



**BATANGAS CITY INTEGRATED HIGH SCHOOL**  
**SENIOR HIGH SCHOOL**

**WEB-BASED ONLINE PUBLIC ACCESS CATALOG (OPAC) FOR THE  
RESEARCH PAPERS OF SENIOR HIGH SCHOOL STUDENTS IN  
BATANGAS CITY INTEGRATED HIGH SCHOOL (BCIHS)**

A Research  
Presented to  
the Senior High School Department  
**BATANGAS CITY INTEGRATED HIGH SCHOOL**  
Batangas City

In Partial Fulfillment  
of the Requirements for Practical Research II

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**APPROVAL SHEET**

This thesis entitled “**WEB-BASED ONLINE PUBLIC ACCESS CATALOG (OPAC) FOR THE RESEARCH PAPERS OF SENIOR HIGH SCHOOL STUDENTS IN BATANGAS CITY INTEGRATED HIGH SCHOOL (BCIHS)**” prepared and submitted by **RESEARCHERS** has been approved and accepted as partial fulfillment of the requirements for the Practical Research II.

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**ABSTRACT**

**Title** : **WEB-BASED ONLINE PUBLIC ACCESS CATALOG (OPAC) FOR THE RESEARCH PAPERS OF SENIOR HIGH SCHOOL STUDENTS IN BATANGAS CITY INTEGRATED HIGH SCHOOL (BCIHS)**

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**Summary**

(Encode your abstract HERE, 150-250 words only)

*Keywords: (select 5 keywords from your abstract, arranged alphabetically)*



**ACKNOWLEDGEMENT**

**The Researchers**



**DEDICATION**

*This is  
To all the people who encouraged us  
To pursue this creation of wisdom  
In which we shed our blood  
and sweat...*

**The Researchers**



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## **CHAPTER I**

### **THE PROBLEM AND ITS BACKGROUND**

#### **Introduction**

The society embraced the technology for innovative and life-long solutions. Through the presence of these innovative solutions, various things became efficient. As the growing world of technology rapidly rises, different school institutions maximize its capability in reducing efforts. For instance, student portals and Learning Management System (LMS) became evident in providing efficient access with regards to school requirements. Therefore, making the workloads in terms of compiling more efficient and readily accessible to students.

Technology has brought about meaningful changes in the way how educational institutions work. It has reshaped how students get and interact with information. But it is more than just gaining access to research materials. Technology has become the backbone of modern education, fundamentally changing how learning takes place. Further, its widespread influence includes interactive learning environments, improved teaching and learning method, and easy access to information, providing solutions to the barriers of traditional way of learning. With technology, learning and gathering information is not limited to the learners as well as to educators. Moreover, students now have the chance to explore, learn, and create in a digital environment, ultimately benefiting from the potential impacts of technology allowing students in developing innovative research outputs.



As technology emerges and make progress, different institution is taking the way in engaging in technological advancements to support the requirements of the citizen. In recent years, libraries have embraced a variety of technologies to improve their services and resources fostering a more accessible, effective, and user-friendly playing a vital part for allowing patrons to efficiently access information. As stated by Lamba M. (2022), advancements in library services are swiftly developing which includes building design, program and event planning, user experience and engagement, literacy program development, and administration and management. Additionally, Technological Advancements in Library offers enhanced services pivotal to a successful and innovative research and practices. Moreover, it also provides an overview of libraries' successful experiences, identifies arising global themes and trends, and offers guidance to library personnel on how to pursue the recent trends in the library, as well as covering topics such as technology adoption and organizational structures, ideal for library professionals, researchers, academicians, preceptors, and students.

Acquiring research information and materials efficiently is essential for effective learning and research. Allowing researchers to make new discoveries and contribute for the innovation of current research. However, since the papers that have been submitted are not readily and easily accessible and can be time-consuming or difficult for students to acquire. With regards to that, a web-based Online Public Access Catalog (OPAC) system



would help provide students with a more convenient and efficient way to find and access research papers. Which could potentially be a significant support for their learning and research skills.

According to Thirumagal et al. (2018), the Online Public Access Catalog (OPAC) serves as an effective and convenient tool for individuals seeking access to library resources. Acting as a gateway to a library's collection, OPAC's user-friendly search features allow users to easily locate the information they require. Whether it be students, researchers, or anyone else in need of accessing library materials, OPAC proves beneficial by enabling remote access through an internet connection. Enhancing awareness and proficiency in using OPAC can enable students to make more efficient use of available resources within libraries. This can lead to improved learning and research outcomes.

Efficient learning and research rely on easy access to information and resources. However, finding research papers submitted by other researchers can be challenging through library catalog searches, leading to limited availability for students. Traditional search techniques often fall short in locating these valuable resources due to their hard accessibility. To address this issue, a web-based Online Public Access Catalog (OPAC) system offers a solution. By providing students with a user-friendly and efficient way to search for and access research papers, a web-based OPAC system has the potential to enhance students' learning and research capabilities.



Additionally, Shoutmore (2023) describes OPAC as a valuable tool used by the library to grant benefits to the users in gathering resources digitally. OPAC enables the users to search and retrieve information about the resources that the library can offer. Though catalogs were already present in the library as “*traditional catalogs*”, the use of this innovative system has brought extensive efforts in gathering information at ease. Further, the advantages of OPAC were mostly inclined with improved efficiency, convenient access, and effective catering to library patrons with the aim of having engaged and user-friendly experience in libraries. In lined with this, Shoutmore highlighted the 7 advantages of OPAC to users and libraries:

*Searchability*, the searching capabilities with the help of OPAC was significantly increased that brought benefits in efficiency and convenience. *Accessibility*, OPAC exhibits “round-the-clock” access to the resources if the internet connection is available without needing to access the resources physically. *Resource Information*, the use of OPAC supports the importance of providing concrete information regarding the resources allowing a comprehensive assistance to the users. *Requesting and Reserving*, OPAC also provides a feature that allow users to place holds, reserve, and request materials to obtain the desired resources making it more convenient to the users. *Account Management*, personalized accounts enhance the user’s convenience by managing administrative tasks and having the ability to control their library activities. *Enhanced Discoverability*, OPAC utilizes advanced search options that offers suggestions to the users, enriching the



users in discovering materials. Lastly, *Integration with Digital Resources*, the advancement of technology brought e-books came to life and through the utilization of OPAC, the library's capability was significantly enhanced by allowing resources from digital platform be accessed effortlessly.

According to the study of Abdulrasheed et al. (2022), adopting OPAC usage will help to get accurate reports to track the ins and outs of library resources, facilitate better productivity and proper management of books & automates, and foster library management system operations that are efficient and quick. The benefits of adopting OPAC usage are strongly agreed upon. Moreover, the development of a web-based OPAC system is essential in the current digital age, where users increasingly expect to be able to access library resources from anywhere, at any time. A web-based OPAC system would enable users to conduct online searches for library resources and information without physically visiting the library. Users would have easier access to library resources, and library staff would have less work to do as a result.

By conducting this study, students researching information capability will be significantly improved, due to their easier access to the library's resources. Furthermore, the development of web-based OPAC systems could lead to enhanced learning and research outcomes. Encouraging a more conducive environment for academic growth and innovation. Additionally, this could improve the library's collection management of research papers allowing for easier research resources and information organization. Therefore, the



study's significance lies in its potential to bridge the gap between technological advancements and efficient research access, ultimately benefiting the academic community.

Utilizing OPAC will enhance the efficacy of the school library in providing the needed resources by the students. Furthermore, the availability of the library would become more evident as it can be accessed online. Lisudenetwork (2018) stated that the use of OPAC will reduce the time and effort for locating and accessing resources. Users, specifically students, can access these resources without the need of physically borrowing the materials needed. Moreover, efficiency saves time for students that have limited access to the school library.

Due to the inaccessibility of the library for compiling recent studies, students struggle on finding related literature to support their study. Furthermore, students encounter difficulties searching for other studies that are relevant to their study which can negatively affect the quality of the research. Additionally, the lack of access to recent studies makes it difficult for students to keep updated with the most recent advancements in various fields, limiting their academic progress and readiness for future careers. To foster a more conducive learning environment for students. This issue must be addressed by enhancing library accessibility or offering alternate research resources.





An Online Public Access Catalog (OPAC) is a valuable tool that serves multiple purposes. It acts as a compilation platform for gathering and organizing recent studies in a way that can easily be accessible. This might help students and teachers to effectively use the school library. As a student, the researcher would like to address the problems that are encountered by the other students during the research process. This digital platform enables students to easily locate studies that are more relevant to their study, which can help enhance the quality of their research. Overall, this OPAC serves as a valuable resource that enhances the research experience and promotes academic excellence.



## Objectives

This study aims to develop a web-based online public access catalog (OPAC) system for the research papers of senior high school students.

Specifically, it aims to fulfill the following objectives:

1. Identify the problems of the students in accessing research papers in the school library.
2. Ensure the accessibility of the students in utilizing Online Public Access Catalog through the following key features:
  - 2.1 Personalization
  - 2.2 Advanced Search Bar
  - 2.3 Personalization
3. Determine the user's satisfaction with the web-based catalog in terms of:
  - 3.1 Functionality
  - 3.2 Accessibility
  - 3.3 Security
4. Establish the significant difference in efficiency between the OPAC and Traditional Catalog.
5. Provide the advantages of the development of OPAC to school library and students in acquiring research contents and information.



## **Hypothesis**

There is no significant difference in efficiency between Online Public Access Catalog (OPAC) and Traditional Catalog.

## **Scope, Delimitations, and Limitations**

The study was focused mainly on designing and developing a web-based online public access catalog (OPAC) system for research papers of senior high school students. This study also aims to determine the efficiency of the online catalog. In addition, the data to be gathered using pilot testing and evaluation form will be utilized and will act as a foundation in innovating the website. Moreover, the study will be conducted at Batangas City Integrated High School with the chosen respondents of Senior High School students.

This study only covered the compilation of the published research papers from Senior High School students. The web-based catalog will be developed as a website and will not be able to run as a software or application. The researchers will neither identify the impacts of the online catalog to the students' research performance nor guarantee the success of the students' research. Further, this study will not include the respondent's information other than the satisfaction in terms of security, functionality, and accessibility.

However, this study had prospective limitations. The catalog requires a specific file format, and it is limited only to PDF format. In account



management system, the students within the school parameter are provided with a privilege account, hence, students from outside the parameter will be allowed as guest. Lastly, this study requires internet connectivity as it runs on real-time access, only the host or the library admins can access the catalog offline.

### **Pedagogical Implications**

This study seeks to provide an efficient way of compiling, gathering, and dissemination of research journals through the help of OPAC system that will provide significant contributions in the field. Thus, the proposed output will be beneficial to the following in terms of:

**Application of Innovative Processes in the Field of Library and Information Science.** Online Public Access Catalog (OPAC) provides a tool for efficient way of gathering and preserving information. Library's capability will be significantly improved while promoting encouragement to the users. Hence, enhancing the library services through physical or digital users.

**Promoting Convenience to Library Materials.** Allowing the users to gather resources in an efficient way will encourage the users to continuously seek materials that is specific to their purpose. Materials that is readily available will most likely be used by the users compared to those materials that will take more time to be accessed.

**Adaptation to Technological Advancement and Considering the School Library.** Technology provides essential tools needed to enhance the



quality of gathering essential information that can bring adverse effects to researchers in conducting a study. Libraries provides numerous information that is beneficial for researchers and adapting to the modern technology will increase the library's capability in providing the users the needed information.

**Librarians will be Able to Explore New Application Regarding OPAC.** The discovery of OPAC's various application will allow librarians to generate creative ideas on how to incorporate OPAC into daily routines and enhance the overall library experience. Potentially increasing new discoveries and advancements in the field.

**Enlightenment of the Future Researchers Towards the OPAC's Capabilities.** As the researchers aim for the society's innovation, the knowledge regarding OPAC will contribute in developing new possibilities for the expansion of the current research regarding OPAC. Briefly, promoting OPAC's capabilities and its utilizations.

### **Definition of Key Terms**

This part of the research study aims to provide accurate and comprehensive definitions of the unfamiliar words and terminologies that were used in the study to enlighten the understanding of the readers. The researchers utilized the use of operational and conceptual definitions for better understanding. These terminologies are the following:

**OPAC.** An OPAC (Online Public Access Catalog) is an online bibliography of a library collection that is available to the public (TechTarget



Contributor, 2022). In the study, OPAC defines it more precisely as an online application that offers a range of search criteria, such as author, name, subject, keywords, and date of publication.

**Catalog.** It is defined as a complete enumeration of items arranged systematically with descriptive details (Merriam Webster, 2023). In the study, it will be defined as the compilation of the research papers that all students can have it.

**Website.** A website is a collection of publicly accessible, interlinked Web pages that share a single domain name. Websites can be created and maintained by an individual, group, business or organization to serve a variety of purposes (Margaret Rouse, 2020). In the study, it is defined as a website for research papers that is used as a platform for OPAC and it would be a website that provides access to published research papers of BCIHS.

**Library.** It is a building, room, or organization that has a collection of books, documents, music, and sometimes things such as tools or artwork, for people to borrow, usually without payment (Cambridge Dictionary, 2023). In the study, it can be defined as one of the sources that we can use for research papers.

**Pilot Testing.** It is defined as a type of Software Testing that verifies a component of the system or the entire system under real-time operating conditions. The purpose of the Pilot Test is to evaluate the feasibility, time, cost, risk, and performance of a research project (Thomas Hamilton, 2023). In



the study, it will be defined as the data gathering instruments that will undergo validity and reliability testing. The pilot testing that the researchers will administer will determine the effectiveness of OPAC system to senior high school students.



## **CHAPTER II**

### **RELATED LITERATURE AND STUDIES**

This chapter presents the pieces of literature which have bearing on the present study and its theoretical and conceptual frameworks.

#### **Conceptual Literature**

The concepts and ideas in developing Online Public Access Catalog (OPAC) were presented in this part of the study.

**Library.** Different definitions exist for libraries. It is a place where printed books are stored. Libraries are also available to anyone who require information on a certain topic or task. Another definition of a library is a collection of books and other printed materials in a particular place. The library organizes books into series, which keep books with the same theme, genre, and purpose together. (Delachieve, n.d.)

According to Librarianship Studies (2017), a library is collection of resources that offers an access to a wide range of materials, whether in physical form or digital. A library contains a collection of books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microform, CDs, cassettes, videotapes, DVDs, Blu-ray Discs, e-books, audiobooks, databases, and other formats. Additionally, public bodies, institutions, businesses, or private citizens organize and maintain libraries. Moreover, public, and institutional libraries may be used by people who choose not to or cannot afford to buy a large collection of materials themselves, who need materials that no one person could reasonably be expected to have, or who need





professional assistance to help with their research. Furthermore, modern libraries are increasingly being seen as places to acquire access to information in many formats and from many sources unrestricted. They are expanding their services by providing materials electronically and by helping people locate and analyze large amounts of information using a variety of digital tools.

Also, New World Encyclopedia (2022) defined library as a place where people can access and use a collection of information and books. Traditionally, a library mainly consisted of books, but modern libraries now include different forms of media. Libraries now hold more than just a book as they also provide public access to various databases and the internet, making them a valuable resource for accessing information in different formats and sources. Libraries play a crucial role in preserving elements of culture and tradition from generation to generation. It also helps in expanding the global exchange of information smoothly.

Moreover, Librarianship Studies & Information Technology (2021) defines library as a place that has a collection of sources of information and similar resources which can be access for reference or borrowing. It provides physical or digital access to material. Library's collection includes a variety of resources like books, newspapers, films, and digital materials. It is organized by public body, an institution, a corporation, or a private individual. Library also provides access to information for those who cannot afford their own collection and need assistance with their research.



Additionally, a library is a collection of books or the place where they are stored. It is a place where you can borrow books and return them properly. Many words are related to libraries. A librarian, for example, is the person in charge of a library. Students are the ones who are constantly visiting the library for research or educational purposes. (Tagalog-Dictionary, n.d.)

LIS Education Network (2023) also highlighted that libraries are community center for learning, research, and recreational, where people can broaden their horizons, explore new perspectives, and connect with others who share common interest, also they provide services beyond just lending books, in including computer access, community events, and educational programs. In addition, they are vital resources that offer access to literature, knowledge, and information. Moreover, libraries come in several forms including public libraries, academic libraries, special libraries, and more providing distinct collections, services, and mission providing a purpose to the citizens. Furthermore, they are crucial for promoting education, literacy, and the development of critical thinking skills by providing access to information, resources, and promoting lifelong learning as well as playing an important role in maintaining and promoting cultural heritage, social justice, and equality. As such, libraries are important to the society that values access to information, education, and opportunity.

It is also stated on Glosbe (n.d.) that a library is a facility that houses books and/or other types of stored information for use by the public or qualified individuals. It is common for a library to be housed in rooms of a



building, to lend materials from its collection to members for free or for a fee, and to provide a variety of other services to its community of users. A collection of books or other forms of information storage. A person's library refers to his collection of books and other materials. A location where books and other literary items are stored. A collection of materials was organized by an institution that holds books, etc. A SharePoint site location where a collection of files and their related metadata are stored.

The library has the responsibility for selecting, acquiring, and organizing books, periodicals, documents, newspapers, maps, digital databases, audio-visual materials and other materials that will effectively assist learning and teaching research. A good library is a collection that is well-curated and offers effective services for locating the collection it provides. Moreover, without any reservations, the “library” is both challenging and fun, if its resources are well-structured and made available to users. In addition, the primary purpose and function of these libraries is to support their parent organization in achieving its core goals of teaching, learning, research, documentation, and publication. Furthermore, A building full of books doesn’t qualify as a “library” unless the books are shelved and accessible for use. (Ishola and Ojeniyi, 2015)

Based on Rajat Ari’s study 'Importance and role of libraries in our society' (2017), A library is a collection of information resources in print or other organized form. This makes it accessible for everyone, especially students who want to read or study. Additionally, libraries acquire books along with other reading materials, organize them, preserve them, and disseminate



information to users. Therefore, libraries play an important role in promoting education, research, personal development, ethics, and other important values. So, libraries can be called places to get access to information in various formats from different sources. In this way, libraries play an essential role in the development of society.

Ever since then, the library has played a role in our lives. We go here when we have questions or inquiries. Libraries offer access to knowledge and skills, making them a place for opportunities. Amid every nation's community, colleges, universities, and schools there is a library. A secure learning environment is also guaranteed, and literacy initiatives are supported. (Studocu, n.d.)

**OPAC.** Libraries make information available and offer services through websites, Online Public Access Catalogs (OPACs) and discovery services. Therefore, the American Library Association (2023) states that the OPAC, simply known as the library catalog, enables users to search for various collections of the library. Additionally, it allows users to use a user-friendly web interface. A discovery service provides a single web-based user interface that allows users to search and explore across numerous resources including library catalogs, periodical databases, institutional repositories, and digital collections. OPAC gathers personal information of the users for variety of reasons such as verifying identity, personalization, and user analytics.



Somani (2021) also explains that the Online Public Access Catalogue (OPAC) is an online library database. It provides access for students to various resources such as books, journals, newspapers, and e-books. Students only require a stable internet connection and a log-in ID to use OPAC. The purpose of OPAC is to enhance the search experience of the students. Thus, OPAC can give students a seamless e-learning experience.

Continuously, the Technological Institute of the Philippines (2021) defines OPAC as a digitalized catalog system. Its serves as a replacement for the traditional card catalog in the library. It offers a browsing terminal for searching the library's collections. Additionally, it enables the library users to search more efficiently. It gives more search options and various resources to choose from, just by stating the author, title or subject to the search box.

Meanwhile, according to Ritsumeikan Asia Pacific University (2015), Online Public Access Catalog (OPAC) is a system that can be accessed using the internet. It provides users the ability to explore the resources available in a particular library. It also allows the user to search and browse the collection of the library. This way, an individual will determine whether the book, journal or other material needed is present in a specific library.

The card catalog was replaced by an electronic data base. It uses library resources, including books that provide bibliographic information. As a component of library automation, OPAC was created. Students utilize it to conduct independent research on library resources without assistance from



staff members. In a more user-friendly layout than the prior card catalog, it is made to be searched by title, author, subject, or keyword. (Murrell, 2022)

As stated by SPEARS Library Software (n.d), an Online Public Access Catalogue is a catalog for searching online. It is used in the Library Management System to easily search for library items. With the continuous development of technology, OPAC is connected to a circulation system designed for document search. This integration greatly helps in linking the library systems available in the local area network. OPAC system has several features such as it offers a variety of search options, user-friendly, interactive and allows user to access a wide range of content and offers instructional help.

As supported by Wells D. (2021), the Online Public Access Catalog (OPAC) refers to computer-based catalogue systems used by library clients, and which are still central to the library experience of many users. With OPAC's, the functionality of the card catalogs they largely replaced in providing aid in finding books, journals, audio-visual material, and other holdings of a particular library were replicated and extended. Moreover, online catalogs provide key functions acting as literature indexes to published and unpublished works, allowing users to find specific works or explore topics. They provide physical item locations of items on the library's shelves and links to electronic resources including texts and images in digital formats, sometimes extending beyond the library's holdings. Additionally, OPAC serves as a portal to non-bibliographic data, such as information specific to the users,



also promoting the library and its services, and establishing a source of authority for the information sources to which the library allow access. Furthermore, in actual implementation, OPACS has varying levels of functionality depending on the size, resourcing and focus of individual institutions.

Additionally, Rosalien and Pijushkanti (2018) states that Online Public Access Catalog (OPAC) is a computerized form of library catalogue which is available online. It has made it simpler and faster to search and retrieve bibliographic information. In addition, OPAC supports multidimensional searches that provide as many as four data elements (i.e., author, title, subject, keywords), depending on the ILM software you use. It has gone through various phases of development and is currently available online with graphical browsers called Web-OPAC. Furthermore, In the ever-expanding world of the internet, the current OPAC system has lost its attractiveness and appeal to library users. Librarians are increasingly turning to web search engines to satisfy their information requirements, rather than to libraries.

The OPAC or the library catalog provides access to the services and collections of a library. It is a digital version of the traditional card catalog, and it is much more powerful and efficient. It gives users the information what are the available in the library and how to locate it on shelves. OPAC allows users to search for materials by author, title, subject, keyword, and other criteria. It also provides information about the availability of items, their location in the



library, and other details such as call number, publication date, and genre. (Learning Resource Center, n.d.)

Briefly, Diana and Kristen (2022) emphasized OPAC as an acronym for Online Public Access Catalog. It is an electronic database that replaced the card catalog. It provides bibliographic information about the books and materials in a library. In addition, an Open Access Catalog (OPAC) is a tool that library patrons use to find materials without the help of a librarian. An OPAC is designed to search titles, authors, subjects, or keywords in an easier-to-use interface than the old card catalog. OPAC is a library automation tool. Moreover, it was created to make it easier for library users to find what they need without the need for a librarian. Furthermore, OPAC is connected to the circulation system, it provides up to the minute access to what items are available, how many holds are on an item, and the location of an item.

**Traditional Catalog.** Generally, a library catalog is a record of bibliographic items found in a library or group of libraries. These elements can be books, computer files, graphics, facts, or links to categories. The card catalog familiar to library users has been replaced by the Online Public Access Catalog (OPAC). Some libraries still have card catalogs in place, but they are rarely updated. The WorldCat.org consortium catalog, managed by OCLC, is the world's largest library catalog, with more than 360 million records and 2 billion library holdings. (Encyclopedia.pub, n.d.)





The Catalog Division is responsible for the organization of collections acquired through purchase, copyright, legal deposits, gifts and exchange, donations and photo reproduction. The Dewey Decimal Classification is adopted as its scheme. On the other hand, the Classification Scheme for Philippine Government Publications is used for government publications and the Library of Congress Classification Scheme for PNB materials. (National Library of the Philippines, n.d.)

It is a record of all bibliographic items found in a specific library or group of libraries. For example, people affiliated with a university system distributed across multiple geographic regions. It also refers to an inventory of a library's materials. Library has a catalog, or formal listing of publications, but it is limited to works related to the scope and specialism of the library. It is used to locate books in a lot more convenient manner than asking the librarian. (Glosbe, n.d.)

Catalogs were very evident in every library that helps in locating materials. "Katalogo" is how it is translated into Filipino. It refers specifically to an extensive list of items, usually presented in alphabetical or other orderly way. It also means compiling an organized list of similar items. List, memo, logbook, and other terms are some synonyms or terms related to catalog. (Englishtotagalog.org, n.d.)

Further, the term catalog was derived from the Spanish word *catalogo*. Its English name can be translated into Tagalog as *katalog*. A catalog is a



systematic listing of the items of a business, library, course, or other such establishment. It can also refer to a book, a list, or a record. Catalog relates to words like content, menu, and syllable.

As supported by Rashid H. (2023), it was described that a catalog is a list of resources owned by a library or group of libraries, which offer users with information about the materials available to them. In addition, library catalog also functions as a tool for users to locate and retrieve both digital and physical materials from the library, as well as a standardized means of describing the materials so that the users can quickly understand what resources are available to them. Moreover, catalog serves several important purposes in a library such as allowing access to the library's collection, helping users find items quickly and efficiently, as well as organizing the collection, providing information about items, assisting in collection development, providing data for library statistics, and improving user satisfaction. By attaining these purposes, catalogue plays an important role in the overall success of the library. Furthermore, a catalog for a library provides accurate, comprehensive, and easily accessible information about the library's collection and should be designed to meet the needs of the different user groups.

Additionally, according to Encyclopaedia MDPI (2022), a library catalog or library catalogue is a register of all bibliographic materials found in a library or group of libraries, such as a network of libraries at several locations. A bibliographic item can be any form of information including books, computer



files, graphics, realia, cartographic materials, and other resources that is considered library material, or a group of library materials (e.g., a trilogy), or linked from the catalog (e.g., a webpage) as far as it is appropriate to the catalog and to the needs of users in the library. Moreover, catalog also function as an inventory or bookkeeping of the library's contents. Additionally, it enables the patrons to find materials efficiently, show what resources the library has as well as to assist in choosing library materials. Furthermore, catalogs provide a standardized sorting process giving aid to the users in library browsing and helping patrons to identify what materials are available as well as to locate specific materials from the library.

Also, based on New World Encyclopedia (2022), a library catalog is a list of all bibliographic items that can be found in a particular library. It includes books, computer files, maps, and other materials. The traditional has been replaced by online catalog, although some libraries still have physical card catalog. Libraries that retained card catalog uses it as a secondary resource. These physical card catalogs are rarely updated, and libraries display a sign which indicates the time they were updated.

A library catalog is an important tool for any library because it provides users with a way to find and access the materials available in the library. This is a comprehensive and systematized list of books, journals, periodicals, and other additional holdings in the library collection. The catalog also provides precious information that helps users locate the items on the library shelves. Just like its location, availability, and call number. In this way, a library catalog



plays an essential part in exploration and study of the effectiveness of library patrons, perfecting the value and suitability of library studies. (Library and Information Science Education Network, 2023)

To conclude, a catalog is a systematically organized list or record of things for sale or courses at a university, frequently incorporating descriptive material. A list of the contents of a library or a group of libraries, organized according to any of the numerous systems. It can be something with a list or record, such as a book, leaflet, or file. It can also refer to any list or record. A catalog is utilized not only in libraries, but also in businesses. (Dictionary, n.d.)

**Website.** A website, or simply website, is an assortment of linked and related web pages that are hosted on one or more web servers and are recognized by a common domain name. Any user having internet access can access this virtual space. A website may focus on news, education, business, entertainment, or social networking, among other subjects or goals. A person, a network, a business, or an organization can all create it. There are many ways that users can engage with a website: reading articles, watching videos, shopping, taking part in forums, and more. A website can be used for a variety of commercial and private objectives, including information sharing, customer service, and product or service promotion. (PortalCripto, n.d.)

A collection of linked web pages hosted on a single web domain is referred to as a website. Website, sometimes referred to in Filipino as "*pook-sapot*." It refers to a group of World Wide Web pages. It can also refer to a



collection of linked Web pages hosted on an intranet or the World Wide Web by an HTTP server. A website's pages usually cover one or more topics and have hyperlinks connecting them. (Glosbe, n.d.)

The Pook sapot website is segmented into various categories. These are the kinds of websites that inform readers and are meant to be educational or informative. This website allows you to share photos of yourself or other people. Facebook is one instance of this, and you can also create or read a blog on a blogging website. The distinction between a webpage and a website is that the former is merely a portion of the latter. (Jonardsblog, 2019)

According to Java Tpoint (2021), a website is a collection of web pages and media that can be found on the internet. Moreover, websites can be published on at least one web server and can be identified by a common domain name such as javatpoint.com, google.com, and youtube.com. In addition, all the websites that are available to the public is a part of the World Wide Web, and there are several websites that can only be accessed on a private network. Additionally, most of the websites are offers a particular topic or purpose including education, news, commerce, entertainment, or social networking. Furthermore, website is categorized into two types of the static websites which are first coded in the HTML and CSS that are used to control the appearance beyond basic HTML displaying the same information for all users, conversely a dynamic site shows the current state of a dialogue between users to provide any information in some way to the user's desired requirement.



As supported by Rouse (2020), a website is a group of interconnected web pages that are publicly accessible and share a single domain name. It can be accessed by entering its URL address on a search engine like Google or Bing. A website can be created and managed by an individual, group, business or organization. There are variety of websites such as educational, news, forums, social media, and e-commerce sites. Usually, the pages on a website are combination of text and other media.

Moreover, as described by Tukunang H. (2023), it is a collection of web pages relate to one another within the scope of the same domain, containing a variety of information that users can access efficiently and conveniently if they are connected to the internet. Moreover, website comprises various components which includes images, text, sound, video, animation, and illustrations based on the website's purpose. Generally, websites have one main page containing general information, called the Homepage. When a web page is opened for the first time, the user is initially directed to the Homepage where the web user can explore various information on the internet site. Furthermore, website serves several purposes which include building a business branding and providing means of marketing as well as functioning as a tool for sharing information which can be easily accessed by web users.

Any arrangement of web pages with various kinds of content that can be found online can be called a website. Text, photos, videos, and other visual information can all be added as content to websites. Entering a website URL or web address into your web browser will allow you to access the website. A



website typically has a home page. On this page, the majority of the website's crucial information is displayed. Details are displayed using a variety of elements, including headers, footers, menu options, buttons, post sections, and more. After clicking on the links, it comprises several additional web pages that can be viewed. (BlogPasCher, 2023)

Also, based on Techterms (2023), a website is a collection of webpages grouped together using the same domain name and operated by the same person or organization. A website can be accessed via a web browser by typing in the URL of the website itself or by clicking on a link from another website. In addition, websites are structured around a single homepage, which can be accessed by navigating to the website's root URL. Moreover, web sites are often focused on a single subject or purpose, such as providing information about a subject or business, running an online store, or offering a social network service. Furthermore, some websites offer a mix of static content and dynamic content depending on the page a user is on.

Gartner (2023) shares an idea that a website is a group of files that can be accessed through a web address. It is focused on a specific topic or subject and controlled by a person or organization. The opening page of a website is called a home page. Moreover, website is stored on servers that are connected to a network and can provide information to users worldwide at any time. It usually uses HTML to organize and present information as well as navigation options for users. Therefore, it helps the users to easily move within the site and around the web.



Specifically, it is a collection of HTML documents, all of which can be accessed individually through a single, uniform resource locator (URL) on the internet using a client application like a web browser. Alongside classic content such as text, internet sites can also include a diverse range of media contents such as photos or videos, but also other files. Furthermore, web applications offer the opportunity for users to interact with a website. The subpages of a website are correctly described as webpages, alternative terms include homepage or internet site. Additionally, there are a broad variety of website types that can be found on the World Wide Web this include blogs, online shops, web directories, news website, and forums that can help the internet users to acquire information (Conductor, 2023).

### **Related Literature**

This part exhibits various studies that contributes and serves as the sole basis of the current study.

The study of Rout & Panigrahi (2018), entitled "Online Public Access Catalog (OPAC) Usage Patterns Among the Library Users of Odisha: A Study". Revealed that the OPAC usage rate is quite low among the library, but the users who make use of OPAC frequently conduct title and author searches. Additionally, most respondents showed that they were moderately successful in locating documents through OPAC. In addition to that, the study's findings also revealed that most of the users are unaware of all the facilities available in the OPAC, and encounter problems while searching





including difficulty in query formation, maximum time search failure, no scope for spelling correction, inadequate instruction in the OPAC software, OPAC not functioning properly and lack of proper guidance from the library staff. Furthermore, the study recommended that enhancing the functionality of the OPAC and providing proper user training are crucial to ensure the efficient and effective utilization of the system to find the information or resources needed.

According to the study of Adegun et al. (2021), entitled "Online Public Access Catalogue (OPAC) Among Library Users: A Case Study of Olusegun Oke Library, Lautech, Ogbomoso, Oyo State, Nigeria," investigated the utilization of Online Public Access Catalogue (OPAC) at the Olusegun Oke Library, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria. Employing a descriptive survey method and distributing 150 questionnaires to users, the research aimed to observe the purpose, frequency of use, user satisfaction, and challenges faced when using OPAC. The study's finding indicated a substantial rate of OPAC usage, with a significant portion of respondents employing it for locating journals and reading materials (33.0%) or checking the availability of books (23.1%). However, several issues were identified, including OPAC functionality problems, time-consuming searches, high failure rates, and insufficient guidance from library staff. Consequently, the study recommends immediate attention from library management to enhance OPAC functionality and address these concerns to facilitate effective utilization.



Additionally, "The interpretation of OPAC service in the Library of Universities Airlangga" by Srirahayu & Anugrah (2019) aims to learn how users of the library of Universitas Airlangga interpret OPAC to conduct a more thorough analysis of the issue. The researchers employ qualitative techniques, and they use in-depth interviews and observation to gather their data. The outcome will be discussed using the Stuart Hall encoding-decoding idea, which covers three positions of user typologies who used OPAC services in the university library. It consists of three positions: Dominant/Hegemonic, Negotiated, and Oppositional. In the Dominant/Hegemonic position, users can understand the meaning directly according to the aim of the OPAC service. In the Negotiated position, users can express their position that they understand the aim of the OPAC service quite well. Oppositional position where in users who strongly disagree with the library's goal of serving as a rapid and reliable information source through its OPAC service.

Venkatesha & Pavan (2023), conducted a study of library users' opinions on OPAC access at Mysore University. The researchers employ study questions and responses to get results. There were inquiries about the length of time spent at the university during library visits, the knowledge of the web OPAC, and the frequency of searching for different information sources via the web OPAC by library users. The researchers are also curious about the different fields they utilize to find a document in the university library, understanding of advanced search on Web OPAC, usage of advanced search



features, sources sought in OPAC for academic reasons at the university library, and the options provided by library Web OPAC for filtering down results. Users of libraries have made recommendations for mobile applications and other tools that will be useful and promote the use of Web OPAC in libraries. By putting this strategy into practice, library personnel should create guidelines and policies requiring the use of Web OPAC.

Moreover, the study conducted by Eserada & Okolo (2019) entitled “Use of Online Public Access Catalogue (OPAC) in Selected University Libraries in South- South Nigeria,” the primary reason of the respondents for using OPAC includes locating, retrieving, and obtaining information about a document without physically visiting the library and checking document availability. The results show that participants in the study rarely or never use the OPAC system in finding information in the library. However, some of the participants do use it occasionally. The challenges identified include problems with power supply, lack of knowledge in OPAC usage, not enough computer terminals, difficulties with navigation, lack of assistance from library staffs and search requests that are too broad or too narrow. Therefore, the study will help information seekers access variety of available information resources independently.

Meanwhile, the study conducted by Kumar et al. (2018) entitled “Usability of OPAC in University Libraries,” reviews existing literature on the usability of traditional card catalogs, OPACs, and web-based OPACs. The study explores various aspects such as library visits, awareness and usage of



OPAC, learning, frequency and purpose of OPAC use, satisfaction levels, issues faced, suggestions for improvement of OPAC system and its features. The review of literature shows that many libraries are shifting from traditional catalog to web-based catalog. Therefore, the findings show a significant shift in academic library users' preference in using web-based OPACs over traditional catalogs. The systems satisfy both of the OPAC and Web OPAC users.

In lined with this, the study "Use of Online Public Access Catalogue (OPAC) Services in District Central Library, Chennai, (Tamilnadu)" by Kasimani & Rajentran (2019) showed that OPAC is a reliable and efficient way for Chennai public library users to find the information needed. Users of Chennai Public Library are satisfied with the services and functionality of OPAC. 33(36.6%) of the users found the OPAC useful were to check the availability of documents. 42(46.67%) users faced problems in using OPAC due to the speed of the internet. Overall, 53(58.89%) of the users were satisfied with the present OPAC search facilities in the library.

It is highlighted on the study of Ndumbaro (2018) the reasons behind the success and failure of the University of Dar es Salaam library's Online Public Access Catalogue (OPAC) in terms of search results. The results of the study showed that author, subject, and document title are preferred to retrieve information, which was determined by the researcher using the log analysis approach to evaluate the library OPAC's usefulness. Only 19.2% of search queries did not yield any results. This was attributed to



various reasons such as incorrectly typed queries, improper fields for searches, users' lack of expertise, and syntax can all contribute to unsatisfactory results. The study recommends redesigning the OPAC interface to add features of more advance catalog and provide users with evidence-based information literacy.

However, the study "Transaction Log Analysis of OPAC searches in an Academic Library: Basis for OPAC Interface Improvement" conducted by Fresnido & Barsaga (2019), users are not aware of search filters and that searching for items in the OPAC is the same way they would use Google. The users expect the OPAC to provide relevant results even when the queries are not precise, have error or are based on specific search items within an article. As users see the OPAC as a gateway to both library resources and that of the Web, implementing metasearch technology would be beneficial. Instead of using traditional OPAC terminals in the library, patrons can access discovery service, which combines OPAC and subscribed databases in one search, like Google. This is expected to minimize issues with searching.

The study of Cabonero et al. (2020) "Knowledge, Satisfaction and Challenges on Online Public Access Catalog in an Academic Library in Northern Philippines" explains that without access, information resources are useless. The Online Public Access Catalog (OPAC) fulfills this role by connecting users to all the library's available information resources. The objective of academic libraries is to improve access to information, which serves as a gateway to all learning resources. This study sought to evaluate



the level of understanding, satisfaction, and difficulties encountered by Saint Mary's University, Philippines students when using OPAC and quantitative research method was used. Data was gathered from 672 undergraduate students who actively use OPAC from the School of Accountancy and Business (SAB), School of Teacher Education and Humanities (STEH), School of Engineering, Architecture, and Information Technology (SEAIT), and School of Health and Natural Sciences (SHaNS) using a survey questionnaire. The findings showed that the students had a low level of understanding, were somewhat satisfied with OPAC, and had difficulties using it. Notably, when grouped by sex, school, and frequency of use, the respondents' level of understanding and satisfaction varied greatly. The library must improve its OPAC service to further enhance its information delivery and satisfy the needs of users because students are not very satisfied with OPAC.

### **Synthesis**

The variety of information gathered and analyzed by the researchers exhibits greater contributions in terms of ideas, concepts, and innovation to the current study. Particularly, the information summarizes that Online Public Access Catalog (OPAC) has brought adverse effects in efficiency to the library patrons in accessing library materials and resources. Thus, providing a foundation in developing an innovative catalog that is pivotal in adapting to technological advancement.



The studies conducted by Rout & Panigrahi, Adegun et al, Eserada & Okolo, Ndumbaro, Fresnido & Barsaga, and Cabonero et al have shown relevance to the current study, particularly with the aim of implementing the OPAC system in their respective locales. Additionally, it shows relevance regarding the satisfaction that the users experience while using the OPAC system. Further, their studies considers that the different features and expertise of the users in using the OPAC system contributes to the satisfactory of the users which is in lined with the aim of the current study.

Though the studies present similarity to the current study, some important details have shown variety with regards to the current study. The studies conducted by Srirahayu & Anugrah, Venkatesha & Pavan, Ndumbaro, and Cabonero et al are more inclined with how the users view OPAC as a tool for the improvement of the library. They focus mostly on their interpretation to the OPAC itself through the user's satisfaction and their knowledge about it. Specifically, the study of Srirahayu & Anugrah, and Cabonero et al highlighted the main difference between the current study. They subjectively emphasized the user's viewpoint regarding the OPAC itself, the gathered data came from the user's idea and description about the OPAC and how will they interpret its significance to the user's capabilities.

Similarly, Eserada & Okolo, Kumar et al, and Kasimani & Rajentran exhibits similar goal to the current study. They conducted the study with the purposes of utilizing OPAC system to their respective localities. Furthermore, they gathered the data from the user's satisfaction that shows evident



similarities to the current study. The studies they conducted will primarily bring adverse contributions as the basis of the current study as it highlights some key points that will also be highlighted in the current study.

Hence, this study will help to visualize its significant contributions to the school library and in the field of Library and Information Science (LIS) in adapting to the technological advancement while promoting efficiency in accessing resources that is crucial in conducting research. Moreover, the application of OPAC to the school library of Batangas City Integrated High School (BCIHS) will help in maximizing the capabilities of the school library in producing relevant and significant information with the help of OPAC system. Through the use of OPAC, the availability of school library physically and digitally will be significantly improved, allowing the users to continue utilize the school library in-and-out of the school premises.

### **Theoretical Framework**

Several theories and perspectives have helped establish the main points relating to efficiency of developing web-based OPAC system for research papers.

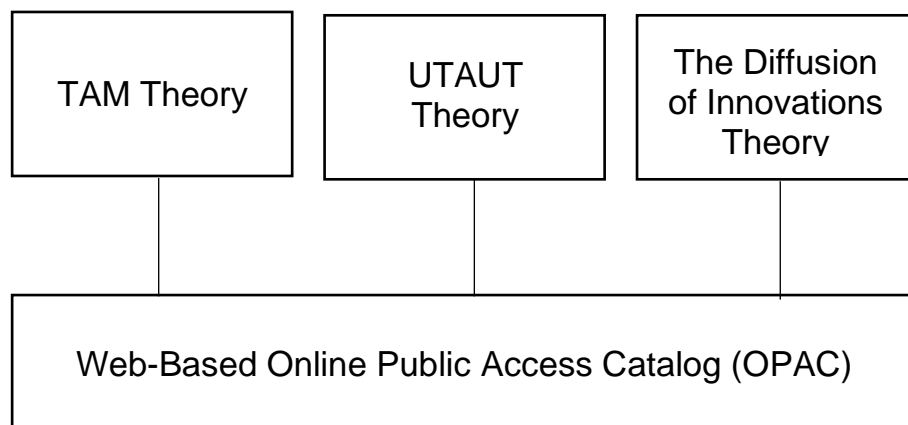
The theory of acceptance model (TAM) by Davis, states that there are two factors in determining how a user will accept a computer system. It includes perceived usefulness and perceived ease of use of the computer system to potential users. This theory is an essential part to be able to determine the level of user satisfaction and advantages of development of





OPAC to school library and students in acquiring research contents and information. (Newcastle University, 2023)

On the other hand, the diffusion of innovations theory by Sherry & Gibson, describes how new ideas, attitudes, technology, or items spread gradually, rather than all at once, through a population. Adoption begins with innovators and early adopters and spreads across the population to the early majority and late majority. Understanding the diffusion of innovation theory is crucial to how the web-based OPAC will be popular with students and schools who are interested in starting to use it. (Investopedia, 2023)



**Figure 1. Theoretical Framework**

These two initial principles are also evident in the formulation of the UTAUT theory. UTAUT theory integrates elements from eight various models of technology acceptance, including the theory of planned behavior, PC utilization (MPCU), motivational model, social cognitive theory, etc. Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al.



explains that behavioral intention helps in determining the actual use of technology. Performance expectancy, effort expectancy, social influence, and advantageous factors all have a direct impact on the perceived likelihood of adopting the technology.

The four modifiers are gender, age, voluntariness of use, and technological experience. Performance expectancy states the extent to which an individual believes that adopting the system will assist him or her in improving job performance. Effort expectancy elaborates the degree of comfort involved with using the system. Social influence indicates the extent to which an individual believes that important others believe he or she should use the new system. And Facilitating conditions is defined as the point at which a person feels that an organizations and technological infrastructure exist to support the system's use. Acknowledging this theory is necessary in order to test the efficiency of the web-based OPAC system to senior high school students of BCHIS. (Newcastle University, 2023)

The Unified Theory of Acceptance and Use of Technology (UTAUT), which the researcher used to build and validate the effectiveness of a web-based OPAC system for senior high school students' research papers, serves as the foundation for this study. Additional supporting theories that help researchers identify variables and develop a specific viewpoint for analyzing and interpreting the data gathered support these theories. As a result, the

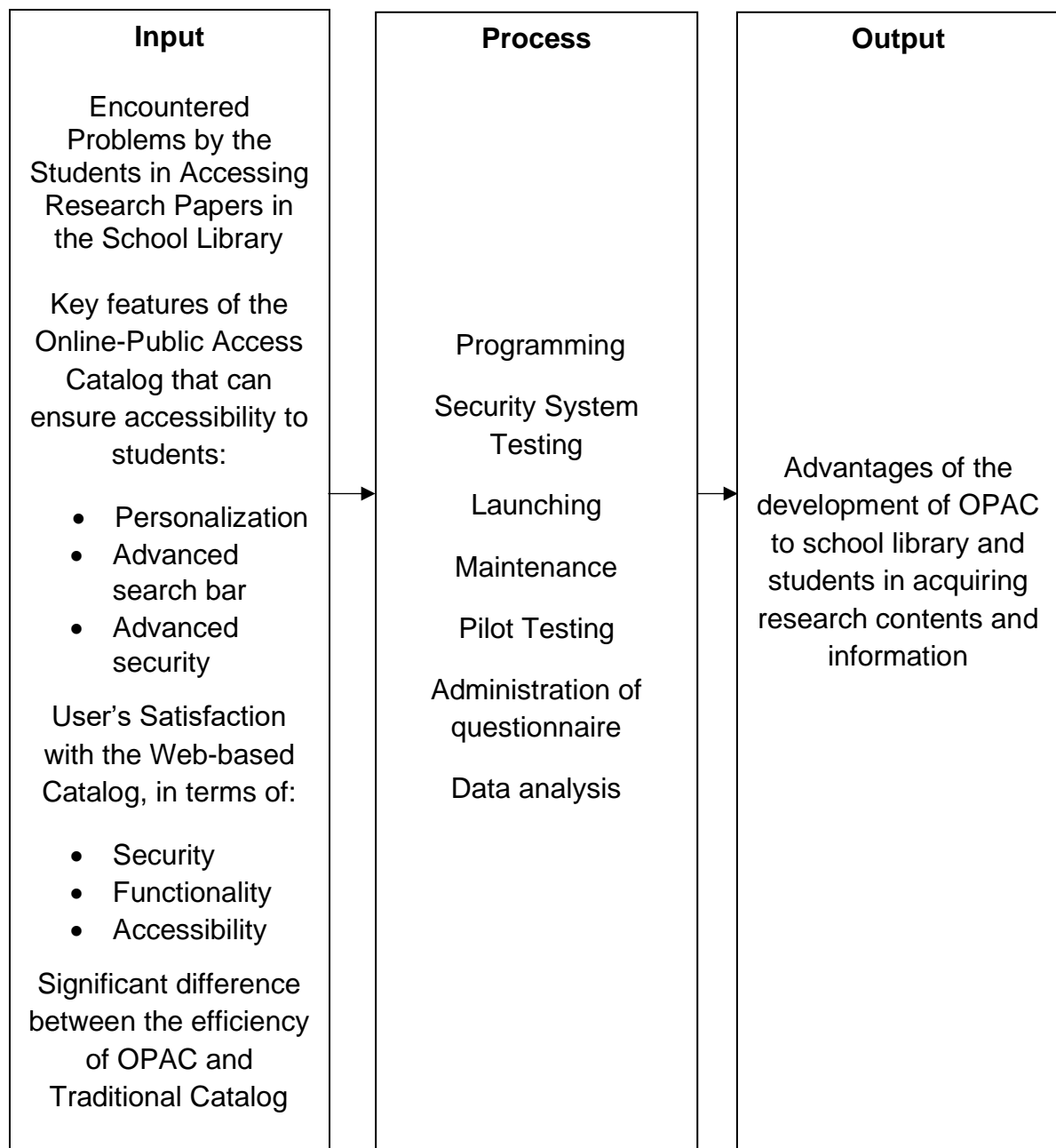


study is connected to relevant theories and current understanding of web-based OPAC systems.



## Conceptual Framework

This section provides an overview of the researcher's aim in this study, to develop an online public access catalog (OPAC) for the research papers of students in Batangas City Integrated High School (BCIHS).



**Figure 2. Research Paradigm of the Study**



Figure 2 presents the conceptual paradigm that summarizes the proposed plan for conducting the study.

The first box presents the input of the study, which includes the problems encountered by the students in accessing research papers in the school, key features of the Online-Public Access Catalog that can ensure accessibility to students, and the level of user satisfaction with the web-based catalog.

The second box indicates the processes on how the OPAC will be developed. This study will follow the procedures that includes programming, coding, and editing as well as security system testing, pilot testing, launching, maintenance, questionnaire administration, and analysis. The OPAC will undergo testing and evaluation to further enhance the website.

The output, as shown in the third box, will be the project of this study that will help the students to have an improved accessibility to the published research papers in BCIHS.



### **CHAPTER III**

#### **RESEARCH METHOD AND PROCEDURE**

This chapter presents the research design, subjects of the study, the instrument and procedures used in gathering the data as well as the statistical tools to treat data.

##### **Research Design**

This study will aim to develop a web-based catalog for students particularly among senior high school students. The researcher will utilize a descriptive method to gather data, describe, explain, and validate findings. According to Dovetail (2023), descriptive research is an exploratory research method that enables researchers to describe a population, circumstance, or phenomenon precisely and methodically. This methodology helps researchers to gain a deeper understanding to the study.

##### **Subjects of the Study**

The subject of the study involves senior high school students from of Batangas City Integrated High School ranging from STEM, ABM, and HUMSS strand. The researchers considered the total population of senior high school students and found out that the population was large. Therefore, a stratified random sampling was utilized. The samples from each section consist of 5 randomly selected students.



**Table 1**

**Distribution of Respondents**

<b>Grade Level</b>	<b>Section</b>	<b>No. of Respondents</b>
12	STEM	5
12	STEM	5
12	STEM	5
12	ABM	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
12	HUMSS	5
11	STEM	5
11	STEM	5
11	STEM	5
11	STEM	5
11	STEM	5



11	ABM	5
11	ABM	5
11	ABM	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
11	HUMSS	5
<b>Total</b>		<b>N=155</b>

### **Data Gathering Instruments**

The researcher will conduct a pilot testing of the OPAC system and create an evaluation form or questionnaire that can assess the efficiency of using OPAC system for research paper.

**Questionnaire.** The primary tool that the researchers will use in gathering the data. The researchers will utilize a rating scale type of questionnaire to provide an organized set of questions that will narrow the





responses of the respondents to obtain the desired data aligned to the objectives.

**Construction of Questionnaire.** The researchers will review and discuss for the possible questions to be included in the questionnaire. The questions that the researchers have discussed will be organized according to its relevance to the objectives. For further improvements, the questionnaire will be validated by the research adviser and practitioners.

**Validation of Questionnaire.** Questionnaires must undergo through analyzation and verification with the help of the research adviser to attain its reliability and significance to the objectives of the study. Drafts of the questionnaires will be made to avoid confusion until the questionnaire achieved the consistency and reliability to be finalized and administrated.

**Administration of Questionnaire.** The finalized draft of the questionnaire will be duplicated according to the number of respondents. With the approval of the school coordinator, the questionnaire will be distributed to the chosen participants with proper permission and consent to whom authorized the distribution of the questionnaire.

**Retrieval of Questionnaire.** The distributed questionnaire will be gathered and analyzed by the researchers to ensure that the objectives was attained, and the results is significant. The data must be gathered by following the respective value of the rating scale.



**Scoring of Responses.** To obtain the desired data, ratings have equivalent interpretation that pertains to its frequency of agreement or disagreement. The data to be gathered will be based on the respondent's perception towards the given questions and will be interpreted by the following verbal interpretation:

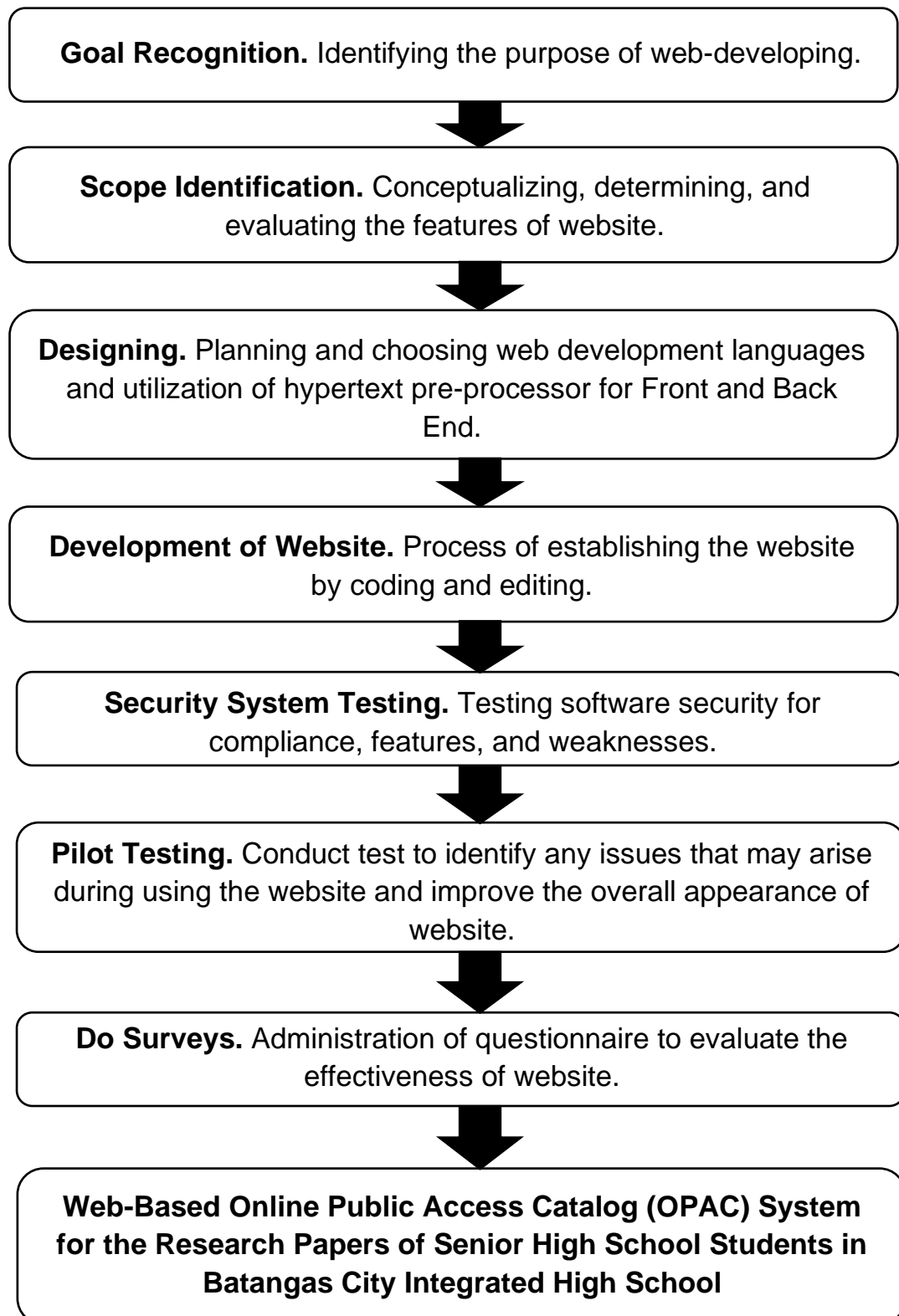
Legend	Verbal Interpretation
3.26 - 4	Strongly Agree
2.51 – 3.25	Agree
1.76 – 2.5	Disagree
1 – 1.75	Strongly Disagree

### **Data Gathering Procedure**

First, researcher will write a letter of permission to the school directress allowing the Pilot testing and evaluation administration of the OPAC system to senior high school as the proponents in the study. The data gathering instruments will undergo validity and reliability testing. In the initial assessment, the researcher will administer the pilot testing to determine the effectiveness of OPAC system to senior high school students. Then, the researcher will conduct a survey to assess how helpful the OPAC system to students of BCIHS. The Pilot testing and survey will be done face-to-face but to be piloted to a different set of students beforehand. Finally, the evaluation form will be compiled by the researchers. The questionnaires will be checked



then the result will be tallied. After gathering the data, the computation and analysis of data will be followed.



**Figure 3. Experimental Procedures**



## **Statistical Treatment of Data**

The data to be gathered will be analyzed and discussed in lined with the study's purpose. Furthermore, the data will be interpreted by utilizing the following statistical tools:

**Cronbach's alpha.** It measures the internal consistency or reliability of a set of survey items. This statistical tool helps to determine whether a collection of items in a questionnaire consistently measures the same characteristic.

**Mean.** This will be used to get the average score based on the response of the selected respondents and to be able to clearly show the result data about the effectiveness of OPAC for Research Paper of Senior High School Students of BCHIS.

**Standard Deviation.** It is a statistical measure of how spread out the values in a sample population; concentrated around the mean or scattered far and wide. It provides an indication of how far the individual responses to a question vary or 'deviate' from the mean.

**T-test.** It is an inferential statistic used to determine if there is a significant difference between the manual catalog and online catalog in Senior High School students.

**Standard Deviation.** It is a statistical measure of how spread out the values in a sample population; concentrated around the mean or scattered far and wide. It provides an indication of how far the individual responses to a question vary or 'deviate' from the mean.



### **Ethical Considerations**

The researchers adhere to ethical principles in conducting the research. The data that will be gathered in this study will not pose any risks or harm to the participants. And only the necessary information needed for the study will be requested from the participants.

The researchers will obtain permission from the school director to allow pilot testing and evaluation administration of the OPAC system to senior high school students. Then, the researcher will seek the consent of the participants before involving them in the study. Specifically, the participants that will be invited to join the study will be 5 random students from each section. On the other hand, students who are not a part of the chosen respondents will be excluded.

The researcher will conduct a pilot testing to evaluate the effectiveness of the OPAC system among senior high school students at BCIHS. Under the researcher's guidance, the student will have the opportunity to use the OPAC system. Subsequently, the student's opinion on the usefulness of the OPAC system will be primarily gathered through a comprehensive survey. The personal information of the students will be kept in the utmost confidentiality to ensure the protection of their privacy.