



## Implementation of Room Service E-Module on Food and Beverage Service Subject for Vocational High School Students of Hospitality Expertise Competency

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### Abstract

Due to the implementation of Large-Scale Social Restrictions (PSBB) caused by Covid-19 pandemic, the learning process has been switched to be online. Eleventh grade vocational high school students of the hospitality skill competency experience difficulties and limitations in the online learning process. Therefore, students need learning media that are in accordance with the situation and conditions, and effectively improve competence, namely Android-based e-module. This study aims to develop, analyze the feasibility, and analyze the effectiveness of the Room Service E-Modul.

The research method used is Research and Development with ADDIE approach and quantitative method with an experimental two group design approach. This study involved three media expert validators and three material expert validators. The implementation of e-modules is carried out in online learning for 4 x 3 x 45 minutes. The data collection techniques used were needs analysis observation, e-module feasibility test questionnaire, and pretest and posttest. Analysis of the data used in this study is the mean, descriptive analysis of the percentage, N-Gain, and independent t-test.

The results showed that: 1) the results of the Room Service E-Module feasibility test got an average value of 3.33 in the very feasible category; 2) E-module room service is declared effective in increasing the competence of students with an average N-gain of 0.71 in the high category, with a significant value of  $p = 0.000$ .

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## INTRODUCTION

Vocational High School (SMK), as one part of the formal education system, prioritizes the development of students' abilities in mastering knowledge, attitudes and skills independently as a provision to enter the business and industrial world (DU/DI). Learning experience obtained from schools will help students to have 21st century competencies, namely being able to think critically, creatively, collaboratively, and communicatively, so that students can compete in the current 4.0 revolution era. Based on the Covid-19 outbreak that entered Indonesia in March 2020, the Indonesian government took a policy in the form of Large-Scale Social Restrictions (PSBB). One of them is that students and teachers carry out teaching and learning activities at home or called Distance Learning (PJJ).

Distance Learning (PJJ) is a system in which students and teachers do learning activities that are not face-to-face, and their learning uses various learning resources through communication technology, information, or other media. Abrami et al., (2011) explained that there are three types of interactions in online learning, namely student-student interaction, student-teacher interaction, and student-student interaction with learning materials. Interactions between students and learning materials include reading informational texts, using study guides, watching learning videos, interacting with multimedia, participating in simulations, and doing assignments.

Facts on the ground, online learning, which is an alternative to accommodate conventional learning in the emergency period of the spread of Covid-19, is also facing various obstacles. Those obstacles are about the fact that online learning is not fully effectively applied in all subjects (Horzum, 2015); online learning has limitations in terms of practice so that vocational students experience boredom, and are not motivated (Mulyanti, et al., 2020); online learning causes lack of motivation in students because there is no direct interaction with fellow students and teachers (Cahyani, et al., 2020); the unequal distribution of internet network facilities and infrastructure in all regions, as well as the

high cost of internet for low-income people (Esteban Jr. and Cruz, 2021); online learning is considered not optimal in providing more experience and productivity in mastering student competencies (Syauqi, et al., 2020); and online learning is difficult for some people to accept, for example teachers belonging to the "baby boomer" generation are less able to use online media in the learning process (Nacu, et al., 2014).

In the current era of the digital revolution, the use of technology in education continues to grow. Teachers must be able to take advantage of technological developments to make it easier for them to convey material and attract students to continue to follow distance learning (PJJ) as in the PSBB period. The form of technology utilization used to simplify the PJJ process is digital-based learning resources, such as e-modules, video tutorials, and virtual reality.

Maharani, et al., (2015) stated that e-modules have economic value and are flexible for students so that they can be used as learning media. Walida (2015) stated that there was an increase in learning outcomes, from the pretest average of 61.31 to 85.31 after using the e-module learning media. This digitally packaged learning resource can make it easier for students to develop their competence in theory learning and practical learning whose tools are not at home, so students can study independently through computers or mobile devices.

The results of initial observations at SMK Mataram Semarang, in the PJJ process during the PSBB period, teachers and students used Google Classroom and Zoom Meetings as media for virtual discussion activities. In addition, the teacher also makes learning videos through YouTube that can be accessed by students at any time, watched repeatedly, and does not make the internal memory of the mobile device full. WhatsApp is only used as a means of communication to provide announcements, and motivation from teachers to students. However, there are many students who are not optimal in participating in PJJ with this system. On the grounds that online learning has limitations in terms of practice so that students experience boredom. It causes a lack of motivation in students because there is no direct interaction with fellow students and teachers. besides that,

Internet costs are expensive for low-income people. Based on this, aspects of students' knowledge and skills are not as maximal as conventional face-to-face learning as usual, as a concrete example in the subject of Food and Beverage Service (FBS).

The learning outcomes of class XI hospitality students in the even semester of the 2020/2021 academic year showed that students were quite able to take online-based PJJ in FBS subjects, but there were still many who did not understand the form of Room Service. As many as 75% of the total 50 grade eleven hospitality students for the 2020/2021 academic year do not understand the basic concepts of the form of room service. This is due to (1) teaching materials that are not yet interactive, which are still in the form of scanned textbooks converted into pdf and power point files through virtual discussion rooms; (2) learning videos shown on YouTube from schools only explain theory, they have not shown practical examples. It makes students still have some difficulties in understanding the material that has been given. In addition, the existence of an Android-based e-module in the FBS subject of hospitality expertise competency has not been widely published, so that teachers have lack of teaching materials to be given to students. The Room Service material is really needed when students have entered their job field in the hospitality sector and other hospitality fields. If students do not understand the concept of room service, students will have difficulty in 21st century job competition, and it can cause the percentage of unemployment to increase.

Based on the things that have been described above, the present study intended to provide a solution by developing and

implementing the Room Service E-Module in FBS class XI hospitality subjects.

## **METHODS**

The research method used in the present study is Research and Development (R&D), with ADDIE approach and quantitative method with an experimental two group design approach. R&D research is a scientific way to research, design, produce and test the validation of products that have been produced (Sugiyono, 2009). R&D research is research that produces new products or develops existing products for certain purposes with a validation process from experts in their fields.

The data collection techniques used are 1) observation for needs analysis, character analysis of students, and analysis of the learning environment; 2) a questionnaire to test the feasibility of the e-module in terms of media and material; and 3) pretest and posttest to determine the competency of students.

The data analysis used in this study were 1) the average to calculate the results of the e-module feasibility test; 2) descriptive analysis of the percentage to calculate the competency of students; 3) N-Gain and Paired Sample t-Test to determine the effectiveness of the implementation of the Room Service E-Module.

## **RESULTS AND DISCUSSION**

### **Analysis**

The analysis stage in the Room Service E-Module development process is needs analysis, student analysis, and learning environment analysis. The results of the analysis stage can be seen in Table 1 below.

**Table 1.** Analysis Results of Room Service E-Module Development

No	Analysis Stage	Results
1.	Needs Analysis	In the Food and Beverage Service subject of eleventh grade, it requires more practical media, not only containing text but also containing images, videos, and quiz that are suitable for online learning models, namely the Android-based Room Service E-Module that can be accessed using smartphone, so it can be used anywhere and anytime. This Room Service E-Module is expected to be used to improve students' competency, especially in Room Service material, because based on observations that have been done, 75% of the total 50 students of class XI Hospitality for the 2020/2021 academic year do not understand the basic concept of the form of Room service.
2.	Analysis of Student Characteristics	Students prefer things that do not cost much, practical, and easily accessible during the online learning process.
3.	Learning Environment Analysis	During the online learning process, Google Classroom is used as a means of providing online classes. However, the material that can be provided through Google Classroom is less practical and takes up a lot of the smartphone's internal memory. The use of this Android-based Room Service E-Module already includes various media such as text, images, videos, and quiz without taking up much of the smartphone's internal memory and it is easier to be accessed. At home, students with lack of facilities such as those in a school laboratory, feel difficult to visualize teaching materials. In this Room Service E-Module, students can watch the practice process which is still in the same application without having to open a link on another platform.

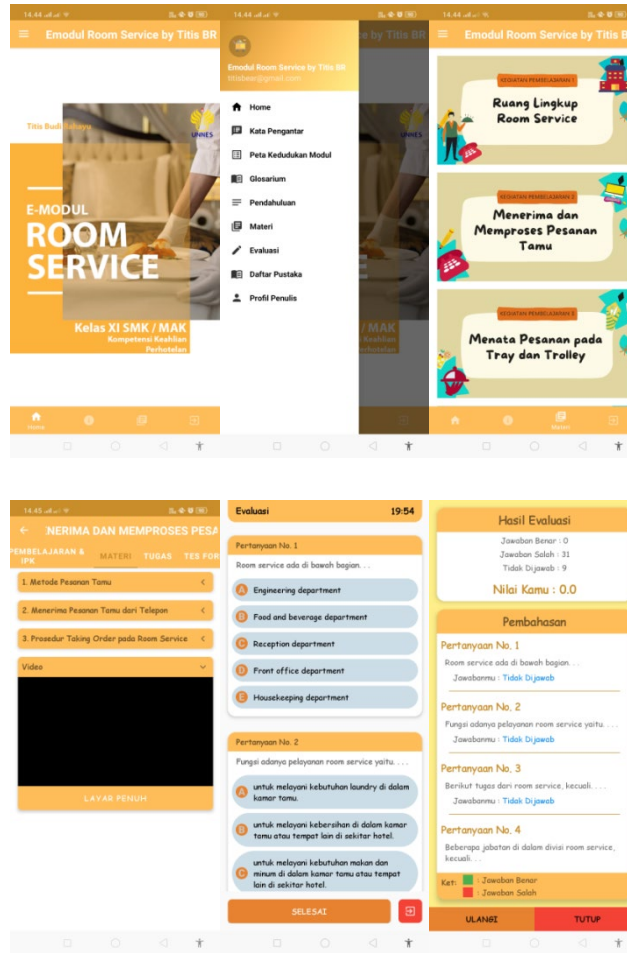
### Design

The design stage in this development research is forming a development team, determining the required resources, arranging a product development schedule, determining the scope of the material, and creating a product prototype. The development team consists of 11 people, namely the main developer, two assistant video and application developers, two supervisors, three media expert validators, and three material expert validators. The resources needed are various room service materials from books and YouTube videos to determine the scope of the material. The scope of material contained in the e-module is the scope of the e-module, receiving and processing guest orders, arranging orders on trays and trolleys, making bills, delivering orders to guest rooms, and clearing up.

The design of the room service menu display must also be determined and adjusted to make it easier for users to access the material. The

menus available in this e-module are cover pages; foreword; module position map; glossary; an introduction containing a brief description, prerequisites, instructions for use, and learning objectives; material that contains six learning activities; evaluation, bibliography, and author profile.

The development stage was started in February by forming a development team, and resources needed. After that, it was continued by making prototype throughout March, and continued with feasibility tests as well as product revisions in April. The e-module that were declared eligible were then applied to online learning throughout May. In June, data processing was carried out to determine the level of effectiveness of the use of Room Service E-Module. This Room Service E-Module prototype was composed through the Android Studio software, and published through the Android Play Store.



**Development**

At the product development stage, the Room Service E-Module prototype will be assessed in such a way to obtain a feasible and qualified final product for further use in the learning process. The use of Room Service E-Module is intended to provide convenience and

practicality for students in learning about Room Service. It must pass feasibility test conducted by three media expert validators, and three material expert validators. The results of the Room Service E-Module feasibility test by expert validators can be seen in Table 2 below.

**Table 2.** Room Service E-Module Feasibility Test Results

No	Aspects	Validator						Average	Description
		Media Expert			Material Expert				
		1	2	3	1	2	3		
1.	Graphic Feasibility	3.19	3.19	3.69	-	-	-	3.35	Very Feasible
2.	Content Feasibility	-	-	-	3.65	3.29	3.00	3.31	Very Feasible
3.	Serving Feasibility	-	-	-	3.46	3.62	3.00	3.36	Very Feasible
4.	Language Feasibility	-	-	-	3.33	3.33	3.08	3.25	Very Feasible
5.	Contextual Assessment	-	-	-	3.56	3.44	3.11	3.37	Very Feasible
Overall Validator Average								3.33	Very Feasible

Table 2 shows that the Room Service E-Module is in the very feasible category with an average value of 3.33 ( $3.25 < x < 4$ ). The contextual assessment aspect was ranked at the top where two out of three expert validators gave a very decent rating. Criticism and suggestions from validators were used to improve the quality of Room Service E-Module.

**Implementation**

The implementation of the Room Service E-Module was given to the experimental group,

namely eleven Hospitality 1 class with a total of 22 students. While in the control group, namely eleven Hospitality 2 class with 26 students, the Room Service E-Module was not applied, but the material was given in pdf form via Google Classroom. The Room Service E-Module was implemented on four meetings, each meeting consisted of 3 x 45 minutes. The journal of the implementation of the Room Service E-Module can be seen in Table 3 below.

**Table 3.** Journal of Application of Room Service E-Module

Meeting	Activity	Media	
		Control Group	Experimental Group
I	Apperception	Google Classroom, Google Meet	Google Classroom, Google Meet
	Pretest	Google Form	Google Form
II	Materials, Assignments, Quiz	Google Classroom, PDF	Google Classroom, Room Service E-Module
III	Materials, Assignments, Quiz	Google Classroom, PDF	Google Classroom, Room Service E-Module
IV	Evaluation, Reflection	Google Classroom, Google Meet	Google Classroom, Google Meet
	Posttest	Google Form	Google Form

**Evaluation**

The results of student competency in the experimental group and control group can be seen in table 4 below.

**Table 4.** Competency Results of Control Group and Experimental Group Students

	Control Group				Experimental Group			
	Pretest	%	Posttest	%	Pretest	%	Posttest	%
Average	20.6	51.5	26.3	65.8	21.5	53.6	34.3	85.8

Based on the table above, it shows that the results of student competency in the experimental group increased by 29.3%, much higher than that of the control group, which was only 14.3%. The results of student competency in the experimental group were declared complete because all

students scored above the passing grade ( $KKM \geq 72$ ). There were only three students who got the complete category in the control group. Details of student competency results in room service learning can be seen in table 5 below.

**Table 5.** Details of Student Competency Results in Each Category

Category	Control Group				Experimental Group			
	Pretest		Posttest		Pretest		Posttest	
	N	%	n	%	n	%	n	%
Not Completed	26	100	23	88.5	22	100	-	-
Completed	-	-	3	11.5	-	-	22	100
Total	26	100	26	100	22	100	22	100

Based on the table above, it shows that the percentage of pretest in both the control group and the experimental group is the same. The material indicators contained in the Room

Service E-Module have also increased. The average score for each Room Service E-Module material indicator in both the experimental and control groups can be seen in Table 6.

**Table 6.** Average Score for Each Material Indicator of Room Service E-Module

No	Room Service Material Indicator	Number of Questions	Control Group (%)		Experimental Group (%)	
			Pretest	Posttest	Pretest	Posttest
1.	Scope of Room Service	14	65%	77%	62%	87%
2.	Receiving and Processing Guest Orders	10	54%	55%	66%	94%
3.	Organizing Trays and Trolleys	3	22%	65%	18%	86%
4.	Making Bill	3	18%	65%	12%	83%
5.	Deliver Order to Guest Room	7	46%	51%	49%	69%
6.	Clearing Up	3	58%	72%	62%	94%
Total		40				

Based on the table above, it shows that the material indicator of Processing Guest Orders is the indicator that has the lowest increase in the control group, which is only 1%. Meanwhile, those who experienced a fairly high increase were in the control group, namely in the material indicator of Making Bills by 47%. This was also experienced in the experimental group that the material indicator for Making Bill was in the top rank after being given learning with the Room Service E-Module, which was 71%.

After knowing the results of student competency both in the control group and in the experimental group, the difference test was then carried out using the Paired Sample t-Test. The

results of the control group test showed that the value of  $t = -9.385$  with degrees of freedom  $26 - 1 = 25$ , and the value of  $p = 0.000$  which means there is a significant difference between before learning and after learning room service. While the results of the experimental group showed that  $t = -27,907$  with degrees of freedom  $22 - 1 = 22$ , and the value of  $p = 0.000$  which means there is a significant difference between before learning and after learning room service.

The effectiveness of learning Food and Beverage Service using Room Service E-Module has been calculated using N-gain analysis. The results of the effectiveness of the intervention can be seen in Table 7.

**Table 7.** Results of the Effectiveness of Using Room Service E-Module

Criteria	Control Group			Experimental Group		
	Pretest	Posttest	N-Gain	Pretest	Posttest	N-Gain
Low	56.3	64.2	0.18	-	-	-
Medium	46.7	67.3	0.38	53.3	84.0	0.66
High	-	-	-	54.3	89.6	0.77
Average	51.5	65.8	0.28	53.8	86.8	0.71
Criteria			Low			High

Table 7 shows that the average score of effectiveness in the experimental group is 0.71 in the high category. While the control group showed effectiveness in the low category with average score of 0.28. It shows that every learning process must bring changes in a positive direction, but the use of learning media, especially the use of Room Service E-Module, is more effective in

improving the competency of students. The results of the independent sample T test by including the average N-Gain in the table, show that the N-Gain Percent data has a Sig (2-tailed)  $0.000 < 0.05$ , meaning that there is significant difference in effectiveness between the experimental group and the control group in cognitive assessment.

The advantages of this room service e-module are that it is easy to use independently, has a simple design, and is easy to understand. E-modules are available on the Google Play Store so users can download anywhere and anytime with an internet connection. However, it is not yet available on the Apple Store so iOS smartphone users cannot access it. In addition, it does not require a lot of internal storage space on a smartphone. It is only 27.8 MB because the material has been summarized and the video presentation is linked via the YouTube application. The content of the material has been presented in a concise manner but does not reduce the original substance, so that users can read and learn practically. The display of the e-module is also presented in such a way according to the width of the smartphone screen, users just need to scroll twice in each sub-material. It contains not only text, but also images which are provided for students to add insight and visualization. Users can read and study it without any internet connection, except the video section. If users are going to watch learning video, they need internet connection. The videos are presented in stages according to the learning activities. It helps students understand the procedures for room service activities even though they do not practice directly because of online learning constraints. In the quiz and evaluation section, the user can find out the wrong answer, but the answer key is not given directly. Users need to retry quiz and evaluations. In addition, the questions are presented randomly, not in order with the aim of avoiding rote memorization.

There are some advantages of the Room Service E-Module. The use of appropriate learning media in accordance with standards can increase student competency in room service competency. The results of the effectiveness of using e-module showed an average N-Gain of 0.71 in the high category and had a Sig (2-tailed)  $0.000 < 0.05$  through the independent sample T-test, meaning that there is a significant difference in effectiveness between experimental and control group in cognitive assessment.

The results of research by Maulana, et al (2019) are that computer assembly e-module can improve the competency of vocational students. The computer assembly e-module is also only

available on Android smartphones, not yet available on iOS smartphones. The results of this study are also in line with the results of research conducted by Irawan and Danang (2015), that Android-based e-modules in the very feasible category can improve student learning outcomes in Production Management subjects in Surabaya with a value of 99.3%. Cahyani et al. (2020) stated that the effectiveness of the use of e-module in Physics subjects for grade ten SMK students majoring in multimedia was in the medium category, namely in the aspects of fluent thinking, flexible thinking, elaboration, and original thinking. Dermawan and Fahmi (2020) stated that e-modules can be applied in the learning process and effectively improve aspects of student knowledge seen from the results of clothes made by students. Laili et al. (2019) states that the use of e-modules is effective in improving the subject of electric motor installation at SMK Padang. Purnamasari et al. (2020) also stated that e-modules are interactive teaching resources that can facilitate students to study independently and there is an increase in student learning outcomes after the use of e-modules as an emergency innovative learning resource during the Covid-19 outbreak.

## CONCLUSION AND SUGGESTION

The conclusions of this study are 1) The results of the room service e-module feasibility test conducted by three media expert validators, and three material expert validators got an average value of 3.33 in the very feasible category, with details of the graphics feasibility (3.35), content feasibility (3.31), presentation feasibility (3.36), language appropriateness (3.25), and contextual assessment (3.37); 2) Room Service E-Module was declared effective in improving the competency of eleventh grade SMK students of Hospitality expertise competency with an average N-gain of 0.71 in the high category, with a significant value of  $p = 0.000$ .

Suggestions from this study are 1) students who are involved in learning using the Room Service E-Module are expected to have mastered the basics of Food and Beverage service first to facilitate the learning process; 2) The Room Service E-Module should not only be used during



online learning but can also be used by stakeholders in various activities outside school, especially in preparation for entering the hospitality job field; 3) Other researchers can develop learning media in various types related to vocational competencies, so that they can be a learning reference for students, teachers, and prospective teachers when they will teach in schools.

## REFERENCES

- Abrami, P.C., R.M. Bernard, E.M. Bures, E. Borokhovski, and R.M. Tamim. (2011). Interaction in distance education and online learning: Using evidence and theory to improve practice. *Journal of Computing in Higher Education*, 23(2-3), 82–103.
- Cahyani, A., I.D. Listiana, S.P.D. Larasati. (2020). Motivasi Belajar Siswa SMA pada Pembelajaran Daring di Masa Pandemi Covid-19. *IQ (Ilmu Al-qur'an): Jurnal Pendidikan*, Volume 3 No. 01 2020, p. 123-140.
- Dermawan, dan Fahmi R. (2020). Pengembangan E-Modul Berbasis Web Pada Mata Pelajaran Pembuatan Busana Industri. *Jurnal Pedagogi dan Pembelajaran*. Vol. 3, No. 3, Tahun 2020, pp. 508-515. ISSN: 2614-3909.
- Esteban Jr., A.M. and Cruz, M.J.P. (2021) Digital Divide in Times of Pandemic among Teacher Education Students. *Open Access Library Journal 2021*, Volume 8: e7323. ISSN: 2333-9705.
- Horzum, M. B. (2015). Interaction, Structure, Social Presence, And Satisfaction In Online Learning. *Eurasia Journal of Mathematics, Science & Technology Education*, 11(3), 505-512.
- Irawan, F. C., dan Danang. (2015). Pengembangan E-Modul Berbasis Android untuk Mata Pelajaran Manajemen Produksi pada Siswa Kelas XI di SMK Negeri 1 Surabaya. *Jurnal Mahasiswa Teknologi Pendidikan Unesa*. Volume 01 Nomor 01 Tahun 2015.
- Laili I., Ganefri, dan Usmeldi. (2019). Efektivitas Pengembangan E-Modul Project Based Learning pada Mata Pelajaran Instalasi Motor Listrik. *Jurnal Imiah Pendidikan dan Pembelajaran*. Volume 3 Nomor 3 Oktober 2019. ISSN : 1858-4543.
- Maharani P., F. Alqodri, R. A. D. Cahya. (2015). Pemanfaatan Software Sigil sebagai Media Pembelajaran E-Learning yang Mudah, Murah dan User Friendly dengan Format Epub sebagai Sumber Materi. *Semnasteknomedia Online* Vol. 3(1), 3–5. ISSN: 2302-3805.
- Maulana, M.A., Y. Sujana, A. Budianto. (2019). Development of Module and Augmented Reality Based Android Aplication Computer Assembly For Vocational High School Student. *Journal of Informatics and Vocational Education (JOIVE)*. Vol.2, Issue.2, Juli 2019, pp. 82~87.
- Mulyanti, B., W. Purnama, and R. E. Pawinanto. (2020). Distance Learning in Vocational High Schools during the COVID-19 Pandemic in West Java Province, Indonesia. *Indonesian Journal of Science & Technology*, 5 (2), 271-282.
- Nacu, D. C., C. K. Martin, N. Pinkard, and T. Gray. (2014). Analyzing educators' online interactions: a framework of online learning support roles. *Learning, Media and Technology*, 41(2), 283–305.
- Purnamasari, N., Siswanto, S., & Malik, S. (2020). E-Module As An Emergency-Innovated Learning Source During The Covid-19 Outbreak. *Psychology, Evaluation, And Technology In Educational Research*, 3(1), 1–8.
- Sugiyono. (2009). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Penerbit Alfabeta.
- Syauqi, K., S. Munadi, and M. B. Triyono. (2020). Students' Perceptions toward Vocational Education on Online Learning during the COVID-19 Pandemic. *International Journal of Evaluation and Research in Education (IJERE)* Vol. 9, No. 4, pp. 881-886. ISSN: 2252-8822.
- Walida, S. E. (2015). Pengembangan Bahan Ajar dalam Bentuk Multimedia Interaktif pada Mata Kuliah Teori Graph untuk Pembelajaran Matematika Berbasis Digital. *Jurnal Pendidikan Matematika*, Vol.1(1), 53–57. ISSN: 2442–4668.