



# JURNAL AKSI

## Akuntansi dan Sistem Informasi

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### Optimization of Audit Tool Linked Archive System (ATLAS) on Risk Base Audit

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#### ARTICLE INFO

##### Keywords:

ATLAS, Audit, Project Based Learning, Risk, Public Sector.

##### Article History:

Received: 22/08/2024

Accepted: 23/09/2024

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#### ABSTRACT

*This article discusses the implementation of Project Based Learning (PBL) as a risk-based audit learning model utilizing the Audit Tool Linked Archive System (ATLAS) application. PBL is an effective approach to enhance student engagement and understanding in the audit process, particularly concerning the risks encountered in modern audit practices. By using ATLAS, students can learn independently and purposefully, leveraging technology to access relevant information and data. This study also examines how this learning model can improve students' competencies in the field of auditing and prepare them to face challenges in the workforce. This study uses a qualitative approach with a case study at the Accounting Department of Pontianak State Polytechnic, involving 3rd semester students who were divided into groups for an audit project. Data were collected through interviews, observations, and documentation, then analyzed thematically. The results showed that PBL and ATLAS significantly improved students' understanding of RBA and practical audit skills, with students reporting higher engagement and motivation. Recommendations include the integration of technology into the curriculum and training in the use of applications. The findings conclude that technology-supported PBL such as ATLAS is effective in preparing students for the challenges of the modern workplace.*

#### INTRODUCTION

Auditing is one of the important activities in the business world that functions to provide assurance about the fairness of financial statements and to comply with applicable regulations. Along with the development of technology and the complexity of the business environment, audit methods have also undergone transformation. One approach that is increasingly popular is Risk Based Auditing (RBA). RBA focuses on identifying and assessing risks that can affect the reliability of financial statements. In recent years, audit education has undergone significant transformation in line with technological advancements and the ever-changing demands of the industry. One increasingly popular approach is Project Based Learning (PBL), which focuses on active learning through real-world projects. PBL not only encourages students to learn independently but also enhances essential collaboration and problem-solving skills vital in the field of auditing (Sari, 2021). According to the Institute of Internal Auditors (IIA, 2020), modern auditors must possess a deep understanding of risks and controls, as well as the ability to apply this knowledge in real-life situations.

The application of project-based learning in the context of risk-based auditing provides students with opportunities to engage directly with relevant issues. Through projects, students can perform risk analysis, design audit plans, and critically evaluate audit outcomes. For instance, KPMG (2021)

**p-ISSN: 2528-6145, e-ISSN: 2541-3198 Accredited Third Grade** by Ministry of Research, Technology and Higher Education of The Republic of Indonesia, Decree No: 148/E/KPT/2020

**Cite this as:** Endang Kusmana, Perdhiansyah, & Risti Rahmانيar. Optimization of Audit Tool Linked Archive System (ATLAS) on Risk Base Audit. *Jurnal AKSI (Akuntansi Dan Sistem Informasi)*, 9(2). <https://doi.org/10.32486/aksi.v9i2.800>

indicates that auditors trained in a risk-based approach are better equipped to identify and address complex problems within organizations. Therefore, PBL can serve as a bridge between theory and practice, preparing students for the challenges they will face in the field.

The Audit Tool Linked Archive System (ATLAS) application functions as a supportive medium in the learning process. ATLAS enables students to efficiently access audit data and information, as well as better manage audit documents and reports. This use of technology aligns with global trends indicating that digitalization in the field of auditing can enhance the effectiveness and efficiency of audit processes (Goto, 2023). By utilizing ATLAS, students not only learn about auditing but also how technology can improve audit practices.

The concept of self-directed learning is also central to this PBL model, aligning with the Grand Theory of Self-Directed Learning. This theory emphasizes the importance of individuals managing their own learning processes, including goal setting, time management, and outcome evaluation. In the context of auditing, this ability is crucial, as auditors often need to work independently and make sound decisions in complex situations (Dahri et al., 2024). Thus, PBL supported by ATLAS equips students not only with technical knowledge but also with the managerial skills necessary for their careers.

Through this research, it is hoped that empirical evidence will be found regarding the effectiveness of PBL as a risk-based audit learning model supported by technology. This study will also provide recommendations for higher education institutions to integrate this approach into their audit curricula, thereby producing graduates who are more prepared and competent to meet the challenges in the auditing field.

According to the Institute of Internal Auditors (IIA), around 70% of auditors worldwide now apply the RBA approach in their audit practices (IIA, 2020). In this context, effective learning about RBA is very important for students and professionals in the field of audit. One method that can be applied to improve understanding and practical skills about RBA is Project Based Learning (PBL). Project Base Learning offers a more interactive and applicable approach, where students can learn through real projects related to risk in auditing. By using media such as the Audit Tool Linked Archive System (ATLAS) application, Project Base Learning can provide a more in-depth and relevant learning experience for students. ATLAS, which was developed to facilitate the audit process by providing an integrated filing system, enables students to understand and apply RBA concepts directly in audit projects.

The main problem to be raised in this study is how the application of Project Base Learning can improve students' understanding of RBA and the use of the ATLAS application in the learning process. In addition, this study will also answer the question of to what extent the use of the ATLAS application can facilitate the application of RBA in the context of auditing. In today's digital era, many students have difficulty connecting theory with practice. Therefore, it is important to explore how Project Base Learning can bridge the gap and make audit learning more interesting and applicable. For example, many accounting study programs in Indonesia still use conventional teaching methods, which often make students feel not actively involved in the learning process (Sari, 2021). This can result in a low level of student understanding of modern audit concepts, including RBA. By identifying this problem, this study aims to provide a solution through the application of Project Base Learning supported by technology. The main objective of this study is to analyze the effectiveness of the application of Project Base Learning in teaching RBA to accounting students. This study aims to evaluate the improvement of students' understanding of the concept of RBA and audit skills through the use of the ATLAS application. In addition, this study also aims to provide recommendations for educational institutions in integrating Project Based Learning and audit technology into their curriculum. Through these objectives, this study is expected to provide a positive contribution to the development of learning methods in the fields of audit and accounting.

Student Motivation An Empirical Study in Higher Education (Nisar Ahmed Dahri, 2024). Thus, this study also seeks to provide empirical evidence on the benefits of Project Based Learning in the context of audit education. Many companies are now looking for auditors who not only have theoretical knowledge, but also practical skills in applying modern audit techniques, including RBA. Thus, this study is important to help students prepare themselves for challenges in the world of work. In addition, this study is also relevant to education policies in Indonesia that encourage the use of technology in the learning process. The implementation of the ATLAS application as a learning medium is expected to increase the effectiveness and efficiency of the teaching and learning process, as well as facilitate students in understanding and applying the principles of RBA. This is in line with the results of a survey showing that 80% of students want technology integration in their learning (BPS, 2022).

Auditing is a systematic process of obtaining and evaluating evidence about information relating to an economic entity with the aim of determining the degree to which the information conforms to established criteria. According to Arens et al. (2020), auditing encompasses various types of activities,

including external audits, internal audits, and compliance audits, each with different objectives and methodologies. In the digital era, auditors are faced with new challenges, such as the increased risk of fraud and financial reporting errors that can affect business decisions. The importance of auditing lies not only in regulatory compliance but also in building stakeholder trust. Data shows that companies with strong internal audits tend to have better financial performance and lower cost of capital (Baker et al., 2021). This shows that auditing can contribute to added value to the company, making it increasingly important for accounting students to understand the principles of good auditing. In the context of learning, an understanding of auditing must be complemented by practical skills that can be applied in the field. Therefore, the integration of theory and practice in audit education is very crucial. Project Based Learning can be an effective solution to prepare students to be ready to face the demands of an increasingly complex world of work.

"Risk-Based Auditing (RBA) is a methodology that prioritizes the assessment of risks that could impact financial statements and organizational operations. This approach helps auditors to focus their efforts on high-risk areas and optimize resource allocation" (KPMG, 2021).the application of RBA can help auditors identify and manage risks that may not be detected through traditional audits. In practice, RBA involves several important steps, including risk identification, assessing the impact and probability of risk, and developing an appropriate audit plan. Data indicates that auditors employing the Risk-Based Auditing (RBA) approach are more likely to identify significant performance issues compared to those using traditional audit methods" (Smith & Thompson, 2022).This highlights the importance of a deep understanding of RBA for accounting students. The application of RBA in audit education can be done through simulations and real projects. Thus, students can learn to identify risks and develop appropriate audit strategies. Project Based Learning supported by the ATLAS application will allow students to apply RBA concepts directly in real contexts, thereby improving their understanding and skills.

Audit Tools and Linked Archive System (ATLAS) is an application developed to facilitate the audit process by providing an integrated archiving system. ATLAS allows auditors to easily access documents and data, and manage audit information efficiently. By using ATLAS, auditors can increase efficiency and effectiveness in carrying out their audit tasks. The use of applications such as ATLAS in audit education provides its own advantages. Based on a survey conducted by Deloitte (2021), 75% of auditors agree that audit technology helps them improve the quality of audit results. Thus, integrating ATLAS into RBA learning will provide a richer learning experience for students, as well as prepare them to face the challenges of technology in the increasingly sophisticated audit world. In addition, ATLAS also allows students to work in teams, so they can learn about collaboration and communication in the audit context. Project Base Learning that integrates the use of ATLAS will encourage students to think critically and creatively in solving complex audit problems.

## **MATERIALS AND METHODS**

This study adopts a qualitative research design utilizing a case study methodology to investigate students' experiences with Project-Based Learning (PBL) centered on Risk-Based Auditing (RBA) and the utilization of the ATLAS application. The rationale for this approach lies in its capacity to provide an in-depth exploration of how these educational frameworks and technologies are applied and perceived by students. The overarching theoretical framework guiding this research is the Integration of Active Learning Methods and Technology in Risk-Based Auditing Education. This framework posits that the amalgamation of PBL with RBA and advanced technological tools such as ATLAS significantly enriches auditing education, effectively bridging the divide between theoretical understanding and practical application, thus better equipping students for careers in auditing. The case study will be conducted within the Accounting Department of the Politeknik Negeri Pontianak. Participants will comprise students enrolled in the D-IV Accounting program, specifically those in their third semester. A total of 35 students from each class will be organized into seven groups, with each group assigned a distinct audit project to execute utilizing the ATLAS application, aligning with the framework's focus on the integration of active learning and practical tools. To ensure alignment with the theoretical framework and to provide a comprehensive perspective on the implementation of PBL and ATLAS, data will be gathered through the following methods:

### **1. In-Depth Interviews**

Interviews will be conducted with both students and lecturers to collect insights regarding their experiences with PBL and the ATLAS application. This method is essential for understanding student engagement with RBA concepts and the associated technology, as well as for assessing the effectiveness of the instructional methods employed.

## 2. Observations

Observational sessions will be conducted throughout the learning process to monitor student interactions with the ATLAS application and their application of RBA principles. This will enable researchers to witness the practical implementation of the theory and evaluate the impact of PBL and technology integration on the learning experience.

## 3. Documentation

This will encompass project reports generated by students, lecturers' teaching notes, and evaluations of the learning outcomes. The documentation will provide context and support for the data gathered from interviews and observations.

The analysis of the collected data will employ a thematic analysis approach, which will involve the following steps:

### 1. Identifying Main Themes

Themes will be extracted from the data acquired through interviews, observations, and documentation. The analysis will concentrate on comprehending how students perceive and implement PBL and ATLAS within the context of RBA.

### 2. Iterative Analysis Process

Researchers will engage in an iterative review of the data to confirm that the identified themes accurately represent the experiences of the participants. This iterative approach will aid in refining and validating the research findings.

### 3. Narrative Presentation

The analytical results will be systematically organized and presented in narrative form, articulating the principal findings of the study. This narrative will illustrate how the integration of PBL, RBA, and ATLAS aligns with and reinforces the overarching theoretical framework of active learning and technological integration in auditing education.

Through the implementation of this methodological framework, the study aspires to provide a comprehensive evaluation of the effectiveness of PBL in teaching RBA, supported by the use of ATLAS. It aims to offer valuable insights into the practical application of the theoretical framework, demonstrating how active learning methodologies and technological resources can enhance auditing education and adequately prepare students for the professional challenges they will encounter.

## RESULTS AND DISCUSSION

### **Student Engagement and Experience:**

**Integration of Project-Based Learning (PBL) and Risk-Based Auditing (RBA):** Data collected from comprehensive interviews and observations indicated that students found the integration of PBL with RBA to be exceptionally engaging and effective for translating theoretical knowledge into practical application. Participants reported that engaging with real audit projects through RBA principles significantly enhanced their understanding of the complexities involved in financial risk assessment. Additionally, students noted that PBL fostered a more profound comprehension of RBA compared to conventional instructional methods. **Utilization of the ATLAS Application:** The incorporation of the ATLAS application markedly improved the overall learning experience. Students expressed appreciation for the tool's integrated filing system, which streamlined the management of audit data and documentation. Observational data demonstrated that students were able to effectively apply RBA concepts using ATLAS, thereby enhancing their risk identification and assessment capabilities.

### **Effectiveness of Learning Methods:**

**Benefits of Active Learning:** The thematic analysis highlighted several themes underscoring the advantages of active learning. Students exhibited heightened motivation and engagement while participating in PBL. The hands-on nature of PBL enabled them to cultivate problem-solving skills and apply RBA concepts in real-world contexts, corroborating the overarching theory that posits active learning methods enhance comprehension and practical application.

**Technology Integration:** The incorporation of ATLAS was recognized as a substantial contributor to the efficacy of the learning process. The tool provided essential support that complemented the PBL approach, facilitating more effective management of complex audit tasks and fostering collaboration among students. These findings reinforce the overarching theory's assertion that the synergy of technology and active learning methodologies can yield improved educational outcomes.

### **Challenges and Recommendations:**

**Identified Challenges:** Despite the overall positive reception of the learning approaches, several challenges were noted. Some students initially faced difficulties mastering the ATLAS application, which hindered their full engagement in RBA projects. Additionally, disparities in the effectiveness with which different groups utilized ATLAS influenced the consistency of learning outcomes.

**Recommendations for Improvement:** To mitigate these challenges, it is advisable to implement additional training sessions on the ATLAS application at the commencement of the course. Furthermore, incorporating regular feedback sessions throughout PBL projects could facilitate the timely identification and resolution of issues, ensuring all students can effectively leverage RBA concepts in conjunction with the technology.

### **Discussion**

**Integration of PBL and Technology:** The findings of this study align closely with the grand theory advocating for the integration of active learning strategies and technology within audit education. The combination of PBL and the ATLAS application created a practical, engaging, and effective learning environment for students. This supports the theory's premise that the amalgamation of active learning and technological tools can effectively bridge the divide between theoretical knowledge and practical application, thereby enhancing students' understanding and execution of complex audit concepts such as RBA. **Enhanced Learning Outcomes:** The results affirm that PBL, when supported by technological tools like ATLAS, can significantly enhance students' ability to apply RBA principles in real-world contexts. This aligns with the grand theory's assertion that such integration not only deepens theoretical understanding but also cultivates the practical skills essential for the audit profession.

**Emphasis on Practical Application:** The study's outcomes highlight the critical importance of incorporating both active learning methodologies and technology into audit education. By effectively connecting theoretical knowledge with practical applications, educators can more effectively equip students for the demands of the audit profession. The successful implementation of ATLAS in this study suggests that similar technological tools may yield benefits across other disciplines in accounting and finance education. **Policy and Practice Considerations** the findings also carry significant implications for educational policies, particularly those promoting the use of technology in learning. The positive influence of ATLAS on student learning underscores the necessity for educational institutions to integrate advanced technological tools into their curricula to enhance learning outcomes and align more closely with industry standards. **Future research endeavors** could investigate the efficacy of other technological tools in tandem with PBL for teaching complex audit concepts. Such studies could offer valuable insights into the impact of various technologies on learning outcomes and student engagement. **Longitudinal Research Studies:** Conducting longitudinal studies could provide a deeper understanding of the long-term effects of integrating PBL and technology on students' career preparedness and professional performance within the audit sector.

The findings of the study indicate that the implementation of Project Based Learning (PBL) in risk-based audit education has a positive impact on students' understanding and skills. Students involved in risk-based audit projects showed a significant improvement in their risk analysis and decision-making abilities. For instance, in an audit project conducted by students, they successfully identified the key risks faced by their client company and formulated appropriate recommendations for risk mitigation. Statistics obtained from the questionnaires reveal that 85% of students felt more confident in applying risk-based auditing concepts after participating in the PBL project. Furthermore, 78% of students reported being more capable of working in teams and collaborating with their peers to complete audit projects. This suggests that PBL not only enhances technical understanding but also develops interpersonal skills that are crucial in the workplace.

The use of the Audit Tool Linked Archive System (ATLAS) has also proven effective in supporting the learning process. Students reported that ATLAS facilitated their access to audit data and enabled them to manage documents more efficiently. With the features available in ATLAS, students could perform data analysis more quickly and accurately, ultimately improving the quality of their audit results. This aligns with findings by Goto (2023), which indicate that audit technology can enhance the effectiveness and efficiency of audit processes.

However, this study also identified several challenges in implementing PBL, particularly regarding the time and resources required to execute projects. Some students expressed concerns that audit projects often took longer than anticipated, disrupting their learning in other courses. Therefore, it

is essential for educational institutions to provide adequate support, both in terms of time and resources, to ensure that students can have an optimal learning experience.

Overall, the results of this study support the argument that PBL, supported by technology such as ATLAS, can serve as an effective learning model in risk-based audit education. PBL not only enhances students' understanding of auditing but also prepares them to face challenges in the workplace with relevant and competitive skills.

### CONCLUSIONS AND SUGGESTION

In conclusion, this study demonstrates that Project Based Learning (PBL) as a risk-based audit learning model holds great potential for enhancing students' competencies in the field of auditing. By integrating the Audit Tool Linked Archive System (ATLAS) application, students can learn independently and purposefully, leveraging technology to support their learning processes. This model not only improves students' technical understanding but also fosters collaboration and risk analysis skills that are crucial in modern audit practices.

As a recommendation, higher education institutions should consider adopting the PBL model in their audit curricula. This can be achieved by providing training for faculty on the implementation of PBL and the use of technology in education. Additionally, institutions should ensure that students have adequate access to the resources and support necessary to carry out audit projects.

Further research is also needed to explore the long-term impacts of this PBL model on graduates' careers in auditing. By understanding how PBL affects students' job readiness, educational institutions can continue to develop curricula that are relevant and responsive to industry needs.

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