

Understanding Archival Awareness, Access and Learning among Information Science Students in Malaysia

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ABSTRACT

The study used an interpretivist qualitative approach. Ten final-year Information Science students from the Universiti Teknologi MARA (UiTM) at the Puncak Perdana Campus were deliberately chosen to take part in a series of online semi-structured interviews. The data were analysed by means of Braun and Clarke's six-phase thematic analysis, with the aid of ATLAS.ti. Deductive coding was guided by the Archival Intelligence Model, while inductive coding was applied in order to identify the experiences and insights that emerged from the data. Academic courses were the main source of students' awareness of archival materials, although NAM's website, online catalogue and digital collections also contributed to their knowledge. Participants considered archival materials highly relevant to areas such as records management, preservation, metadata and information retrieval. However, their engagement with these materials was limited by transportation and time constraints, financial barriers, incomplete digitisation, unfamiliar terminology and difficulties navigating the online catalogue. Despite these challenges, students reported that using archival materials strengthened their conceptual understanding, critical evaluation skills, research abilities and capacity for evidence-based learning. This study offers context-specific insights into archival learning among Information Science students in Malaysia. It shows that awareness of archives does not necessarily lead to meaningful use. The findings introduce an access-to-learning pathway in which academic exposure, effective discovery systems, guided practice and direct engagement with primary sources collectively support the development of archival intelligence. Equitable archival learning requires more than simply making materials available. Students need clear descriptive metadata, user-friendly discovery tools, structured archival literacy support and opportunities to work with original or digitised records.

Keywords: Archival Intelligence, Archival Literacy, Information Science Education, National Archives Of Malaysia, Primary-Source Learning

INTRODUCTION

Archives preserve evidence of personal, institutional and governmental activities. They also provide valuable primary sources for research, teaching and the preservation of public memory. In higher education, working with original records encourages students to move beyond simply reproducing textbook knowledge. It requires them to consider where records come from, the context in which they were created, their authenticity and their value as evidence. This is particularly important for Information Science students, whose professional training includes records management, archival administration, preservation, metadata and information retrieval.

The National Archives of Malaysia (NAM) is the country's main public archival institution. Its physical collections, website, digital content and Online Finding Aid offer valuable learning resources for university students. However, making archival resources available does not necessarily mean that students can use them effectively. Students must first be aware that relevant materials exist. They also need to understand how archival descriptions differ from conventional library catalogues, overcome physical and digital access barriers and recognise the value of primary sources in academic work.

Previous studies have shown that archival orientation and primary-source instruction can improve students' confidence and research practices (Duff and Cherry, 2008; Hensley et al., 2014). Carini et al. (2013) also found that engagement with archival materials encourages active learning, evidence-based arguments and the development of analytical skills. Nevertheless, there is still limited research on how Malaysian Information Science students discover, access and understand national archival resources. The Malaysian context deserves closer attention because students' access may be influenced by the curriculum, geographical distance, financial costs, the extent of digitisation and the usability of national archival discovery systems.

This study therefore explores the relationship between students' awareness of archival materials, their perceptions of accessibility and relevance, and the contribution of archival access to their learning at UiTM Puncak Perdana. It addresses the following research questions:

1. How do final-year Information Science students become aware of the archival materials and services provided by the National Archives of Malaysia?
2. How do students perceive the accessibility and relevance of archival materials at the National Archives of Malaysia?
3. How does access to archival materials influence students' learning experiences?

By interpreting the findings through the Archival Intelligence Model, this study identifies practical ways in which universities and archival institutions can help students develop the knowledge and confidence needed to discover, interpret and use primary sources effectively.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Archives as learning resources

Archival materials differ from secondary academic sources in that they are made up of records which have been produced or created as a result of personal, organizational, or institutional activities and are kept because of their lasting value as evidence or information. The importance of such archival materials is decided upon by their creators, the way in which they were originally arranged, the circumstances of their production, and their relationships with other records. For this reason, students need to have not just knowledge of the subject in question but also an understanding of how archival descriptions and arrangements work, the reasons for restricted or mediated access, and the effect that missing records or silences in a collection have on interpretation.

By working with original sources, students are able to act as interpreters of the evidence rather than merely receiving established narratives. Carini and others (2013) showed that when students handle archival materials their learning is improved since they are encouraged to build arguments based on evidence. In a similar way, Duff and Cherry (2008) discovered that having an orientation to the archives increases undergraduates' confidence in using them and leads to a better understanding of the archives. Yet these advantages do not happen automatically; students often face difficulties with archival systems since the collection-level descriptions, finding aids, and controlled vocabulary are very different from the keyword search methods usually found in academic databases. Consequently, students may have trouble in identifying and locating the relevant archival materials unless they receive sufficient guidance and support (Duff and Johnson, 2002; Freund and Toms, 2016).

Awareness, access and archival literacy

Awareness is the entry point to archival use, but meaningful access also depends on intellectual, technological and practical conditions. A user may know that an archive exists yet remain unable to identify a relevant collection, interpret a description or obtain the record. Digital finding aids can reduce geographical barriers, although usability, metadata quality and the extent of digitisation determine whether discovery leads to consultation. Aldi's (2022) study of NAM's Online Finding Aid found moderate overall usability and highlighted users' requests for improved functionality and increased digital content.

Archival literacy refers broadly to the knowledge and skills required to locate, interpret, evaluate and ethically use archival sources. Rhee (2015) stresses that digital access does not remove the contextual knowledge required to understand archives. Instruction, orientation and collaboration between archivists and teaching staff are therefore important. Hensley et al. (2014) demonstrate how integrated instruction can make archival concepts explicit and help students transfer them into research practice.

Archival Intelligence Model

This study is guided by Yakel and Torres's (2003) Archival Intelligence Model, which consists of three closely connected dimensions. The first concerns knowledge of archival theories, practices and institutions. This dimension helps explain how academic courses develop students' awareness of archives and familiarity with archival concepts and terminology. The second involves the strategies students use to manage uncertainty and confusion when navigating archives, including catalogues, archival descriptions and access procedures. The third focuses on the intellectual skills required to interpret records, evaluate sources and use archival evidence effectively.

The model views access as more than simply having a collection or website available. Instead, archival access is understood as a learning process shaped by students' existing knowledge, the usability of discovery systems, the guidance they receive and their direct engagement with archival materials. This perspective is particularly useful for understanding students who may have a strong theoretical foundation but limited practical experience in using the resources of a national archive.

METHODOLOGY

Research design and participants

This study used an interpretivist qualitative approach to explore students' experiences and understand how they perceived and made sense of archival access. A qualitative approach was considered appropriate because it enables researchers to examine participants' experiences, perspectives and interpretations in depth within their specific context (Creswell, 2013). Ten final-year Information Science students from UiTM Puncak Perdana were purposively selected to participate in the study. Eligible participants had studied archives or records management and had at least basic exposure to NAM through coursework, visits or digital resources. The sample included three male and seven female students. Participants were assigned codes R1–R10 to protect their identities.

Table 1: Participant profile

Participant	Programme/status	Gender
R1	Final-year Information Science student	Male
R2	Final-year Information Science student	Female
R3	Final-year Information Science student	Female
R4	Final-year Information Science student	Female
R5	Final-year Information Science student	Male
R6	Final-year Information Science student	Female
R7	Final-year Information Science student	Male
R8	Final-year Information Science student	Female
R9	Final-year Information Science student	Female
R10	Final-year Information Science student	Female

Data collection

Purposive sampling technique was deemed suitable because the selected respondents were those who were knowledgeable in the academic aspects and experience related to archives, records management and information resources. Identification of potential participants meeting the set inclusion criteria and inviting them in a voluntary manner to participate in the study was the recruitment process. The participants met the following inclusion criteria: (i) became Information Science students at UiTM Puncak Perdana; (ii) received any course involving archives or records management at the university; and (iii) had basic exposure to the National Archives of Malaysia (NAM) through academic activities or other means of accessing archives. For students who failed to meet these criteria, including those in other academic programmes, those who had no experience with archival-related subjects, those who declined to participate voluntarily, were excluded from the study. The number of 10 participants was judged to be acceptable because of the qualitative research paradigm, which aimed to gain rich and in-depth information from participants, with no concern for statistical generalization. This study had sufficient information power because of the focused research, the characteristics of the participants, and the relevance of the participants academic background. Information power was realized when the participants had a specific knowledge about archival materials and detailed descriptions of their knowledge, perception, and learning experience. The data was gathered with the help of semi-structured interviews with the selected participants.

Interviews were conducted online via Google Meet in a suitable and comfortable environment to enable the participants to express themselves freely and without inhibitions. The semi-structured interview protocol was reviewed prior to data collection to make sure that questions were clear and relevant to the research objectives. Interview questions had been prepared from the research goals and literature gathered in the areas of archival materials, archival awareness, accessibility, relevance and learning experiences. The interview questions were reviewed to make them clear and appropriate prior to the interviews.

Data analysis

The transcripts were analysed using Braun and Clarke's (2006) six phases of thematic analysis: familiarisation, initial coding, theme development, theme review, theme definition and naming, and reporting. ATLAS.ti was used to organise transcripts, codes, categories and themes. Analysis combined deductive and inductive coding. Deductive codes reflected the research questions and the three dimensions of archival intelligence; inductive codes captured experiences not anticipated by the framework, including transport costs, digital substitution and user-interface expectations. The coding process was carried out systematically through the use of ATLAS.ti software for the organisation, management and analysis of the qualitative data. The researcher coded meaningful segments of the transcripts, explored relationships between codes and clustered similar codes into categories and themes. ATLAS.ti helped structure the codes, categories, and themes that emerged during the analysis.

Trustworthiness and ethics

Credibility was supported through the use of a consistent interview protocol, verbatim transcription and illustrative quotations. An audit trail documented coding decisions and theme development, while comparison of codes across transcripts supported dependability. Reflexive notes were maintained throughout the study to help the researcher separate participants' views from personal assumptions and interpretations. Detailed descriptions of the research setting, participants and procedures were also provided, allowing readers to assess whether the findings may be relevant to other contexts. Participation was voluntary, and all participants were informed about the purpose and procedures of the study. They gave their consent for the interviews to be recorded and were assured that their identities would remain confidential and that the research data would be stored and managed securely.

RESULTS

The analysis produced three overarching domains aligned with the research questions and nine related themes. Table 2 summarises the findings; the sections that follow explain the patterns and include representative quotations.

Table 2: Summary of themes and supporting participants

	Theme	Illustrative participants
Awareness	Academic exposure as the primary source of awareness	R1, R3, R5, R6, R8
Awareness	Understanding archives as historical and research resources	R4, R8, R10
Awareness	Digital platforms supporting awareness and access	R3, R6, R8, R9
Awareness	Limited physical exposure due to practical constraints	R2, R5, R6
Accessibility and relevance	Supportive services alongside access barriers	R5, R6, R10
Accessibility and relevance	Catalogue usefulness with a learning curve	R4, R7
Accessibility and relevance	High relevance to Information Science education	R3, R10
Learning	Stronger conceptual understanding and research skills	R5, R6, R7, R10
Learning	Authentic evidence and primary-source understanding	R4, R5, R7, R9, R10

Awareness developed mainly through academic exposure

Lectures, coursework, assignments and discussions were the principal routes through which participants learned about NAM and archival materials. R1 explained, “I first learned about NAM during my studies in Information Science, especially through subjects related to archives and records management.” Academic exposure gave students a vocabulary for identifying records of enduring historical, legal, administrative or cultural value. R8 described archival materials as records retained because of these continuing values.

Awareness was also supported by NAM’s website, online catalogue and digital collections. For participants unable to visit, online resources became their main point of contact. R8 noted that her exposure had been “entirely through digital means”, including online materials used for academic purposes. Nevertheless, participants distinguished knowing about archives from experiencing archival work. Those with direct exposure described preservation, arrangement and access practices more concretely than those whose knowledge remained classroom-based.

Physical engagement was constrained by distance, transportation, cost and time. R5 stated that “lack of time and financial limitations” prevented a visit. These experiences highlight a gap between awareness and actual engagement. Although classroom learning introduced students to NAM and its resources, practical barriers often determined whether this awareness led to regular and meaningful use.

Archival materials were relevant, but access remained uneven

Participants who had used NAM’s services generally appreciated the support provided by its staff and the availability of the online catalogue. R5 described the overall access process positively and noted that staff were helpful when assistance was needed. However, because not all materials had been digitised, some records could only be accessed in person. This created significant difficulties for students who lived farther away or had limited time and financial resources. Finding relevant materials was another challenge. Participants sometimes understood their research topics but were unfamiliar with the official collection titles or archival terminology

required to obtain useful search results. R6, for example, explained that several searches were often necessary because the correct title or collection name was not initially known.

The online catalogue was considered an important starting point, yet its interface did not always match students' experience of contemporary academic databases. As R4 observed, "the search interface could be more intuitive." Participants proposed clearer descriptions, keyword suggestions, improved filters and a more user-friendly interface.

Despite these barriers, participants consistently viewed archival materials as highly relevant to Information Science. They linked the materials to preservation, metadata, classification, records management and information retrieval. R10 described archives as "the practical application of everything we learn about preservation, metadata, classification, and information retrieval." Relevance was therefore not in question; the challenge was converting relevance into accessible and confident use.

Archival access strengthened perceived learning

Participants perceived authentic records as making theoretical concepts more concrete. R6 explained that examining original records made learning more meaningful and required attention to context, authenticity and purpose. R7 similarly reported a shift away from relying exclusively on published academic sources towards appreciating records as institutional memory. These experiences helped students connect classroom concepts with the creation, organisation, preservation and use of records in practice.

Students also associated archival work with stronger research and critical-thinking skills. They described searching systematically, evaluating authenticity and provenance, interpreting evidence in context and constructing evidence-based arguments. R5 stated that archival materials taught her to "evaluate the authenticity of sources, analyse original records, and present evidence-based arguments." These accounts show that students viewed archival research as a process of interpreting and evaluating evidence, rather than simply searching for and retrieving facts.

The distinction between primary and secondary sources was particularly important to their learning. Participants used government documents, historical records, photographs and newspaper clippings to strengthen the credibility and depth of their assignments. As R4 explained, archival records provide "the actual evidence instead of someone else's interpretation." This allowed students to examine the evidence, form their own conclusions and then compare their interpretations with those presented in secondary sources. Overall, participants believed that access to archival materials strengthened both their subject knowledge and their ability to make independent judgements.

DISCUSSION

Awareness is necessary but insufficient

The findings indicate that formal education plays a central role in developing students' awareness of archives. From the perspective of the Archival Intelligence Model, coursework introduces students to archival theories, practices and institutions. This finding reinforces earlier research by Duff and Cherry (2008) and Hensley et al. (2014), which highlights the importance of structured archival instruction. However, knowing archival concepts does not always give students the confidence to use archival resources effectively. Students may understand principles such as provenance and preservation but still struggle with collection structures, archival terminology and access procedures.

This distinction has important implications for curriculum design. Lectures can introduce students to the meaning and purpose of archives, but archival intelligence develops more effectively through practical experience. Students need opportunities to interpret finding aids, develop appropriate search strategies, request materials and evaluate records within their original context. The gap between awareness and actual engagement identified in this study suggests that guided archival practice should be integrated into the curriculum, rather than treating archival visits or digital exploration as optional learning activities.

Access is simultaneously physical, digital and intellectual

Physical collections may be available but difficult to reach because of distance, transport costs or time. Digital descriptions may be searchable but still difficult to interpret because terminology, metadata or interface design does not correspond to novice users' mental models. This finding echoes research on archival information seeking, which identifies description and navigation as sources of uncertainty (Duff and Johnson, 2002; Freund and Toms, 2016).

Digitisation can reduce geographical barriers, but it does not by itself resolve intellectual-access problems. Aldi (2022) similarly identified scope for improving NAM's Online Finding Aid and expanding downloadable digital content. The participants' recommendations point towards a user-centred approach: clearer collection descriptions, stronger keyword support, useful filters, contextual guidance and transparent indication of what is available digitally or onsite. These features would not replace archival instruction; they would make instruction more actionable.

Authentic engagement develops archival intelligence

The perceived learning benefits correspond closely to the model's intellectual-skills dimension. Participants described evaluating authenticity, provenance, context and reliability; comparing evidence; and constructing their own interpretations. These are higher-order research practices and are consistent with the learning gains associated with primary-source engagement in previous studies (Carini et al., 2013).

The findings also illustrate strategies for reducing uncertainty and ambiguity. Students used online finding aids, staff assistance, repeated searches and academic knowledge to move from a broad topic to relevant records. Their difficulties were therefore not evidence of failure but part of learning how archives work. Well-designed guidance can help students manage uncertainty and develop it into a valuable research skill by clearly demonstrating how search decisions are made, how archival descriptions are structured and how evidence is interpreted.

Proposed access-to-learning pathway

Based on the findings, this study proposes a four-stage learning pathway. First, academic exposure introduces students to archives and builds initial awareness. Second, accessible and user-friendly physical and digital services help them discover relevant materials. Third, guided practice enables students to manage the uncertainty involved in archival research. Finally, direct engagement with authentic records strengthens their interpretive skills and supports evidence-based learning. Weakness at any stage limits the next. Awareness without access produces passive knowledge, while digital availability without description or guidance may produce unsuccessful searching. Conversely, coordinated teaching, usable systems and authentic tasks reinforce one another.

Implications

Implications for the National Archives of Malaysia

NAM could extend the educational value of its collections by prioritising digitisation of materials relevant to university curricula, improving metadata and search functions, and publishing short, task-oriented guidance for novice researchers. Online tutorials could demonstrate how to move from a topic to a collection, interpret a finding aid, request records and cite archival sources. Virtual orientations and research consultations would particularly benefit students facing geographical or financial barriers.

Implications for universities

Information Science programmes should embed archival literacy across relevant courses. Suitable activities include guided catalogue exercises, analysis of digitised records, archival visits, source-evaluation worksheets and assignments requiring students to combine primary and secondary evidence. Collaboration with NAM could

support guest lectures, guided tours, workshops, internships and jointly designed research tasks. Assessment should evaluate not only whether students locate a record, but also whether they explain its provenance, context, limitations and evidential significance.

Theoretical contribution

This study applies the Archival Intelligence Model to Information Science education in Malaysia to see how its three elements help students move from accessing archival materials to meaningful learning. The findings highlight the importance of context, as practical challenges and the design of archival systems can affect how well students use what they have learned. As a result, developing archival intelligence depends not only on students' efforts but also on curriculum design, institutional support, effective discovery tools, and chances to work with real records.

Limitations And Future Research

This study involved ten purposively selected students from a single UiTM campus. Therefore, its purpose was to provide deeper analytical insights rather than findings that could be statistically generalised to a wider population. Participants also had varying levels of experience with NAM's physical and digital resources. In addition, the findings were based on students' self-reported experiences and perceptions rather than direct measurements of their learning outcomes. Online interviews may also have limited observation of how participants actually navigated archival systems.

Future studies could include students from several universities and disciplines, compare novice and experienced archival users, or use mixed methods to examine patterns at scale. Task-based usability studies of NAM's discovery systems would show where students encounter difficulty in real time. Quasi-experimental or longitudinal designs could assess whether archival instruction and authentic primary-source assignments produce measurable changes in archival literacy, critical thinking and research performance.

CONCLUSION

Information Science students regarded NAM's archival materials as relevant and valuable resources that connect classroom concepts with professional practice. Their awareness was shaped mainly by academic exposure, while physical constraints, incomplete digitisation, unfamiliar terminology and catalogue usability influenced the depth of their engagement. Students perceived archival materials as strengthening conceptual understanding, source evaluation, critical thinking and evidence-based research. It is therefore critical that digital accessibility, archival literacy support and the partnership between NAM and higher education institutions are improved continuously to enable the potential of the use of archival material as the educational resource to be realised optimally. These efforts can continue to ensure that future Information Science professionals can be educated with greater archival knowledge, skills, and appreciation of archival practices through the use of archival resources.

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