Volume 5, Issue 1

Malaysia Journal of Invention and Innovation

https://journal.academicapress.org/aps/index.php/mjii

Research Article

RecordSphere: Simulation-Based Learning for Records Lifecycle

Suhaida Halamy[1,*], Sharin Sulaiman[2], Zainon Haji Bibi[3], Suriani Jack[4], and Abdul Ismail Mohd Jawi[5]

1 Universiti Teknologi MARA Cawangan Sarawak; dida@uitm.edu.my

2 Universiti Teknologi MARA Cawangan Sarawak; sharinsulaiman@uitm.edu.my

3 Universiti Teknologi MARA Cawangan Sarawak; zaino054@uitm.edu.my

4 Universiti Teknologi MARA Cawangan Sarawak; suejack@uitm.edu.my

5 Universiti Teknologi MARA Cawangan Sarawak; eastmile@uitm.edu.my

* Correspondence: dida@uitm.edu.my; 0168871608

Keywords:
RecordSphere
records lifecycle
simulation-based learning
gamification
decision making skills

Abstract: *Records management education is often focused on theory, which can make it hard for students to use what they learn in real situations. RecordSphere is an online simulation designed to help students understand how records are handled by providing hands-on experience. On the platform, students take on the role of a Records Officer and handle records as they are created, organized, maintained, reviewed and dispose, with real-world consequences. The system uses game-like features, dashboards, and emergency situations to provide instant feedback and opportunities to reflect on what happened. Student progress and results are carefully tracked and studied to see how they are doing and where they can improve. By turning passive learning into an interactive experience, RecordSphere helps students build real-world skills, make better decisions, and get ready for jobs in records management.*

1. INTRODUCTION

Simulation is a situation in which elements resemble the real world to help solve difficult-to-understand learning problems. In the classroom, a group of students conducts a simulation to help them understand the learning process (Heitzmann et al., 2023). Simulation activities in academic institution are a student-centered strategy that provides opportunities for students to explore, build new experiences, identify concepts, solve learning problems, and increase curiosity (Brock et al., 2009).

Therefore, this study was conducted to explore simulation techniques in teaching and learning in the classroom. The implementation of this study focused on several objectives, providing a more detailed direction for the implementation process.

1. Help students understand the records lifecycle

2. Improve students' decision-making and problem-solving skills
3. Connect theory with real-world practice

The simulation-based learning is implemented for the subject IMD161 Foundation of Records Management, a course in the Diploma in Information Management. Records lifecycle management is a core component in information management and archival education, encompassing the systematic control of records from creation to disposition. However, teaching this subject remains largely theoretical, causing students to memorise concepts without fully understanding real-world operational complexities (Levin, 2024).

2. METHOD AND MATERIALS

In most classrooms today, students do not get to see what happens when records are sorted incorrectly, kept for the wrong amount of time, or not kept safe. This gap between what is taught and what happens in real jobs makes it hard for students to apply what they learn about managing records, especially when dealing with problems such as data leaks, breaking the law, or record loss. RecordSphere was developed to address this problem by providing students with a digital tool that allows them to act as Records Officers. The system lets students manage records from the time they are created until they are no longer needed, and see what happens based on their choices. Students make decisions on classification, retention, and storage while receiving instant feedback. Their performance, reflections, and learning outcomes are recorded and analyzed to improve understanding and practical skills in records management (Vermunt, 2023).

At UiTM and other universities, students already do practical assignments in records management courses, such as arranging files, indexing, and sorting records, to get experience with real tasks. These are helpful assignments but are not fully interactive digital simulations like RecordSphere. Learning through simulations has been widely studied and used in many areas of education, such as teacher training and business games, because it helps students learn complicated systems by practicing them.

To start using RecordSphere, students will go to the Login Dashboard, where they need to sign up and log in as Records Officer. The system will show the organisation's profile and give a mission briefing. Next, students will be assigned a role to play and a task to complete.

Figure 1: Login Dashboard Interface

The Incoming Records Inbox requires students to review 20 mixed items such as emails, meeting minutes, and invoices, helping them recognise new record inflows while learning to accurately distinguish between records and non-records in a real workplace scenario.

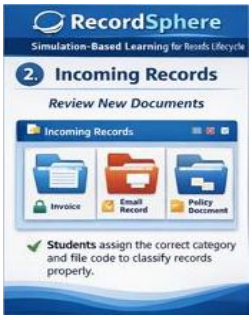

Figure 2: Incoming Records Inbox

For Creation and Classification activity, students assign the appropriate file codes and record types to each item and immediately receive feedback indicating whether it is correct or incorrect, enabling them to clearly understand and apply proper record classification principles.

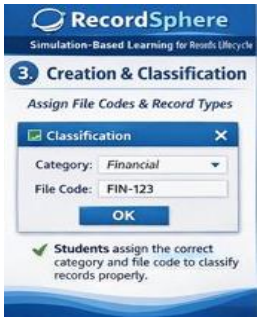

Figure 3: Creation and Classification

In the Metadata Assignment, students complete key fields such as creator, date, and sensitivity, with errors highlighted instantly to improve the accuracy and quality of their record descriptions.

Figure 4: Metadata Assignment

For Storage Decision activity, students choose the appropriate storage option such as cloud, registry or archive and receive data-breach warnings when selections are incorrect, helping them apply core records security principles in practice.

Figure 5: Storage Decision

In the Maintenance Stage, students manage version control and respond to access requests while an automatic audit log is generated, enabling them to understand and maintain continuity throughout the records lifecycle.

Figure 6: Maintenance Stage

For Appraisal and Retention activity, students apply retention schedules to records and are shown retention conflicts in real time, helping them understand and correctly apply appraisal rules.

Figure 7: Appraisal and Retention

During the Disposition Decision, students determine whether to transfer records to archive for permanent storage, retain, or destroy and encounter simulated legal risks for incorrect decisions. The Crisis Scenario introduces flood or cyber-attack alerts, enabling students to practice emergency procedures, increase risk awareness, and improve disaster management skills.

Figure 8: Disposition Decision and Crisis Scenario

Lastly, in the Performance Dashboard, students check their scores for the following rules: taking risks and making decisions, and receive automatic questions to help them reflect on their own progress. Next, in the Reflection Report, they write a short reflection and receive feedback from their lecturer to help them reflect on their learning. Finally, on the Certificate Screen, finishing the simulation gives them a badge and a performance level to help keep them motivated and show what they have learned.

Figure 9: Performance Dashboard

4. FINDINGS

An online survey was conducted to gather student feedback on the RecordSphere simulation. Responses from the 39 participants indicated that most students found the platform easy to use and engaging. They reported that the simulation helped them understand recordkeeping processes, improve decision-making skills, and apply theoretical knowledge in a practical context. Many students highlighted that the interactive tasks and real practice enhanced their learning experience, while the dashboard provided useful insights into their performance and areas for improvement. Overall, the survey showed positive student satisfaction and perceived learning outcomes.

Table 1. Student Feedback on RecordSphere Simulation

Aspect	Percentage of Students Agreeing (%)	Description
Usability	87%	Students found RecordSphere easy to navigate and user-friendly.
Engagement	92%	Students felt the simulation was engaging and motivating.
Understanding of Records Management	89%	Improved comprehension of record-keeping rules and procedures.
Decision-Making Skills	84%	Enhanced ability to make appropriate records management decisions.
Practical Application	86%	Enabled students to apply theoretical knowledge in hands-on tasks.
Performance Tracking	81%	Dashboard effectively highlighted strengths and areas for improvement.

5. CONCLUSION

As conclusion, students are reacting well to the simulation. Participating in and engaging with learning is important for students to do well (Aharbi et al.,2024). Learning on their own with RecordSphere is a good way to understand the hands-on parts of the course. Also, students can become more understanding, better at solving problems, and more able to build their learning skills. RecordSphere also lets students check their learning in creative, efficient, and fun ways. Lecturers can see how well students remember what they learn and change their teaching or go over a topic again if students do not get it. The simulation makes students more interested, helps them learn more effectively, and prepares them for work in records management. The authors say that learning through simulations is more effective than traditional classroom instruction.

Acknowledgments: The author expresses sincere gratitude to all fellow writers and participants for their valuable contributions. Special thanks are extended to previous researchers whose ideas, guidance, and support enhanced and enabled the completion of this study.

References

Alharbi, A., Nurfianti, A., Mullen, R. F., et al. (2024). The effectiveness of simulation-based learning (SBL) on students' knowledge and skills in nursing programs: A systematic review. BMC Medical Education, 24, 1099. https://doi.org/10.1186/s12909-024-06080-z

Brock, A., Sylvia, D., Jarvis, P., & Olusoga, Y. (2009). Perspectives on play: Learning for life. Pearson Education Limited.

Frasson, C., & Blanchard, E. G. (2012). Simulation-based learning. In N. M. Seel (Ed.), Encyclopedia of the sciences of learning. Springer. https://doi.org/10.1007/978-1-4419-1428-6_129

Heitzmann, N., Fischer, F., Hofmann, R., & Seidel, T. (2023). Editorial for the special issue "Advances in simulation-based learning in higher education." Learning and Instruction, 86, 101774. https://doi.org/10.1016/j.learninstruc.2023.101774

Hui, A. N. N., Eason, M. S., Cheung, R. C. C., Lai, L. C. H., Lau, D., & Lam, T. (2021). The relationships among simulation-based learning, creativity, and the learning approach in higher education. In A. Hui & C. Wagner (Eds.), Creative and collaborative learning through immersion (pp. 89-104). Springer. https://doi.org/10.1007/978-3-030-72216-6_6

Levin, O. (2024). Simulation as a pedagogical model for deep learning in teacher education. Teaching and Teacher Education, 143, 104571. https://doi.org/10.1016/j.tate.2024.104571

Manligoy, J. M. A., Aguiadan, B. A., & Mendez, M. L. S. P. (2025). Effectiveness of digital simulation-based learning in improving science conceptual understanding among Grade 5 students. Asian Journal of Education and Social Studies, 51(9), 419–433. https://doi.org/10.9734/ajess/2025/v51i92378

Min, R. (2006). Methods of learning in simulation environments. In Interactions in online education (pp. 117–137). Routledge.

Muchnik-Rozanov, Y., & Levin, O. (2024). Bridging the gap between preservice teachers' theoretical and practical knowledge through simulations of teacher-parent interactions. Asia-Pacific Journal of Teacher Education, 52(5), 622–640. https://doi.org/10.1080/1359866X.2024.2414815

Vermunt, J. D. (2023). Understanding, measuring and improving simulation-based learning in higher education: Student and teacher learning perspectives. Learning and Instruction, 86, 101773. https://doi.org/10.1016/j.learninstruc.2023.101773