

Shuell, T.J. (1986). Cognitive conceptions of learning. *Educational Psychologist*, 28(4), 291–320.

Smith, A. P. (2019). *Student Workload, Wellbeing and Academic Attainment*. In International Symposium on Human Mental Workload: Models and Applications (pp. 35–47). Springer.

Stringer, M.; Stringer, K.; Hunter, J.A.; Finlay, C. (2019) Assuring quality through student evaluation. In Roger, E., Elaine, H., Eds. *Handbook of quality assurance for university teaching*. Routledge: New York, NY, USA.

Vermeulen, L., & Schmidt, H.G. (2008). Learning environment, learning process, academic outcomes, and career success of university graduates. *Studies in Higher Education*, 33(4), 431–451. http://dx.doi.org/10.1080/03075070802211810.

Vermunt, J. D. (2005). Relations between student learning patterns and personal and contextual factors and academic performance. *Higher Education*, 49, 205−234. doi: 10.1007/s10734-004-6664-2.

Vermunt, J. D., & Donche, V. (2017). A learning perspective on student learning in higher education: State of the art and moving forward. *Educational Psychology Review*, 29(2), 269–299. https://doi.org/10.1007/s10648-017-9414-6.

Wachtel, H. (1998). Student evaluation of college teaching effectiveness: a brief review. *Assessment and Evaluation in Higher Education*, 23(2), 191–211.

Wilson, K.L., Lizzio, A., & Ramsden, P. (1997) The development, validation, and application of the Course Experience Questionnaire.

Studies in Higher Education, 22(1), 33–52. doi: 10.1080/03075079712331381121.

Mian Siahaan was born in Pematang Siantar. He holds a Master's degree from Gajah Mada University and Doctoral degree from Universitas Negeri Padang. He attended several international traing in European and Asian countries, and also in Australia. He is a senior lecturer at Universitas HKBP Nommensen. His research interests are in education, leadership, and teacher training.

Sanggam Pardede was born in Tarutung in 1982. He holds Bachelor of Economics (1993), Master of Education (2008) doctoral degree from Universitas Negeri Padang (2014). He is a senior lecturer at Universitas HKBP Nommensen. Her research passion in the topic motivation psychology, communication technology, communication science, and ICT.

Lisbeth L. Silitonga was born in Medan in 1982. She holds a Bachelor of Education (2005) and Master of Education (2007). She is a senior lecturer at Universitas Prima Indonesia. Her research passion is in the topic Problem-Based Learning, Biochemistry, Curriculum, and Educational Psychology.

Sahat Maruli was born in Bangka, Indonesia in 1979. He holds a Bachelor of Physics (2003) and Master of Education (2011). He attended Professional Development Program in Quality Assurance in Monash University (2010) and Teacher and Principal Competence in Queensland Technology University (2017), both in Australia. He is an instructional designer at BBPPMPV BBL, a technical institution of MoECRT, Indonesia.