

# Investigation of Information-seeking Behavior of Secondary School English Teachers for Preparing Lesson Plan

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## ABSTRACT

his study aims to explore sources of information selected by secondary school English teachers when preparing lesson plans, their awareness of information, and their constraints while seeking information for preparing lesson plans. This qualitative study employed semi-structured interviews to gather data from 15 English teachers at secondary schools in Batam City, Indonesia, via Zoom meeting application. Thematic analysis was employed to analyze the interview data. The findings reveal that secondary school English teachers follow a three-stage pattern in selecting and utilizing information sources: primary, secondary, and tertiary (or complementary). In the primary stage, teachers rely on formal internal sources due to their trustworthiness, accessibility, and familiarity when preparing lesson plans. In the secondary stage, the English teachers turn to informal-external sources to create more engaging and diverse lesson plans that capture student interest. In the tertiary stage, teachers use oral-personal sources to validate their plans through consultation with other English teachers, especially when facing information-seeking constraints. This study has several limitations. Firstly, it is limited to a sample of 15 English teachers, which may not be representative of the broader population. Secondly, the focus solely on English teachers suggests that the findings related to the awareness of information sources and access constraints may not be applicable to teachers of other subjects. Thirdly, all participants were secondary school teachers, implying that the results might vary if primary school teachers were included.

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## INTRODUCTION

Effective lesson planning is essential in the field of education. Lesson plans serve as a teacher's roadmap, providing a structured outline of tasks and goals to be accomplished during each class and by the end of the term, in compliance with the local and national curriculum. Moreover, through planning, teachers are allowed to strategize and address potential challenges or obstacles that may arise during the teaching process (Contreras et al., 2020). Lesson planning involves making decisions regarding the instructional aspects of the lesson. A crucial element of a successful lesson is the proper management of students during class time. This

includes capturing the students' concentration, maintaining their engagement in the class, and arranging them into pairs or groups. Inadequate management of these elements of a lesson by a teacher may result in a significant amount of teaching time wasted on unproductive tasks (Richards & Renandya, 2011). The teacher's role primarily influences the success of learning in developing a lesson plan, since it is directly linked with the instructional processes that the teacher will implement in the form of the lesson plan (Mawardi, 2019). The teacher should develop details of each stage in the lesson plan to guide teaching and learning activities. Well-structured lesson plans with various student engagement activities will impact their learning experiences (Handayani & Amirullah, 2019; Irafahmi & Sulastri, 2016; Juliani et al., 2017). Nevertheless, the teacher should seek information about the subject they will teach while preparing the lesson plan.

When preparing lesson plans, teachers encounter an information need essential to completing this task. This need for information is influenced by their role in developing lesson plans within this context. Consequently, they require information to develop lesson plans for students (Hakim, 2015). Teachers' information needs in designing lesson plans start from the components that will be included in the lesson plans, which come from senior teachers, regulations, and textbooks (Jantarach & Soontornwipast, 2018). Creating lesson plans is an essential component of successful teaching, as it enables educators to structure their instructional approaches and ensure alignment with educational objectives.

Several studies have explored information-seeking behavior in educational contexts. Bitso & Fourie (2012) examined the professional environment of in-service geography teachers, emphasizing their responsibilities, information needs, and specific information-seeking patterns, such as planned, serendipitous, collaborative, and proxy methods. While providing insights into secondary-level geography educators in Lesotho, the study's findings may not be generalizable to other subjects or educational settings. Tanni (2012) investigated trainee teachers' information acquisition for lesson planning, highlighting their reliance on personal collections and online resources. The study identified documentary and interpersonal sources as key channels but was limited in scope, as it did not assess the long-term impact of these information-seeking strategies on teaching practices. Silvana et al (2019) explored teachers' information needs in supporting teaching and learning in the digital era. Their study identified four key areas: (1) lesson planning, covering objectives, competencies, and content; (2) instructional content, focusing on learning strategies, student characteristics, and assessment tools; (3) strategy and method selection, considering learning goals, prior knowledge, time, and resources; and (4) media selection, addressing content delivery, student engagement, and technological resources. However, this research was limited to identifying information needs and digital resource usage without examining teachers' broader information behavior patterns.

Previous studies have yet to synthesize findings on the information sources teachers use, their awareness in selecting these sources, and the constraints they face in information-seeking. This study examines the information sources utilized by English teachers and the role of information awareness in shaping their perceptions of these sources. It also investigates the constraints teachers encounter when seeking information for lesson plan preparation. This study of the information behavior of English teachers in the preparation of lesson plans is expected to identify the quality of information sources used by English teachers and to investigate the constraints encountered in accessing information in the preparation of lesson plans.

## LITERATURE REVIEW

### Information-seeking behavior

Wilson (2000) defines information behavior as the entirety of human interaction with information sources and channels, encompassing both active and passive forms of information seeking and use. This definition includes face-to-face interactions and the passive reception of information, such as watching TV advertisements without the intent to act on the presented information (Wilson, 2000, p. 49). Ford (2017, p. 14) further explains that information seeking is a broader construct, involving strategies individuals develop to locate information, which may extend beyond traditional searching to include the selection and application of various tools, as well as techniques such as browsing and monitoring. Overall, information-seeking behavior

constitutes a purposeful activity aimed at fulfilling information needs by systematically locating, organizing, storing, and utilizing information to achieve specific goals. It encompasses the processes through which individuals identify, access, and acquire information across different contexts, including educational and career counseling. The study of this behavior has progressed from initial investigations grounded in social learning theory to more recent explorations of cognition and curiosity (Wilson, 2024).

To enhance comprehension of information-seeking behavior, various scholars have constructed models of information behavior that describe the processes and components that shape and affect this type of behavior. Kuhlthau (1987) developed a model of information-seeking behavior grounded in learning theory to explain students' information-seeking behavior during fulfilling their schoolwork. Kuhlthau's focus is on feelings, thoughts, and actions following recognition of uncertainty, rather than on contextual factors, characteristics of the seeker, or types of sources (Case & Given, 2016, p. 172). Subsequently, Wilson (1997) created a model of information-seeking behavior grounded upon decision-making theory, psychology, health communication, and consumer research.

The proposed framework is intricate, considering coping activities, risk and reward, and personal efficacy in information acquisition. This study is focused on English language teachers, a profession, and employs the model of information-seeking behavior designed for English language teachers to explain the information-seeking behavior relevant to professionals. Leckie et al. (1996) place significant emphasis on a model of information-seeking behavior that is rooted in the need for information arising from the responsibilities of a professional in executing a given task. After investigating how three professional groups (lawyers, engineers, and clinical workers) pursue information to do their daily work, Leckie, Pettigrew, and Sylvain developed a model emphasizing how a professional's work roles and responsibilities influence their information-seeking behavior. (Leckie et al., 1996). Leckie et al.'s model (1996) has four components: work roles, information needs, information sources, and awareness of information.

### **Constraints in information-seeking behavior**

When seeking information, people can face many barriers. In addition to information-seeking behavior, barriers during the information-seeking process have been studied. Constraints in information-seeking behavior are related to an ability to find relevant information according to the needs. Savolainen's introduced that there are internal (Savolainen, 2015) and external (Savolainen, 2016a) barriers to information-seeking behavior. Internal barriers are related to affective barriers to a person's negative emotions in seeking information. Usually, they feel afraid or uncomfortable with the information they find (Savolainen, 2015). External constraints outside the information seeker are related to socio-culture, such as language and institutional facilities. Language barriers have a detrimental effect on the ability to seek information, as they prevent individuals from accessing new sources of information and force them to rely on familiar sources within their linguistic community (Savolainen, 2016). Then, institutional constraints inhibit individuals from obtaining information; this is also related to the facilities provided by the institution. The lack of resources serviced by libraries and archives is often the root cause of institutional barriers to information seeking. The limitations are evident in the limited availability of specific information resources, such as textbooks, and the absence of database access (Savolainen, 2016).

### **Teachers' information-seeking behavior**

Teachers' information-seeking behavior is a complex process shaped by factors such as their professional roles, motivations, and available resources. Studies show that teachers rely on both formal and informal networks to obtain information, which plays a crucial role in shaping their instructional practices. Teachers' information needs are frequently driven by their specific instructional tasks and responsibilities, prompting them to consult a variety of sources, including online resources, books, and professional networks (JeongHoon et al., 2019). Numerous studies have examined teachers' information-seeking behavior. Research on Estonian primary school teachers highlighted frequent challenges, such as restricted library access and insufficient tools

for evaluating information (Virkus & Mathiesen, 2019). Perrault (2007) found that online social networks are pivotal in teachers' information-seeking, enabling them to share and collaboratively build knowledge.

The teachers encountered constraints in their information-seeking to acquire educational resources. The study identifies multiple factors contributing to constraints on teachers' information-seeking behavior. Numerous studies indicate that teachers are constrained by inadequate facilities, including insufficient school library resources and non-renewable collections, which limit their ability to locate relevant information (Gunasekera et al., 2019; Gunasekera & Balasubramani, 2020; Chinenye & Chibuike, 2021). Teachers face constraints such as inadequate internet connection (Garoufallou et al., 2016; Gunasekera & Balasubramani, 2020; Perrault, 2007; Olaniran, 2020). The following constraints is that teachers discover high-quality material as costly and fee-based, consequently constraining their access to it (Ekstrand et al., 2020; Olaniran, 2020). Furthermore, Teachers, when seeking information for learning materials, notice a lack of proficiency in utilizing computer devices (Perrault, 2007a; Zinn et al., 2016). Identifying constraints in teachers' information seeking is intended to understand the basis of the issues that have occurred and to provide appropriate recommendations for the issues encountered by teachers.

### **Lesson planning**

A lesson plan is the most basic or specific instructional plan level. It is derived from the work or unit plan scheme analysis. A lesson plan is a planned, organized quantity of subject—matter and learning experiences that the teachers will communicate to the students, along with information about how instruction will occur during the learning period (Musingafi et al., 2015). Fundamentally, lesson plans are systematic records of a teacher's thoughts about what will be covered during a lesson (Richards & Renandya, 2002, p. 31). Lesson planning is considered to impact student learning, as teachers adapt the curriculum to suit the specific dynamics of their classroom settings (Zaragoza et al., 2023). In developing lesson plans, teachers consider several essential components: the content, which represents the subject matter; the objectives, which define the lesson's overarching goals; the activities, specifying actions for both teachers and students; the timing, which includes time allocation, sequencing, and pacing of materials; the socio-cultural context, encompassing specific student groupings for targeted instructional purposes; and the resources employed by both teachers and students (Shavelson & Stern, 1981).

In Indonesia, lesson plan development involves three components: learning objectives, learning activities, and assessment plans (Kemdikbud, 2024). Three key elements in the lesson plans are learning objectives, learning activities, and assessment plans. Learning objectives determine the learning activities, resources, suitability for student diversity, and assessment methods. Furthermore, learning objectives should reflect the learning essentials and be testable by various assessment methods to evaluate students' comprehension. Subsequently, learning activities are outlined as a series of sequential steps according to the planned timeframe, structured in three phases: introduction, core, and conclusion, following active learning principles. Lastly, the assessment plan details the instruments and methods for evaluation, ensuring that achievement criteria are aligned with the learning objectives (Hasbi, M., & Wahyuni, 2020).

### **CONCEPTUAL FRAMEWORK**

Teachers are responsible for providing knowledge and facilitating education for their students. Nevertheless, the responsibilities extend beyond the mere provision of learning, covering the essential elements of directing, guiding, and organizing the implementation of assessments and evaluations for students. Therefore, teachers are classified as professionals due to their involvement in an educational path and affiliation with a professional organization to fulfil their responsibilities within the context of education (Ping et al., 2018). Therefore, in this current study, the professionals' information-seeking behavior model, developed by Leckie et.al. (1996), is applied as a guideline framework to explore how English teachers at secondary schools in Batam City, Indonesia seek information for preparing lesson plans in terms of selecting sources of information and awareness of information. Research has demonstrated that the model developed by Leckie and colleagues has been applied across diverse sectors, including pharmaceuticals (Browne &

Martzoukou, 2022), healthcare (Detlefsen, 1998), and law (Wilkinson, 2001). Since teachers are a profession that depends on aspects of their work role, their information needs characteristics and information-seeking behavior are identical to the information behavior model developed by Leckie and her associates. The Leckie's and her associates' model is applied as a guideline for identifying the information behavior of English teachers, especially information sources and information awareness.

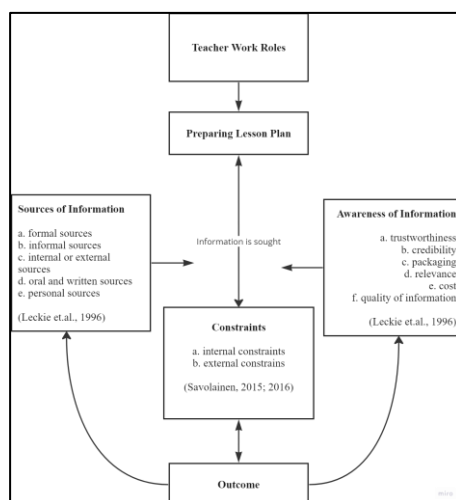


Figure 1: Conceptual Framework

Afterward, Savolainen's (2015, 2016) studies is applied as a framework for studying constraints in the information-seeking behavior process. The researchers conducted this to identify the internal cognitive-affective and external socio-cultural information-seeking constraints encountered by English language teachers. Several studies related to the constraints of information seeking by teachers in completing their tasks. In terms of cognitive constraints, teachers often perceive themselves as lacking proficiency in using computer technology when seeking learning resources (Perrault, 2007a; Zinn et al., 2016). Affective constraints include feelings of discomfort and anxiety associated with information-seeking (Perrault, 2007b; Putman & Crossley, 2022; Wu & Chen, 2008). Additionally, teachers report that their heavy workload limits the time available for information-seeking activities (Bitso & Fourie, 2014; Gunasekera et al., 2019). External constraints are factors beyond teachers' personal information-seeking efforts. Research indicates that inadequate facilities, such as limited or outdated school library collections, often hinder teachers' ability to access relevant information (Chinenye & Chibuike, 2021a; Gunasekera & Balasubramani, 2020a). Based on Savolainen's works (2015, 2016), constraints could be categorized into internal and external constraints. Furthermore, this synergistic approach from Leckie et al. (1996) and Savolainen (2015, 2016) facilitates a comprehensive analysis of field data (Figure 1).

## METHODOLOGY

### Research Design

This qualitative study examined how secondary school English teachers in Batam City, Indonesia seek information for preparing lesson plans. The typical steps in qualitative research include conducting a literature review, purposive sampling, developing a theoretical framework, collecting data, and analyzing the results (Pickard, 2013). Like other qualitative studies, the results of this research may be transferable rather than generally applicable. Therefore, this study has three research questions as follows:

- What sources of information are used by English teachers in secondary schools in Batam City, Indonesia to prepare lesson plans?
- What are the criteria used by English teachers in secondary schools in Batam City, Indonesia when evaluating sources of information for preparing lesson plans?
- What constraints do English teachers in secondary schools in Batam City, Indonesia face when preparing lesson plans?

## Data Collection

This study employed in-depth semi-structured interviews with 15 English teachers at secondary schools in Batam City, Indonesia between March 18<sup>th</sup> and April 18<sup>th</sup>, 2024. For sampling, researchers selecting the top five secondary schools that had the highest scores in the English national exam in 2019 (Keprinews.co, 2019; Kurniawan, 2023; Ministry of Education & Culture, 2019). During the sample process, the researchers opted for a total of five secondary schools. This decision was influenced by the fact that several schools are in a remote island area. The purpose of this step is to mitigate barriers encountered throughout the process of collecting research data. The English teachers were contacted via email and then were asked to give consent to participate in 45-minute online interviews via the Zoom meeting application. 21 open-ended questions were listed to collect the data from the participants on used information sources, awareness of information, and constraints in information-seeking behavior. transkrip.com/id was employed to transcribe the interviews into Microsoft Word before analyzing the data.

For assessed the interview questions three expert judges in library and information science, especially in human-information behavior scholars, evaluated the validity of the interview sheet. Each expert assessed each question by assigning a score of (-1) if they considered the question was irrelevant to the study's objectives, (0) if they were uncertain about the alignment of the question with the study's purpose, or a positive score (1) if the question aligned with the objective of the research. An item-objective congruence (IOC) index was calculated to determine the interview sheet content's relevance to research objectives. Expert judges assessed 20 interview questions. All the interview questions have passed with positive comments without revision.

This research was approved by the Office of the Research Ethics Review Committee for Research Involving Human Subjects: The Second Allied Academic Group in Social Sciences, Humanities and Fine and Applied Arts of Chulalongkorn University, research project number 670067. It has adhered to principles regarding fairness, confidentiality, informed consent, protection from risks or harm, and scientific integrity.

## Data Analysis

This study employed the stages of thematic analysis as outlined by Braun & Clarke (2006) and further refined Naeem et al. (2023) based on the conceptual framework that has been developed, deductive data analysis led to focused coding in this study. This paradigm facilitates the organization of concepts by grouping or categorizing them according to a logical classification scheme. Subsequently, codes and categories were assigned and compared. NVivo 12 qualitative analysis software was used to facilitate interview analysis. The data analysis process encompassed six distinct phases (see Figure 2), which include:

- Familiarization with research data:** Following the collection of interview data, the researchers transcribed the recordings verbatim, utilizing AI tools to facilitate the transcription process. Nonetheless, the researchers meticulously reviewed and listened to each interview to ensure the accuracy and completeness of the transcription. This approach was employed to enhance familiarity with the data and minimize potential errors in subsequent analysis.
- Initiation coding:** The researchers focused primarily on the verbal expressions of the interviewees, employing a descriptive coding approach to enrich the responses captured during the interviews. At this stage, a preliminary analysis was conducted to classify segments of the data in alignment with

the research objectives. Given that the study utilized pre-established codes, the statements from each informant were organized into broader thematic units during the coding process.

- c) **Coding:** Subsequently, the researchers advanced to the coding phase, which entailed a second cycle of coding following an initial keyword identification process. A focused coding approach was utilized to identify patterns and construct categories or themes.
- d) **Review theme:** Upon completing the second cycle of coding, the researchers formulated themes aligned with the research objectives. At this stage, the researchers organized codes into cohesive clusters to discern patterns and relationships, thereby generating meaningful insights to address the research objectives. Themes serve as critical links between the research questions and the collected data.
- e) **Conceptualization through interpretation of keywords, codes, and themes:** During this phase, the researchers identify patterns and refine them into definitions that are consistent with the research objectives. This study utilized a conceptual framework, thereby adopting a deductive analytical approach. Following the categorization and interpretation of the collected data in alignment with the conceptual framework, and after conducting a thorough review, the researcher undertook the conceptualization process to contextualize the data, thereby contributing to the research findings.
- f) **Writing report:** The researchers articulated the findings derived from the identification of themes within the analyzed data. This phase represents the culmination of research, intended for dissemination through publication. The research report provides substantial evidence supporting the identified themes, incorporating sufficient data extracts to illustrate the prominence and significance of each theme.

The researchers classified the interview results into three categories: sources of information chosen for lesson planning, awareness of information when selecting these sources, and constraints encountered during information-seeking. Following the interviews, researchers promptly downloaded the audio recordings, converted them to text, and transcribed the data verbatim, focusing closely on the participants' exact words. Given the study's conceptual framework, a deductive analytical method was used. Finally, after categorizing, interpreting, and thoroughly reviewing the data, researchers synthesized it within the context of the study's framework to produce coherent research findings (Figure 2).

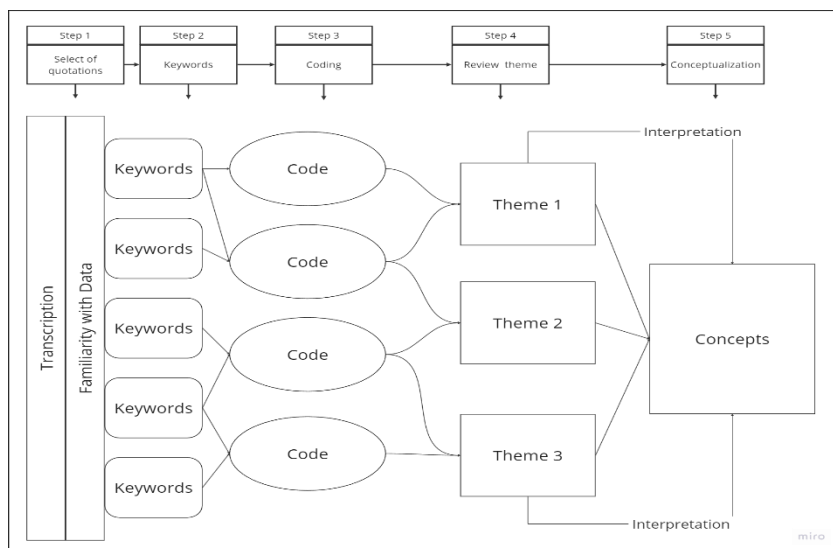


Figure 2 The stages in data analysis (Source: Construction by the researchers)

The researchers collaborated with two independent analysts, well-versed in information behavior research, to facilitate the analysis of the study's data. A predetermined codebook, developed in alignment with the conceptual framework, was provided to the analysts to guide the coding process. This approach enhances objectivity and mitigates potential researcher bias. To ensure the study's rigor, both analyst triangulation and investigator triangulation were employed. These methods involved engaging an impartial researcher to critically review a detailed document outlining the study's procedures and findings, as prepared by the researchers (Johnson et al., 2020; Moon, 2019).

## RESULTS & DISCUSSION

The interview results revealed common themes among participants, organized according to their responses to the interview questions. These themes were subsequently categorized into three main areas: Sources of Information, Awareness of Information Sources, and Constraints in Information-Seeking. Following thorough processing and analysis, several sub-themes, grounded in the conceptual framework, were identified, highlighting patterns in the information-seeking behavior of English teachers when preparing lesson plans. This pattern reveals stages in selecting information sources, the awareness English teachers exhibit regarding information, and the constraints they face. The researchers divided this pattern into three phases: the primary stage, the secondary stage, and the tertiary or complementary stage (table 1). Before detailing these stages of information-seeking, however, the researchers will first outline the specific information needs of English teachers in relation to their task of lesson plan preparation.

### Secondary school English teachers' lesson plan preparation

Each semester, secondary school English teachers are required to prepare lesson plans for the subjects they will teach in the upcoming term. A lesson plan is developed from the curriculum guide for a specific topic or subject and includes various components essential for ensuring structured and goal-oriented learning. Findings from this study underscore the critical role of incorporating learning outcomes within lesson plans. Learning outcomes are crucial because they outline the goals students need to achieve in a subject. Afterwards, the teachers should consider other elements, such as the sequence of learning objectives and the assessment of students (R3).

The secondary school English teachers discussed the lesson planning process. They emphasized that this process should start with identifying the learning outcomes of each course. One informant stated, "*In the initial stages, we definitely start by looking at the learning outcomes. After that, we move on to the learning objectives.*" (R8). The other teachers agreed, confirming that all lesson plan preparations start with identifying learning outcomes. Therefore, learning outcomes are the primary component that teachers must consider when creating lesson plans and other related components. English teachers' information needs begin with understanding the Ministry of Education's provided learning outcomes, which they adapt to suit the specific characteristics of their classes. These outcomes guide the formulation of personalized learning objectives. Teachers identify key terms within the outcomes to develop and sequence these objectives systematically, ensuring a logical and coherent structure from start to finish.

*Table 1 Stages of English teachers' information-seeking behavior*

Stages	Sources of information	Awareness of information
Primary stages	Formal & Internal Sources	Trustworthiness
		Availability
		Familiarity
		Cost
	Formal & External Sources	Trustworthiness
		Credibility
	Informal & Internal Sources	Familiarity & Timeliness



Secondary stages	Informal & External Sources	Familiarity
		Packaging
		Availability
Tertiary Stages	Oral & Personal Sources	Trustworthiness
		Cost
		Familiarity

The table above shows the research findings on the information-seeking behavior of secondary school English teachers in Batam. In the primary stage, secondary school English teachers select three types of information sources, which are influenced by their information awareness factors: trust, availability, familiarity, and cost. The primary stage is the initial activity that English teachers conduct in seeking information sources for lesson plan preparation. The secondary stage is the secondary stage, where its role complements the primary stage. This secondary stage information-seeking activity occurs when English teachers seek more varied sources of information for their lesson plan materials, which is identical to the informal sources of information such as social media. Lastly, the tertiary stage is an information-seeking activity that focuses on verifying the sources of information that have been obtained. English teachers conduct this to ensure that the sources of information are valid and reliable in the preparation of lesson plans.

### Primary stages

This section addresses the first research objective, focusing on lesson plan preparation through the types of information sources used and teachers' awareness of information sources. Data analysis employed focused coding within a conceptual framework based on Leckie et al's. (1996) model of professional information-seeking. Information sources are categorized as formal, informal, written, oral, internal, external, and personal, while awareness factors include trustworthiness, familiarity, packaging, timeliness, cost, quality, and accessibility. Additionally, this section examines the information-seeking behaviors of English teachers in lesson planning, as identified through interview data.

The researchers examined English teachers' selection of information sources and their awareness of these sources. Findings revealed that, in preparing lesson plans, English teachers primarily relied on government-provided textbooks. These textbooks, published by the Ministry of Education, Culture, Research, and Technology, served as key references, as they aligned with the curriculum guidelines according to English teacher interviews. *"..... for the reference sources, first, the textbooks provided by the government. So, for the Merdeka Curriculum..."* (R6). Some English teachers also use the Merdeka teaching platform, provided by the Ministry of Education, offering resources beyond textbooks. *"... . Why is it in PMM? Because it is an application provided by the government"*. (R-7). English teachers also utilize textbooks from private publishers as supplementary information sources alongside government-issued materials. *".... there are also additional books from several publishers"*. (R-8). Interviews with English teachers reveal that privately published teaching materials align with the national curriculum and comply with regulatory guidelines for lesson plan preparation. This indicates that teachers primarily choose formal-internal and formal-external sources for planning lessons.

The selection of these sources is closely tied to their availability in schools; government-provided textbooks and the Merdeka teaching platform are free and easily accessible to all English teachers in Indonesia. Additionally, teachers value familiarity with these sources, noting that the content is student friendly. Lastly, government-endorsed formal-internal sources are trusted for their reliability.

## Secondary Stages

In this section, several English teachers noted that Ministry of Education textbooks, including their illustrations, appeared outdated and did not engage students effectively. As a result, some teachers sought secondary information sources, turning to informal-external sources such as the internet and social media platforms like YouTube and Pinterest to enhance their lesson plans. These are statements from English teachers who use information sources from the internet or social media. “.. *We search for example learning materials from Google or YouTube, videos, and so on; the learning is more varied*”. (R13). “*Nowadays, we need to be up to date, so if I go on the internet, I think I can find new lessons, plans, and designs. So, I think the internet is one of the most up-to-date sources of information, which is why I use it.*” (R15). The choice of these secondary information sources likely reflects teachers' intent to provide current, visually engaging materials that are easily understood by students, creating a more stimulating and enjoyable learning environment.

Teachers' secondary information sources extend beyond social media; some also use informal, web-based resources from Oxford University Press and Cambridge University Press to support English language instruction. “... *But usually, the websites that I use are official websites, for example, those from Cambridge for example, or those from Oxford, there are many learning websites, I usually use the official ones.*” (R9). English teachers consider these information sources reliable and credible for English teaching materials.

## Tertiary stages or complementary stages

In this section, English teachers described their approach to complementary information sources. This section is closely related to the constraints on information seeking by English teachers. When suitable information is difficult to find for lesson planning, most consult colleagues, particularly fellow English teachers, or even teachers of other subjects within the school. This informal exchange, classified as an internal-oral-personal information source, helps them collaboratively develop lesson plans. “... *one of them is to find sources of information, I ask the most, I have social relationships, maybe I will use it, whether it's with colleagues at school or at other schools.*” (R15). In addition to consulting with colleagues at school, some English teachers gain further insights from a teachers' forum, known as *Komunitas Belajar* (learning community), dedicated to academic development. “... *So, we utilize the Learning Community activities to develop this lesson plan or module.*”. (R4)

The learning community extends beyond individual schools, fostering inter-school collaboration. Classified as an internal-personal information source due to its institutional nature, this community serves as a reliable forum for teachers to address challenges in lesson planning and align their approaches. It facilitates experience-sharing among English teachers, enhancing its value as a trusted information sources.

## Constraints in information-seeking behavior

The constraints in information-seeking behavior based on the concept developed by Savolainen (2015, 2016) led researchers to divide it into two categories, which are internal and external. Internal constraints are related to an individual's cognitive information-seeking process, while external constraints are from environment and facilities outside of the individual. Specifically, external constraints in information seeking are due to foreign language, institutional, and temporal constraints. In this study, almost all English teachers expressed that their primary obstacle in seeking information to prepare lesson plans was a lack of time. Interviews with English teachers revealed a common concern about heavy workloads, which limit the time they can dedicate to seek information, particularly for lesson plan preparation. “*The constraints are probably time. Because at school, we have so many teaching hours. We are teachers for 32 to 36 hours. So that's why there's a shortage of time in one week.*” (R5). Beyond constraining the lesson plan preparation, teachers often view their demanding schedules as a barrier to professional development activities, such as attending conferences or seminars. “*The condition of many class hours, sometimes the constraint is there, to join the seminar is a bit difficult. So that's the constraint.*” (R15).

Due to time constraints, teachers often complete work tasks outside regular hours, such as on weekends. With limited time during the teaching day, English teachers prefer consulting colleagues to align perspectives and verify information for lesson planning. Additionally, teachers with over 15 years of experience noted insufficient school library resources, which hinder access to materials needed for lesson preparation. Consequently, the researcher categorized these information-seeking constraints as external—temporal and external—facility constraints. *“Constraints (...) especially if it's books, yes, this book especially in Batam maybe, to find books we sometimes only depend on the school library.”* (R2). These external temporal and institutional-facility constraints have led to internal challenges for English teachers. Several teachers reported that their demanding schedules and administrative duties made it difficult to attend training sessions aimed at enhancing their information search skills. Consequently, these external limitations have contributed to cognitive constraints, particularly in selecting and accessing information sources due to limited search proficiency. *“If there are constraints in seeking information, for example, I want to focus on finding this material, secondary school class, I put it on Google right, for example the teaching module for secondary school grade 8<sup>th</sup> this material this semester, later what comes out will come out. But it turns out that it's not secondary school, high school may be grade 10<sup>th</sup> or high school grade 11<sup>th</sup>.”* (R3).

Further inquiry reveals that, due to these constraints, teachers often turn to colleagues or learning community forums for clarification when unsure about the information obtained. English teachers generally report no difficulties in understanding or accessing information due to language barriers. However, temporal and institutional limitations can impact the quality of information used in lesson plan development. Additionally, cognitive constraints arise as external factors restrict teachers' participation in workshops and seminars. Increasing involvement in experiential learning through training sessions, such as information literacy workshops, could help address search skill deficiencies. This issue is also exacerbated by limited resources, such as school libraries, leading teachers to rely on search engines like Google or social media.

## DISCUSSION

The study aimed to explore the sources of information selected by secondary school English teachers in Batam City, Indonesia when preparing lesson plans, their awareness of information, and the constraints while seeking information. Before identifying those three points, this study tried to understand the information needs of English teachers in the context of lesson plan preparation. Information needs in the professional context are influenced by work tasks (Leckie et al., 1996). To determine the constraints on English teachers' information-seeking, the researchers used Savolainen's (2015, 2016) study as a guide. In this study, teachers' information needs are influenced by their work tasks, and they must prepare lesson plans, teaching materials, evaluations, and student learning outcomes. Information needs for preparing lesson plans are related to three main components: learning objectives, pathway of learning objectives, and learning outcomes refer to the *Merdeka Curriculum*.

Teachers have a role in developing learning for students. Preparation of lesson plans is part of the administrative tasks undertaken by teachers. Administrative tasks are typically characterized by their structured, routine, and repetitive nature. These tasks are largely procedural, providing minimal opportunity for the worker to exercise discretion or autonomy (Byström et al., 2018). The components of lesson plans have been determined and even have guidelines from the Ministry of Education, Culture, Research and Technology. Nevertheless, English teachers can improvise in terms of preparing materials for each lesson session. This study affirms the information needs of English teachers in preparing lesson plans, which are learning outcomes. The government sets learning outcomes as targeted competencies. Meanwhile, learning objectives are defined as what students want to achieve through learning activities. The learning objectives formulated from the learning outcomes are then organized into a pathway of learning objectives (Aprilia & Mustika, 2024).

In a model of professional information-seeking, it is proposed that the roles and tasks professionals engage in during daily practice generate specific information needs, which subsequently initiate an information-seeking process (Savolainen, 2012). The process of planning and adjustment is a vital aspect of teaching as it involves the instructor making numerous critical decisions that are necessary for a lesson to be successful. Planning is a transformative process where the teacher generates ideas for a lesson by considering the needs of the students, difficulties, and interests, as well as the lesson's content (Richards & Renandya, 2011). Every teacher in an education unit is obliged to prepare lesson plans thoroughly and systematically so that learning takes place in an interactive, inspiring, fun, and challenging way, motivates students to participate actively, and provides sufficient space for initiative, creativity, and independence in accordance with students' talents, interests, and physical and psychological development (Jannah et al., 2021).

This study discovered that the sources of information they use are divided into three stages: primary stages, secondary stages, and tertiary stages. Primary stages are formal-internal sources of information provided by the government, such as books and platforms. These formal-internal sources of information become primary sources of information because the government recommends that they use these sources. Trust in this source of information is formed because it is the only source that can be accessed and provided by the school and government. Furthermore, English teachers also refer to private published books that adhere to government guidelines as valuable sources of information, classifying them as formal-external information sources. Kim & Sin (2007) argue that accessibility to information sources affects information source selection behavior. The selection of appropriate information sources is pivotal to fulfilling information needs. In addition, English teachers are aware of information that they think is familiar according to the students' needs. Familiarity with sources of information is formed due to social construction, where individuals are often exposed to these sources of information (Chen et al., 2022).

To attract students' interest, English teachers seek secondary sources of information from informal-external sources from social media such as YouTube, and Pinterest. This is intended to obtain varied and audiovisual attractive sources. Selecting sources of information from social media not only makes learning more diverse, but access to these sources that are easy to use, low-cost, and efficient is an indicator of awareness of this source of information (Kim et al., 2011). Fisher & Naumer (2006) emphasized that user-friendliness, convenience, availability, trustworthiness, and affordability of information sources were significant criteria for preference. This is aligned with a study conducted by Wu & Chen (2008) explained that the teachers also prefer the information due to the packaging and interface, due to the teachers considering it to be fun and easy to use. Furthermore, Hsieh-Yee's (2020) study reports that most respondents utilize the internet and social media to access current information and find tutorials for various tasks.

The constraints of information seeking by English teachers come from external temporal - facilities. Time constraints are the main factor in English teachers' information-seeking constraints, with busy teaching schedules making it difficult for teachers to seek information to prepare their lesson plans. The temporal constraint in this regard is a time-related constraint that has limitations in seeking information (Savolainen, 2016). This shows that their inability to seek information is a direct result of the enormous learning burden they experience (Bitso & Fourie, 2014; Gunasekera & Balasubramani, 2020b). Apart from that, constraints such as facilities were also identified. English teachers thought facilities such as schools and public libraries still needed to be more optimal in providing services. Indeed, the government has made it obligatory for schools to provide school library facilities as per Law No 43 of 2007 on Libraries and Minister of Education Regulation No 24 of 2007 (Ariyani et al., 2022). The school is required to allocate a specified portion of the funds it receives, specifically 5%, to develop the school library (Peraturan Pemerintah No 24 Tahun 2014 Tentang Perpustakaan, 2014). The lack of school library facilities is an issue for teachers in obtaining information to support their work-tasks (Chinenye & Chibuike, 2021b; Gunasekera et al., 2019; Gunasekera & Balasubramani, 2020b). Furthermore, school librarians are also influential in providing information services to teachers (Gunasekera & Balasubramani, 2020c; Kammer et al., 2021). Facility constraints are categorized as institutional constraints. Savolainen (2016, p. 55) emphasizes that "institutional barriers to information seeking can often be trace to the insufficient resources allocated to libraries and archives. The barriers manifest

themselves in the unavailability of certain information resources such as printed books and the lack of access to databases”.

Due to the constraints of these facilities, they prefer internal-oral-personal sources of information to seek tertiary or complementary information. This is intended to learn from peers and other teachers about the sources of information to be used. The utilization of oral-personal sources of information makes this source of information trustworthy for English teachers because, psychologically, they believe that the source is reliable. Information sources' selections are primarily influenced by environmental features, personality traits, problem specifications, and the experience and characteristics of the available information sources (Kuhlthau, 1991; Wilson, 1997). Several studies showed that personal-oral sources of information are still the source of information to verify what individuals trust, such as Guclu's (2018) study on police personnel who prefer sources of information based on their experience and that of their colleagues. Then, studies conducted by Maqbool et al. (2023) & Msoffe & Ngulube (2017) showed that farmers rely more on information provided by more senior farmers rather than information provided by the local government. However, there is a difference from the study conducted by Bennett et al. (2004), where the doctors prefer to select information sources from the internet or journals to explore the patient's diagnoses. This indicates that the selection of information sources is indeed related to individuals' awareness of information. However, the context of work and facilities must be considered.

Based on the research findings on the information-seeking constraints of secondary school English teachers in Batam, there are three recommendations to address the information-seeking constraints of English teachers as follows: First, the local government is responsible for ensuring that school facilities such as computers that enable teachers to access digital information are improved and that school libraries have quality information resources for teachers and students. Improved facilities such as computers and the internet positively influence the learning ecosystem (Ahmad et al., 2023). Secondly, the government and education offices must ensure teachers have a proportional workload. When teachers lack autonomy and commitment is being eroded, it can impact teachers' innovative work (Baharuddin et al., 2019). Third, English teachers should be given training such as, information literacy training information (ACRL, 2011) to develop critical thinking skills, work values (Aslam & Khan, 2021), and improve their pedagogical competencies (Ani Hastuti et al., 2022).

## CONCLUSION

The planning of lesson plans for English teachers is crucial as it correlates with students' learning. Since lesson plan preparation is closely related to the cognitive aspect, English teachers must identify the components of the lesson plan carefully and precisely. The components of lesson plans influence the information needs of English teachers; thus, their information awareness affects the sources of information they will use. However, the constraints in information seeking also shape the teachers' awareness of the information, thereby shaping the information behavior of the English teachers.

This study discusses teachers' information behavior, which focuses on the sources of information used, awareness of information sources and constraints in accessing information sources. This study has limitations there are several limitations that warrant future research, specifically that it only selected 15 English language teachers as informants. Secondly, this study only selected English teachers. Therefore, the awareness of information sources and the constraints encountered in accessing information will differ among non-English teachers. Thirdly, the informants were all secondary school teachers, which would be different if they were based in the context of primary or secondary school teachers.

Based on research findings, this study suggests that Municipal or Provincial government should improve facilities such as school libraries to provide high quality information sources. The government may also consider reducing the teachers' heavy teaching hours to avoid constraints for teachers, especially English teachers, in seeking information for their teaching materials and improve their skills. This study has limitations. Firstly, there are only fifteen resource persons in this study, so it only provides contextualization rather than generalization. Secondly, the informants in this study are only English teachers in secondary

schools. Therefore, the awareness of information, the sources used, and the obstacles in seeking information may differ.

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