PERSPEKTIF
JOURNAL OF SOCIAL AND LIBRARY SCIENCE
ACADEMIC SOLUTION PUBLISHER

INFORMATION RETRIEVAL OF AUDIOVISUAL (VIDEO) COLLECTIONS TO SUPPORT LEARNING AT SUNAN KALIJAGA STATE ISLAMIC UNIVERSITY LIBRARY

Abdul Rahman Simatupang[1], Halimatussa'diyah Siregar[2]

[1,2]*Universitas Islam Negeri Sumatera Utara, Indonesia*
[*]*Corresponding Author*: abdulrahmans@uinsu.ac.id

Article history:

Received :
Accepted :
Published :
Available online
http://aspublisher.co.id/index.php/perspektif

E-ISSN: 3063-3494

How to cite:

ABSTRACT

This article aims to examine the digital collection retrieval system—particularly video collections—in academic libraries and its relationship to the teaching–learning process. This study employs a descriptive research method. Data were collected through observation and a review of the relevant literature. The descriptive analysis is presented in narrative form. The findings indicate that developing an effective retrieval system requires identifying user needs, designing an appropriate database system, and conducting continuous evaluation. In the learning process, a well-designed video collection retrieval system significantly supports users in meeting their information needs.

Keywords: Information retrieval, digital Collection, Audiovisual Media, Video, Learning Process

1. INTRODUCTION

Information has grown rapidly across various content bases, including text, images, video, visuals, and audio. This phenomenon is widely known as the information explosion. In the library context, users no longer rely solely on text-based literature but increasingly utilize diverse information resources to support research activities and to meet information needs effectively and efficiently.

One type of multimedia content that is increasingly used as an information resource is video. Video is widely selected because of its audiovisual nature, which allows information to be understood more easily. Video recordings, as tools for capturing images and sound, serve as effective media for disseminating information to the public. Effective information delivery depends on the proper processing of video recordings in accordance with library material processing standards, thereby producing video storage and retrieval systems that are easily accessible to information users.

At present, many formal and non-formal educational institutions utilize audiovisual media—particularly video—in the teaching–learning process. For example, individuals no longer need face-to-face interaction to learn new skills or knowledge. Through video recordings uploaded to the internet, learners can independently acquire new competencies. Video also enables multitasking, allowing individuals to engage in multiple activities simultaneously. As the primary information provider, libraries are therefore expected to provide audiovisual information resources.

Ironically, previous studies have shown that audiovisual collections in libraries remain underutilized. Anita (2015), for example, found that the utilization of audiovisual collections at the National Department of Education Library (DEPDIKNAS) was relatively low, with users accessing audiovisual materials only one to two times per month. Factors contributing to this low utilization included users' preference for personal flexibility and limited time to spend in the library. Similarly, Situmorang (2014) reported that audiovisual collections at the Regional Library and Archives Agency of North Sumatra were underutilized because the collections did not align with users' interests and needs. Another significant factor affecting utilization is the effectiveness of audiovisual (video) retrieval systems.

In the utilization of digital knowledge—particularly video formats—library managers and users often encounter difficulties in retrieving digital collections that match their specific needs. The relevance between video titles and content and users' expectations is a critical concern for libraries, both in optimizing existing knowledge resources and in accelerating knowledge transfer processes. Video-based information is meaningless if relevant content cannot be retrieved to meet users' information needs. Therefore, libraries require specialized information retrieval systems for audiovisual (video) collections. However, not all information across different content types can be retrieved easily. Current retrieval systems often yield high recall but low precision, meaning that while many documents are retrieved, only a few are truly relevant.

When video collections are organized using effective retrieval systems, they can be optimally utilized, particularly in the learning process. Isiaka (2007) demonstrated that schools using video-based learning media outperformed those relying on conventional learning methods. Similarly, Deveaney (2009) found that video tutorials in online courses were highly favored by learners, with the majority reporting improved understanding compared to traditional textbooks. These findings confirm that video is an effective learning medium.

Given these findings, libraries should actively provide instructional video collections. Although learning videos are widely available online, effective filtering and organization are necessary to ensure the accuracy and relevance of information. This is where libraries play a crucial role by providing well-classified and reliable information resources.

2. RESEARCH METHOD

This study employed a descriptive research design aimed at systematically describing and interpreting phenomena related to the retrieval of digital video collections in libraries and their role in supporting the teaching–learning process. Data were collected through direct observation and an extensive review of relevant literature. Observation was conducted to examine existing practices, systems, and procedures related to video collection management and retrieval in library settings. The literature review involved the analysis of scholarly books, journal articles, and previous empirical studies to identify theoretical foundations, models, and best practices in information retrieval and audiovisual media utilization.

The collected data were analyzed using a descriptive qualitative approach. The analysis focused on organizing, interpreting, and synthesizing findings from observations and literature sources to provide a comprehensive narrative explanation of the research problem. The results are presented in narrative form to highlight patterns, relationships, and key concepts relevant to video retrieval systems and their contribution to learning processes

3. RESULT AND DISCUSSION

Video Collection Retrieval Systems In UIN Sunan Kalijaga Yogyakarta Library

Unlike printed library materials that are processed based on standardized cataloging and classification systems such as the Anglo-American Cataloguing Rules, Second Edition (AACR2) and the Dewey Decimal Classification (DDC)—commonly referred to as an "off-the-shelf" system—the processing of video recordings generally relies on an ad hoc system. This system consists of locally developed policies formulated by librarians to facilitate the organization and retrieval of video collections in accordance with institutional needs.

E-ISSN 3063-3494

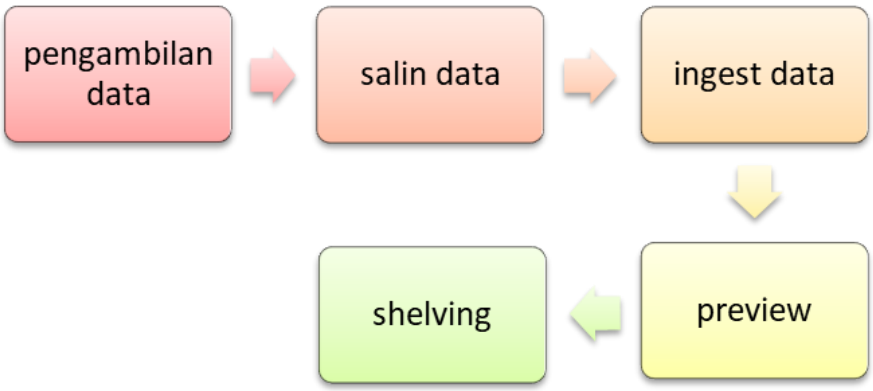
This section presents two previous studies that discuss video collection retrieval systems in libraries using different approaches. The first study, conducted by Ekhsanuddin (2014), examined the video retrieval system implemented at the ADi TV Library. The second study, carried out by Sagirani (2013), proposed a structured video retrieval system designed to improve the efficiency and precision of search processes.

Ekhsanuddin's (2014) study at the Library of PT Arah Dunia Televisi (ADi TV) revealed that librarians developed an internal processing system specifically designed for video recording collections. All collections at the ADi TV Library originate from in-house productions created by the ADi TV production team. These video recordings include live broadcasts, recorded programs, and advertisements. The video collections are predominantly tapeless (non-magnetic media), while MiniDV tapes are used only for raw footage obtained from external productions. After the footage is captured and transferred to digital storage, the physical tapes are archived without further processing.

The workflow for processing video recordings at the ADi TV Library consists of several sequential stages, including data acquisition, data duplication, video ingest, inventory control, database input, previewing, content transfer, and shelving. Although the video cataloging system does not produce physical catalog cards, the metadata entered into the database incorporates several key elements derived from AACR standards. This approach enables efficient retrieval when video recordings are required. Information retrieval at the ADi TV Library is conducted through the search functionality of the Archive System v.2.1.0 database software, which utilizes natural language processing (NLP) to support video searches.

In another study, Sagirani (2013) described the design of an application developed to facilitate video-based information retrieval by utilizing subtitle files (.srt). The retrieval process enables users to locate specific content segments within videos by matching keywords entered by users with subtitle text. The system then displays detailed playback information, including precise timestamps in minutes and seconds, allowing videos to be played directly from the relevant segments.

The application development process began with user needs identification, followed by system design, system evaluation, implementation using programming languages, system testing, further evaluation, and eventual deployment. More specifically, the development stages included the following:



1. User needs identification, conducted through direct communication between users and researchers to understand search behaviors and information requirements.
2. System design, which focused on four main components:
   a. Multimedia file capture, in which librarians prepared video files in AVI format and subtitle files in SRT format. These files, along with the database, were stored in a single directory to streamline access and retrieval.
   b. Database structure preparation, consisting of five main tables: member data, master video data, subtitle data, subtitle buffer data, and category data. The master video table stores video identifiers, storage locations, and subtitle metadata containing descriptive text and time codes.

c. Content search process, which involves matching user-input keywords with subtitle text stored in the database or SRT files. The system then displays video titles, relevant content descriptions, and playback timestamps.
d. Execution of search results, enabling users to play selected video segments directly from the identified timestamps.

3. Evaluation, conducted to verify the compatibility of the system design with user needs and to assess the success rate of keyword-based searches. This evaluation process aims to detect errors, ensure consistency, and confirm the completeness of the software system.

These two video retrieval system designs provide valuable references for libraries seeking to implement audiovisual retrieval systems, particularly for video collections. Fundamentally, the development of an effective video retrieval system requires a thorough identification of user needs, the construction of a well-structured database, and continuous evaluation to ensure ongoing improvement and system optimization.

The Role of Audiovisual (Video) Collections In The Learning Process

The learning process is inherently complex, as it is influenced by multiple interrelated factors. One of the most crucial factors is the process of knowledge transfer to learners, which serves as a continuous mechanism for intellectual development and renewal. Learning materials cannot be fully absorbed by students if the messages conveyed are not presented effectively. In this context, the use of video as an instructional aid offers a significant innovation in the teaching–learning process. Video media enable learners to observe events as they occur, particularly when the locations or phenomena presented are too distant, inaccessible, or impractical to observe directly.

The use of instructional media—especially video—has been shown to stimulate learners' interest and curiosity, enhance motivation, and activate learning engagement. Video-based instruction can also generate positive psychological effects, such as increased attention and reduced cognitive fatigue. When applied during the orientation phase of instruction, instructional media significantly enhance the effectiveness of learning activities by facilitating clearer message delivery and improving students' initial understanding of the subject matter.

Delivering learning content through video media is not merely a matter of presenting curriculum-aligned material. Other factors that influence learners' engagement must also be considered, including learners' prior experiences and their surrounding social and environmental contexts. Integrating real-life situations into video-based instructional materials allows learners to relate more closely to the content being taught. Moreover, in practical or skills-based learning, students tend to perform tasks more effectively when they observe demonstrations through video compared to explanations provided solely through textbooks or static images. Such practices facilitate both teaching and learning processes by bridging the gap between theory and application.

Video also offers several advantages as a learning medium. It is adaptable to various instructional settings, including large classrooms, small groups, and independent learning contexts. This flexibility aligns with the characteristics of contemporary learners, who are increasingly immersed in audiovisual culture shaped by television and digital media, where content is frequently presented in short, dynamic segments. Consequently, short-duration instructional videos provide greater pedagogical flexibility for educators and enable learning activities to be directed more precisely toward learners' immediate needs.

Audiovisual media, particularly video, offer several pedagogical benefits. First, they clarify the presentation of instructional messages by reducing excessive verbalism, whether in written or spoken form. Second, they help overcome limitations of space, time, and sensory perception by representing large, distant, or abstract objects through visual simulations, images, films, or models. Third, audiovisual media support tutorial-based learning by providing structured and guided instructional experiences.

Djamarah et al. (as cited in Purwono) argue that audiovisual media function as effective instructional tools in education due to several inherent characteristics: (1) their ability to enhance perception, (2) improve comprehension, (3) facilitate the transfer of learning, (4) provide reinforcement or feedback on learning outcomes, (5) strengthen retention or memory, and (6) offer direct learning experiences that make instruction more engaging and enjoyable for students.

Similarly, Semenderiadis (2009) emphasizes that audiovisual media play a vital role in both formal and informal educational processes. Audiovisual media provide diverse stimuli that enrich learning environments, encourage exploration, experimentation, and discovery, and motivate learners to engage in discussion and express their ideas more effectively.

Therefore, video collections should constitute an integral component of library resources. As educational methods and learning materials continue to evolve in response to technological advancements, libraries must provide up-to-date audiovisual collections to prevent monotonous learning systems. Video collections serve as effective instructional tools, supporting educators in delivering learning materials and enabling independent learners to acquire information more efficiently and meaningfully.

4. CONCLUSION

One of the multimedia content types that is increasingly used as an information resource is video. Video is widely selected as learning and reference material due to its audiovisual nature, which enables information to be conveyed and understood more easily. Video recordings, as media that capture both images and sound, play a significant role in disseminating information to the public. Effective information delivery depends on the proper processing of video recordings in accordance with library material management standards, resulting in video storage and retrieval systems that allow information to be accessed and retrieved efficiently by users.

Video retrieval systems in libraries represent one of the most complex forms of multimedia retrieval, as video delivers information in a more communicative and integrated manner than static images. Within video media, information is presented as a unified composition of visual and audio elements that complement one another, creating representations that appear dynamic and lifelike. Video-based learning has been widely adopted by both formal and non-formal educational institutions, including libraries. As information providers, libraries are expected to offer audiovisual collections to support users' learning activities. With an effective video retrieval system in place, users can more easily access video collections, thereby maximizing their utilization and enhancing their contribution to the learning process

References

Anita. (2015). Pemanfaatan koleksi audiovisual di Perpustakaan Departemen Pendidikan Nasional (DEPDIKNAS). Retrieved from http://lib.ui.ac.id/

Arsyad, A. (2003). Media pembelajaran. Raja Grafindo Persada.

Barlow, L. D. (1985). Educational psychology: The teaching–learning process. The Moody Bible Institute.

Belkin, N. J. (1980). Anomalous state of knowledge as a basis for information retrieval. Canadian Journal of Information Science, 5, 133–143.

Chowdhury, G. G. (1999). Introduction to modern information retrieval. Library Association Publishing.

Deveaney, R. (2009). The impact of video tutorials in online courses. Journal of Online Learning.

Ekhsanuddin. (2014). Pengolahan dan temu kembali koleksi rekaman video: Studi kasus di Library PT Arah Dunia Televisi. Retrieved from http://digilib.uin-suka.ac.id/

Isiaka, A. (2007). Effectiveness of video as an instructional medium. Educational Media International.

Sagirani, T. (2013). Temu kembali koleksi digital (format video) sebagai transformasi informasi dan pengetahuan. Retrieved from http://sir.stikom.edu/

Sanjaya, W. (2010). Strategi pembelajaran berorientasi standar proses pendidikan. Kencana.

Semenderiadis, T. (2009). Audiovisual media in education. Educational Media Review.

Situmorang, J. R. (2014). Analisis pemanfaatan koleksi audio-visual di BPAD Sumatera Utara. Retrieved from http://repository.usu.ac.id/

Syah, M. (1997). Psikologi pendidikan dengan pendekatan baru. Remaja Rosdakarya.

Uno, H. B. (2010). Orientasi baru dalam psikologi pembelajaran. Bumi Aksara.

Winkel, W. S. (2009). Psikologi pengajaran. Media Abadi.

Vol 3 No 3 (2025)
Page 144-149