Journal of Educational Research and Evaluation

Volume 6, Issue 3, 2022, pp. 739-747 P-ISSN: 2597-422x E-ISSN: 2549-2675

 $Open\ Access: \underline{https://dx.doi.org/10.23887/jere.v6i4.48414}$



Undergraduate Students' Difficulties in Mastering Research Methodology Course in Islamic Higher Education

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ARTICLE INFO

Article history:

Received June 18, 2022 Revised June 25, 2022 Accepted September 24, 2022 Available online November 25, 2022

Kata Kunci:

Metode Penelitian, Mahasiswa S1, Perguruan Tinggi Keagamaan Islam

Keywords:

Research Methodology, Undergraduate Students, Islamic Higher Education



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ABSTRAK

Pada umumnya mahasiswa mempersepsi matakuliah Metode Penelitian sebagai matakuliah yang sulit. Penelitian ini bertujuan untuk menemukan pendapat mahasiswa Program Studi Tadris Bahasa Inggris pada tiga Perguruan Tinggi Keagamaan Islam Negeri di Sumatera Barat tentang implementasi matakuliah terhadap Research Methodology, penguasaan mahasiswa pembelajaran/topik perkuliahan, tingkat kesulitan matakuliah Research Methodology dan faktor-faktor yang menyebabkan kesulitan mahasiswa dalam menguasai materi perkuliahan Matakuliah Research Methodology. Penelitian ini merupakan penelitian survei dengan desain cross-sectional. Responden penelitian adalah mahasiswa yang terdaftar aktif pada matakuliah Research Methodology, yang berjumlah 125 orang.Data penelitian dikumpulkan dengan menggunakan kuisioner. Hasil penelitian menunjukkan bahwa sebanyak 66.65% mahasiswa menyatakan bahwa matakuliah Research Methodology sudah diimplementasikan dengan baik: sebanyak 67.74% mahasiswa menyatakan bahwa mereka menguasai materi metode penelitian kuantitatif dan 65.56% menguasai materi perkuliahan metode penelitian kualitatif; sebanyak 75.30% mahasiswa menyatakan bahwa matakuliah Research Methodology adalah matakuliah yang sulit; dan faktor yang paling dominan yang menyebabkan mahasiswa mengalami kesulitan dalam matakuliah ini adalah proses pembelajaran (40.00%). Hal ini mengimplikasikan bahwa dosen pengampu matakuliah Research Methodology perlu mengembangkan model pembelajaran yang baru dan inovatif untuk membuat mahasiswa lebih aktif dalam proses pembelajaran, sekaligus membantu mahasiswa memiliki keterampilan meneliti dan keterampilan berpikir kritis secara lebih baik.

ABSTRACT

In general, undergraduate students perceived Research Methodology course as a complex subject. The present study aims to find out undergraduate English Teaching Department students' opinion on the implementation of Research Methodology course, students' difficulties in mastering the topics of Research Methodology course, and factors affecting their difficulties in comprehending Research Methodology course in three State Islamic higher education in West Sumatera, Indonesia. The study was survey research with cross-sectional design. One hundred twenty-five active students enrolled in Research Methodology subjects participated in this study. Questionnaires were used to collect the data. The findings revealed that 66.65% students perceived that the Research Methodology course implemented properly; 67.74% students perceived that they comprehended quantitative research topics and 65.56% qualitative research topics; 75.30% students perceived that Research Methodology was a complex course; and dominant factor causing students' difficulties in comprehending learning materials/topics was teaching and learning process (40.00%). It implies that a new and innovative teaching model should be developed by the lecturers in order to gain the aims of Research Methodology course and to help the students to be better in the learning engagement, critical thinking and research skills.

1. INTRODUCTION

Research is a simple process of dependable solution to a problem through the planned, systematic procedures carried out by a person through understanding the nature of the problem, reviewing the literature, intellectual searching for facts, doing observations, collecting data, and drawing conclusions and making interpretation based on data (Erlinda, 2018; Gay et al., 2012; Leedy & Ormrod, 2010; Lodico et al., 2010). Research Methods course has many benefits for undergraduate students. Research Methods course plays important role in undergraduate education (Denham, 2015). This course, in principle, aims to equip undergraduate students with skills to conduct research and critically analyze research findings that already exist (Zablotsky, 2001). In addition, the research skills that students have mastered can help them enter further education, find solutions to real problems that are currently being faced by the world and find the

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truth (Braguglia & Jackson, 2012). Research methods can also be applied in overcoming daily problems because when students learn to analyze problems systematically and objectively, they will be more successful and confident in making decisions (Leedy & Ormrod, 2010).

Research on students' perception, opinion and attitudes toward research methodology as a course for undergraduate students has been widely carried out by previous researchers. Most of scholars found that the students perceived negatively to Research Methodology as a course, like difficult, complex, tiresome, technical, and stressful, even though a limited study reported that some students viewed that learning Research Methodology was interesting, educative, and challenging. Just a few studies which found that undergraduate students perceived Research Methodology course positively, like interesting, educative and challenging (B. K. Daniel, 2018; Reddy, 2018; Sundt, 2010).

The complexity of teaching the course can be considered from several facets. Firstly, course materials were very complex and tiresome (Santosa et al., 2021; Sundt, 2010); especially making literature review manually was a big problem for undergraduate students (Santosa et al., 2021). Consequently, the students join the class with less enthusiasm, even a little fear (Sundt, 2010). Secondly, students' interest to comprehend the materials was slump (Ball & Pelco, 2006). Thirdly, undergraduate students sometimes failed to find the connection between research methods and their education and future career (Dion et al., 2008; Sundt, 2010). Lastly, Research Methods course was taught more theoretical than the application of research and was often taught with passive learning methods with teacher-centered learning and students were less able to connect the course as an academic course with the application of learning with future studies (Benson & Blackman, 2015).

Other previous research on Research Methodology as a course were lecturers' experiences when they implemented student-centered learning models in teaching research methods to undergraduate students, such as guided-inquiry model (Mullins, 2017); problem-based learning (Spronken-Smith, 2005), evidence-based learning (Hattery & Davis, 2015; He & Li, 2020; Larsen et al., 2019; Weathers, 2021). Besides, the previous research addressed developing new models of teaching Research Methodology course to undergraduate students: using technology integration with blended learning (Eviyanti et al., 2020; Olivier, 2014; Wu & Patel, 2016); teaching Research Methods by learning by doing model (Aguado, 2009); teaching research methods by using learning analytic models (Ben Kei Daniel, 2019).

Based on the literature review, previous researchers inadequately addressed factors affecting the complexities or difficulties of the Research Methodology course. This issue was the gap of the present research. The present study provided more detailed information in order to gain a better teaching process on Research Methodology course and to develop an effective learning model to overcome existing problems. This research was very urgent to do to make need analysis as preliminary research before developing new learning model for Research Methodology course. Consequently, this study aims to (1) to explore students' perception on the Research Methodology course, (2) to find out students' mastery on Research Methodology course, and (4) factors affecting students' difficulties in mastering Research Methodology course.

2. METHODS

The present study used a survey research method with cross-sectional design. The population of the study was the fourth semester students of English Teaching Department from the three State Islamic Higher Education in West Sumatera: IAIN Batusangkar, UIN Imam Bonjol Padang, and IAIN Bukittinggi in 2019/2020 academic year. One hundred twenty-five active students in the academic year of 2019/2020, who were randomly selected, participated in this study. Questionnaire was used to collect the data. The questionnaire was constructed by using Likert scale with four scales; 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (DA), and 1 = Strongly Disagree (SDA) (Creswell, 2012; Sugiyono, 2010), as in Table 1.

Table 1. Indicator score of the Likert Scale Questionnaire

No	Alternative Option	Score
1	Strongly Agree (SA)	4
2	Agree (A)	3
3	Disagree (DA)	2
4	Strongly Disagree (SDA)	1

The questionnaire was valid and very reliable (0.875 Cronbach alpha). The instrument was constructed by using google forms and distributed via WhatsApp group that existed among English Department students and were currently enrolling the Research Methodology course at current semester

(in academic year 2019/2020). One hundred and twenty-five respondents sent their responses of the questionnaire. The responses of questionnaire were scored by implementing indicator score of Likert Scale (Table 1). All the data were input into the computer and were analyzed through the Statistical Package for Social Science (SPSS 22.0). Interval score Likert Scale is presented in Table 2 and interval of percentage Likert scale is presented in Table 3.

Table 2. Interval Score Likert Scale Questionnaire

No	Interval of Scores	Category
1	$3.25 < \mu \le 4.00$	Strongly Agree
2	$2.50 < \mu \le 3.25$	Agree
3	$1.75 < \mu \le 2.50$	Disagree
4	$1.00 < \mu \le 1.75$	Strongly Disagree

Table 3. Interval of Percentage Likert Scale Questionnaire

No	Interval of Percentage	Category
1	$81.00\% < P \le 100.00\%$	Strongly Positive/Fully Comprehend
2	$63.00\% < P \le 81.00\%$	Positive/Comprehend
3	$44.00\% < P \le 63.00\%$	Negative/Slightly Comprehend
4	$25.00\% < P \le 44.00\%$	Strongly Negative/Do not Comprehend at all

Analyzing causes of difficulties in mastering Research Methodology course to know the main factor causing difficulties faced by the students. The first step was analyzing students' responses by multiplying each counting result each the point of the questionnaire. After multiplying the result with the Likert scale point, the total scored was summed up to calculate percentage. The highest percentage would be chosen as the main factors of causing difficulties in mastering Research Methodology course materials.

3. RESULT AND DISCUSSION

Results

Related to the results of data analysis from questionnaires, there were three main components described, namely students' opinion on the implementation of Research Methodology course, students' mastery in Research Methodology course learning materials, complexity level of the course, and factors causing students 'difficulties in Research Methodology course.

Students' Opinion on Implementation of Research Methodology Course

The indicators for the implementation of Research Methodology courses perceived by the students, including lecture preparation, learning materials, tasks/assignments, learning methods, learning media & sources, and assessment of learning outcomes, as shown in Figure 1.

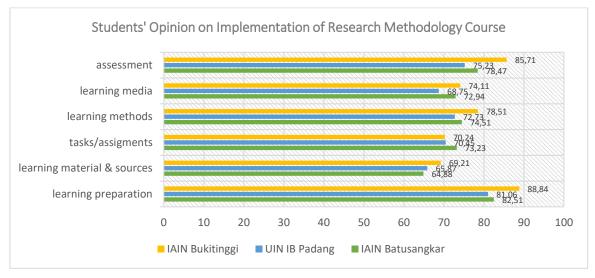


Figure 1. Students Opinion on Implementation of Research Methodology Course

Figure 1 shows that the English department students of three Islamic Higher Education perceived the implementation of each aspect of Research Methodology course in almost the same categories. Most of the students (more than 80%) considered that lecturers had made learning preparation at the beginning of the course. Many students (66.65%) thought that they had comprehended learning materials. Many students (71.30%) positive opinion on the tasks/assignments given by the lecturers. Many students (75.25%) positive view on student-centered teaching method applied by the lecturers. Many students (71.90%) have positive opinion on learning media used by lecturers. Many students (79.80%) considered the implementation of assessment had been appropriate with course objectives.

The Students' Mastery on Learning Materials of Research Methodology Course

The following was the percentage of the students' mastery on quantitative research type included concepts of quantitative research in education, background of the study, formulation of the problem & research question, variable and data, literature review, research hypotheses, research design, population & samples, research instruments, data collection techniques, data analysis, and interpretation of data analysis result. It can be seen in the Table 4.

		9		
No	Learning Materials of Research Methodology Course	IAIN Batusangkar	UIN IB Padang	IAIN Bukittinggi
1	Basic concepts of quantitative research	67.10	69.70	77.08
2	Background of the study, formulation of the problem and research questions	70.55	70.83	74.70
3	Research variables	63.79	70.83	71.43
4	Literature review	65.52	65.63	69.31
5	Research hypotheses	66.16	65.34	69.20
6	Quantitative research designs	63.79	65.45	66.96
7	Population and sampling	66.67	67.05	72.62
8	Research instruments	61.93	67.80	69.49
9	Data collection techniques	67.46	69.32	72.77
10	Data analysis	62.93	67.05	69.20
11	Data analysis results & interpretation	58.10	62.50	67.32
·	Mean	64.91	67.41	70.92

Table 4. Students' Mastery on Quantitative Research Learning Materials

The data in Table 4 shows that many students of three State Islamic Studies in West Sumatera (67.74%) agreed that they comprehend quantitative research learning materials. For the three universities, the mean percentage of learning materials mastery is as follows: the concept of quantitative research (72.03%), background of the problem, formulation of the problem & research questions (68.68%), variables and data (66.82), literature review (66.90%), research hypotheses (65.40), research designs (68.78%), population & samples (66.41%), research instrument (69.85), technique of collecting data (66.39%), data analysis (62.64%), and data interpretation (67.37%). The mean percentage of students' competence for quantitative research topics from the three states Islamic universities as drawn in Figure 2.

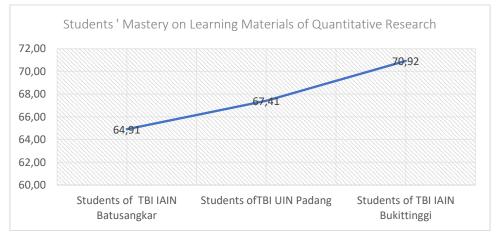


Figure 2. Students Mastery on Quantitative Research Learning Materials

The Figure 2 shows that the students' competences on quantitative research learning materials for the three State Islamic Higher Education were various. The students of English Teaching Department of IAIN Batusangkar agreed that they master quantitative research learning materials was 64.70%; UIN IB Padang was 67.20% and IAIN Bukittinggi was 70.20%.

There were nine topics of qualitative research learning material studied by the students, namely, background of the study, focus of problems and research questions, data in qualitative research, literature reviews, research design, research informants, qualitative research instruments, data collection techniques, data analysis techniques, and data trustworthiness. The results of data analysis can be seen on Table 5.

No	Learning Materials of Research	IAIN	UIN IB	IAIN
	Methodology Course	Batusangkar	Padang	Bukittinggi
1	Concepts of Qualitative Research	73.08	69.89	75.00
2	Background of the study, research focus and questions	68.27	69.32	73.51
3	Qualitative research data	70.67	64.77	72.32
4	Literature review in Qualitative Research	67.55	63.64	67.41
5	Qualitative research design	65.02	63.64	63.39
6	Research informants	63.46	60.23	66.96
7	Qualitative research instruments	65.15	67.05	67.86
8	Data collection techniques in qualitative studies	62.23	65.75	68.62
9	Qualitative data analysis techniques	56.25	58.52	58.48
10	Data trustworthiness	56.83	60.45	61.43

Tabel 5. Students' Mastery on Qualitative Research Learning Materials

Mean

Table 5 shows that many students of three State Islamic Studies in West Sumatera (65.56%) agreed that they comprehend qualitative research learning materials. For the three universities, the mean percentage of learning materials mastery is as follows: was as follow: concepts of qualitative research (72.66%), background of the study, focus of problems and research questions (70.37%), data in qualitative research (69.25%), literature reviews (66.20%), research design (64.02), research informants (63.55%), qualitative research instruments (66.69%), data collection techniques (65.53%), data analysis techniques (57.75%), and data trustworthiness (59.57%). The mean percentage of students' competence for qualitative research topics from the three states Islamic universities as drawn in Figure 3.

64.85

64.33

67,50

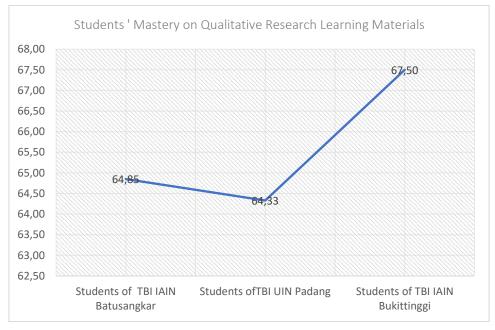


Figure 3. Students Mastery on Qualitative Research Learning Materials

The Figure 3 shows that the students' competences on qualitative research learning materials for the three State Islamic Higher Education were various. The students of IAIN Batusangkar agreed that they master qualitative research learning materials was 64.85%; UIN IB Padang was 64.33% and IAIN Bukittinggi was 67.50%.

Students' Opinion on Difficulty Level of Research Methodology Course

Students' perception on difficulty level of Research Methodology course was conducted by distributing questionnaire to the students. The results of data analysis can be drawn as in Figure 4.

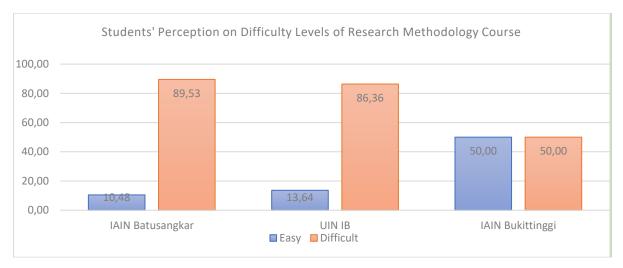


Figure 4. Students Opinion on Difficulty Levels of Research Methodology Course

Based on the Figure 4, it was identified that 89.53% of English Teaching students from IAIN Batusangkar perceived that Research Methodology course was difficult; 86.36% of students of UIN Imam Bonjol viewed that Research on ELT course was difficult, and 50.00% students from IAIN Bukittinggi made perception that Research Method subject was difficult.

Factors Affecting Students' Difficulties in Mastering Research Methodology Learning Materials

There were six factors affecting the students' difficulties in mastering Research Methodology course, namely, health factor, psychological factor, family factor, teaching process, facilities and lecture time, and environmental factor. It can be seen on Figure 5.

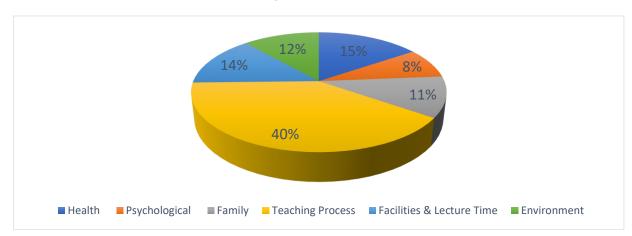


Figure 5. Factors Affecting Students' Difficulties in Mastering Research Methodology Course Learning Materials

From the Figure 5, it can be seen that the main factor causes of difficulties in mastering Research Methodology course materials among the English student department of the three Islamic Higher Education in West Sumatera are teaching process (40%), health (15%), facilities and lecture time (14%), environment (12%), family (11%) and psychological factors (8%). In short, the primary causal factor of difficulties in mastering Research Methodology course materials is teaching process (40%).

Discussion

The present study found out that the most of the students (86.00%) perceived that Research Methodology course was difficult subject and the dominant factor causing undergraduate EFL students' problem in comprehending Research Methodology was teaching/learning process factors (40.00%). It means that learning environment was the important factor to be considered by the faculty and lecturers in order to gain the better comprehension of Research Methodology course. The finding of this research was also supported by previous study that Research Methods course perceived by the students as a complicated, technical, and worrying, but it was educative and useful (David, 2019). The students' difficulties mostly on the methods of research like knowledge of different types of research, selection of the topic, research problem review of literature, data collection tools, data analysis, are necessary to carry out research smoothly throughout (Arcavi, 2000).

Several studies emphasized the finding of the present research. They obtained undergraduate students viewed Research Methods course run worrying learning process and lack of relevant learning sources create barriers to effective learning (Forrest, 2017; Munabi et al., 2016). To overcome the situation, lecturers need to make students be familiar with learning materials by using more hands-on method to the teaching process, accompanied by mentorship program (David, 2019). There are research about causes of postgraduate students' difficulties in qualitative research methodology courses (Kristiana, 2020). The students obtained main obstacle in mastering learning materials because the materials were written in English and qualitative research methods in various studies be likely similar so it makes them more confuse.

Previous research about challenges of undergraduate dental students in applying suitable statistics in Research Methods course included demonstrating statistics frighten them (Leary & Ness, 2021). It was evidences that the students felt anxiety when working with numbers. This is exacerbated by the lack of trained staff. The students' mastery toward research skills was low, 50-80%. Evidence-based teaching, flipped classroom, and tutoring were applied to overcome students' statistic anxiety. The students' mastery improved, 72-95%. It has been possible to run sustainable Research Methods course that engages students' interest and produces excellent learning outcome (Barraket, 2005; Dion et al., 2008; Leary & Ness, 2021). Previous research attained that the students considered three major potential factors—attitude toward teaching approaches, teaching methods; and characteristics of institution in assessing the effectiveness of student-centered method (Yoder et al., 2021). This research suggested that standpoint and individual teaching methods were significant factors of the use and purpose to implement student-centered method in Research Methods classroom. Astonishingly, institutional factors observed (such as percentage of time spent teaching, class size, and type of institution) played no substantial function.

The findings of the present research not only giving information about students' perception on the implementation of Research Methodology course, but also to find out the most dominant factor causing its difficulties for undergraduate students was teaching and learning process. This is novelty of this study. Related to those findings of the research, the lecturers of Research Methodology course should enrich teaching materials, learning process with deep research activities, encourage students to feel part of the research culture in the faculty/department, create communicative teaching strategies in order to help the students be better simultaneously in comprehending materials of the course and conducting the research.

4. CONCLUSION

Based on the research objectives, it was found that the undergraduate English Department students of the three States of Islamic Higher Educations in West Sumatera more than 70.00% students perceived that each aspect of Research Methodology course had been implemented properly, except for comprehending learning materials (66.65%). Students' mastery on quantitative research learning materials was 67.74%; and 65.66% for qualitative research learning materials. Most of the students (75.30%) agreed that Research Methodology was a difficult course. Many students (75.00%) considered that the most dominant factor causing difficulties faced by the students was teaching/learning process (40.00%). The limitation of the study was number of respondents. It was difficult to communicate with the students because of health protocols during Covid-19 pandemics. Based on the results of the present research, the researchers recommend for lecturers of Research Methodology course to develop new and innovative learning model which integrate digital technology to make attractive and interactive learning process. It will increase students' engagement and consequently will help undergraduate students comprehend learning materials and finally it will improve students' critical thinking and research skills.

5. ACKNOWLEDGE

This work was supported by the Research Fund of the State Institute for Islamic Studies (IAIN) Batusangkar Year 2020 [B-501.b/In.27/R-IV/TL.00/02/2020]

6. REFERENCES

- Aguado, N. A. (2009). Teaching Research Methods: Learning by Doing. *Journal of Public Affairs Education*, 15(2), 251–260. https://doi.org/10.1080/15236803.2009.12001557.
- Arcavi, A. (2000). Problem-driven research in mathematics education. *Journal of Mathematical Behavior*, 19(2), 141–173. https://doi.org/10.1016/S0732-3123(00)00042-0.
- Ball, C. T., & Pelco, L. E. (2006). Teaching Research Methods to Undergraduate Psychology Students Using an Active Cooperative Learning Approach. *International Journal of Teaching and Learning in Higher Education*, 17(2), 147–154. https://www.isetl.org/ijtlhe/ijtlhe-article-view.php?mid=38.
- Barraket, J. (2005). Teaching Research Method Using a Student-Centred Approach? Critical Reflections on Practice. *Journal of University Teaching and Learning Practice*, 2(2), 17–27. https://doi.org/10.53761/1.2.2.3.
- Benson, A., & Blackman, D. (2015). Can research methods ever be interesting? *Active Learning in Higher Education*, *4*(1), 39–55. https://doi.org/10.1177/1469787403004001004.
- Braguglia, K. H., & Jackson, K. A. (2012). Teaching research methodology using a project-based three course sequence critical reflections on practice. *American Journal Of Business Education*, *5*(3), 347–352. https://doi.org/10.19030/ajbe.v5i3.7007.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. University of Nebraska-Lincoln: Pearson.
- Daniel, B. K. (2018). Contestable professional academic identity of those who teach research methodology. *International Journal of Research & Method in Education*, 41(5), 548–561. https://doi.org/10.1080/1743727X.2017.1369510.
- Daniel, Ben Kei. (2019). Improving the pedagogy of research methodology through learning analytics. *Electronic Journal of Business Research Methods*, 17(1), 43–53. https://academic-publishing.org/index.php/ejbrm/article/view/1388.
- David, A. (2019). Perception and Attitudes of Undergraduate Students of Sociology towards Research Methods as a Course in Kogi State University, Anyigba, Nigeria. *Journal of International Cooperation and Development*, 2(1), 1–19. https://www.tiemporealbolsa.com/images/books-procedings/pdf/Book-of-Proceedings-ASHESS-2019---FULL-PAPERS.pdf#page=9.
- Denham, B. (2015). Teaching Research Methods to Undergraduates. *Journalism & Mass Communication Educator*, *51*(4), 54–62. https://doi.org/10.1177/107769589605100407.
- Dion, M., Coxe, L. M., & Carne, M. (2008). Track Four: Teaching Research Methods. *PS Political Science and Politics*, *41*(3), 622–623. https://doi.org/10.1017/S104909650829089X.
- Erlinda, R. (2018). Introductory Research-Based Learning in Linguistics Class: Students 'Perspectives. International Journal of Pure and Applied Mathematics, 119(18), 1217–1228. https://repo.iainbatusangkar.ac.id/xmlui/handle/123456789/13011.
- Eviyanti, E., Zulherman, Z., & Polili, A. (2020). *Google Classroom in Blended Learning on Teaching Research Method*. https://doi.org/10.4108/eai.4-12-2019.2293797.
- Forrest, S. (2017). Teaching social science research methods to undergraduate medical students. *Teaching Public Administration*, *35*(3), 280–300. https://doi.org/10.1177/0144739417715894.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational Research : Competencies for Analysis and Applications* (10th ed.). Pearson.
- Hattery, A., & Davis, S. (2015). Teaching Feminist Research Methods: Evidence-Based Teaching. *Innovations in Teaching & Learning Conference Proceedings*, 7(1), 90. https://doi.org/10.13021/g80c72.
- He, Y., & Li, Y. (2020). Research on teaching method of computer application course based on evidence-based teaching method. *Journal of Physics: Conference Series*, 1648(3). https://doi.org/10.1088/1742-6596/1648/3/032182.
- Kristiana, E. (2020). Case Study: Learning Difficulties of Qualitative Research Methodology at Biology Education Postgraduate. *International Journal of Education & Curriculum Application*, *3*(1), 31–42. https://doi.org/10.31764/ijeca.v3i1.2039.
- Larsen, C. M., Terkelsen, A. S., Carlsen, A. M. F., & Kristensen, H. K. (2019). Methods for teaching evidence-based practice: A scoping review. *BMC Medical Education*, 19(1). https://doi.org/10.1186/s12909-019-1681-0.
- Leary, S., & Ness, A. (2021). Teaching research methods to undergraduate dental students. Journal of

- University Teaching and Learning Practice, 18(2), 94–109. https://doi.org/10.53761/1.18.1.7.
- Leedy, P. D., & Ormrod, J. E. (2010). Practical Research: Planning and Design. In *Teaching Sociology* (Vol. 18, Issue 2). Pearson Education, Inc. https://doi.org/10.2307/1318509.
- Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in Educational Research: From Theory to Practice*. John Wiley & Sons, Inc.
- Mullins, M. H. (2017). Actively Teaching Research Methods with a Process Oriented Guided Inquiry Learning Approach. *Journal of Teaching in Social Work, 37*(4), 309–321. https://doi.org/10.1080/08841233.2017.1347122.
- Munabi, I. G., Buwembo, W., Joseph, R., Peter, K., Bajunirwe, F., & Mwaka, E. S. (2016). Students' perspectives of undergraduate research methods education at three public medical schools in Uganda. *The Pan African Medical Journal*, 24, 74. https://doi.org/10.11604/pamj.2016.24.74.9410.
- Olivier, J. (2014). A blended learning approach to teaching sociolinguistic research methods. *Per Linguam*, 30(2). https://doi.org/10.5785/30-2-543.
- Reddy, P. (2018). Research methods for undergraduate delivery: Evaluation of problem-based learning. *Perspectives in Education*, *36*(1). https://doi.org/10.18820/2519593X/pie.v36i1.4.
- Santosa, M. H., Adnyani, L. D. S., & Amarwati, L. R. (2021). Undergraduate EFL Students' Perception towards the Use of Mendeley Referencing System on Students' Thesis Writing. *Journal of Education Research and Evaluation*, *5*(4), 507. https://doi.org/10.23887/jere.v5i4.32570.
- Spronken-Smith, R. (2005). Implementing a problem-based learning approach for teaching research methods in geography. *Journal of Geography in Higher Education*, 29(2), 203–221. https://doi.org/10.1080/03098260500130403.
- Sugiyono. (2010). Metode Penelitian Kuantitaif, Kualitatif, dan R&D. Alfabeta.
- Sundt, J. (2010). Overcoming student resistance to learning research methods: An approach based on decoding disciplinary thinking. *Journal of Criminal Justice Education*, 21(3), 266–284. https://doi.org/10.1080/10511253.2010.487835.
- Weathers, E. (2021). A Creative Teaching Method for Research and Evidence-Based Practice. *Nursing Education Perspectives*, 42(1), 53–55. https://doi.org/10.1097/01.NEP.0000000000000339.
- Wu, E., & Patel, S. (2016). Teaching mixed methods research through blended learning: Implications from a case in Hong Kong. *Journal of Educational Enquiry*, *15*(1), 15–25.
- Yoder, R. J., Bobbitt-Zeher, D., & Sawicki, V. (2021). Understanding the Use of Student-Centered Teaching Methods in Undergraduate Chemistry Courses. *Research in Science Education*, *51*, 845–863. https://doi.org/10.1007/s11165-019-9820-5.
- Zablotsky, D. (2001). Why do I have to learn this if I'm not going to graduate school? Teaching research methods in a social psychology of aging course. *Educational Gerontology*, *27*(7), 609–622. https://doi.org/10.1080/036012701753122938.