



Cognitive-Epistemic Management of Intensive Arabic Language Learning: A Qualitative Case Study of POAC, Knowledge Quality, and Powerful Knowledge

Moh. Syaifudin^{1*}, Wildana Wargadinata², Sutaman³, Usfiyatur Rusuly⁴, Faruq Abdul Mu'id⁵

¹²³⁴Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

⁵Sekolah Tinggi Ilmu Bahasa Arab dan Dakwah Masjid Agung Sunan Ampel, Indonesia

*Corresponding E-mail: saifu.sda@gmail.com

ABSTRACT

This study explores how the management functions of planning, organizing, actuating, and controlling (POAC) operate in intensive Arabic language learning from the perspective of cognitive psychology and how these management practices shape the epistemic quality of learners' knowledge and create conditions for the development of powerful knowledge. Employing a qualitative case-study design, the study drew on PKPBA semester learning-plan documents and interviews with eight informants identified by the codes AA, AS, BB, FH, IM, YH, AC, and NQ. The data were analyzed using the interactive model of Miles and Huberman through data condensation, data display, and conclusion drawing and verification. The findings indicate that planning facilitated the activation of prior schemata, content segmentation, and cognitive-load regulation; organizing structured attention, proficiency-based differentiation, and learning environments; actuating operationalized scaffolding, elaboration, multimodal processing, practice, and metacognitive support; and controlling reinforced retrieval, feedback, monitoring, schema restructuring, and self-regulation. Collectively, these functions enhanced the epistemic quality of Arabic-language knowledge by making it more systematic, accessible, integrated, and accurate, while creating conditions for powerful knowledge through generative use, transfer across contexts, access to academic resources, and greater epistemic autonomy. The study's novelty lies in integrating POAC, cognitive psychology, cognitive regulation, epistemic quality, and powerful knowledge into a cognitive-epistemic management model. Theoretically, the model extends instructional management beyond administrative functions by incorporating cognitive and epistemic dimensions. Practically, it offers a framework for aligning intensive language-program management with learners' cognitive needs and knowledge development.

Keywords: Arabic language learning; cognitive psychology; epistemic quality; instructional management; powerful knowledge.

مستخلص البحث

يستكشف هذا البحث كيفية اشتغال وظائف الإدارة المتمثلة في التخطيط والتنظيم والتنفيذ والضبط (POAC) في تعليم اللغة العربية المكثف من منظور علم النفس المعرفي، وكيف تسهم هذه الممارسات الإدارية في تشكيل الجودة الإبيستمية لمعرفة المتعلمين وتهيئة الظروف اللازمة لتطوير المعرفة القوية. واعتمد البحث منهجاً نوعياً بتصميم دراسة الحالة، مستنداً إلى وثائق الخطة الفصلية للتعليم في برنامج تعليم اللغة العربية المكثف (PKPBA)، وإلى مقابلات مع ثمانية مخبرين رمز إليهم بـ AA و AS و BB و FH و IM و YH و AC و NQ. وحللت البيانات باستخدام النموذج التفاعلي لمايلز وهوبرمان من خلال تكتيف البيانات، وعرضها، واستخلاص النتائج والتحقق منها. وتشير نتائج البحث إلى أن التخطيط أسهم في تنشيط المخططات الذهنية السابقة، وتقسيم المحتوى، وتنظيم العبء المعرفي؛ وأن التنظيم عمل على إدارة الانتباه، والتمايز القائم على مستوى الكفاءة، وتهيئة بيئات التعلم؛ في حين فعل التنفيذ السقالات التعليمية، والإثراء، والمعالجة متعددة الوسائط، والممارسة، والدعم الميتامعرفي؛ أما الضبط فقد عزز الاسترجاع، والتغذية الراجعة، والمتابعة، وإعادة بناء المخططات الذهنية، والتنظيم الذاتي. وقد أسهمت هذه الوظائف مجتمعة في تعزيز الجودة الإبيستمية لمعرفة اللغة العربية، من خلال جعلها أكثر انتظاماً، وقابلية للوصول، وتكاملاً، ودقة، مع تهيئة الظروف اللازمة لتطوير المعرفة القوية عبر الاستخدام التوليدي، ونقل المعرفة بين السياقات المختلفة، وتوسيع الوصول إلى المصادر الأكاديمية، وتعزيز الاستقلالية الإبيستمية.

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وتتمثل جدة هذا البحث في دمج وظائف الإدارة (POAC) ، وعلم النفس المعرفي، والتنظيم المعرفي، والجودة الإستيمية، والمعرفة القوية ضمن نموذج للإدارة المعرفية-الإستيمية. ومن الناحية النظرية، يوسع هذا النموذج نطاق إدارة التعليم إلى ما يتجاوز وظائفها الإدارية من خلال إدماج الأبعاد المعرفية والإستيمية. أما من الناحية التطبيقية، فإنه يقدم إطارا لمواءمة إدارة برامج تعليم اللغة المكثف مع الاحتياجات المعرفية للمتعلمين وتطور معارفهم.

الكلمات المفتاحية: تعليم اللغة العربية؛ علم النفس المعرفي؛ الجودة الإستيمية؛ إدارة التعليم؛ المعرفة القوية.

INTRODUCTION

Arabic language learning in Islamic higher education has assumed an increasingly strategic role because Arabic is taught not only as a means of communication but also as a medium for accessing academic and Islamic sources, as well as intellectual traditions. In intensive programs, this role becomes more complex. Students are exposed to intensive instructional schedules, a demanding pace, heterogeneous proficiency levels, and the requirement to integrate the four language skills. Instructional management, therefore, cannot be understood merely as administrative work concerned with schedules, lecturers, classes, and assessment. It also shapes how students receive information, allocate attention, process vocabulary and linguistic structures, store knowledge, retrieve previously learned material, and use the language in novel learning activities.

Classical educational management theory conceptualizes planning, organizing, actuating, and controlling as interrelated functions within the management process (Koontz & Weihrich, 2006; Terry, 1964). In language education, these functions are commonly operationalized as curriculum planning, the organization of learning resources, strategy implementation, and outcome evaluation. This study, however, argues that management functions cannot be understood solely in terms of procedural regularity. They must also be interpreted in terms of their cognitive consequences: whether program-level and lecturer-level decisions help students construct schemas, manage cognitive load, sustain attention, access learning support, engage in retrieval, and progressively develop self-regulation.

This perspective is firmly grounded in cognitive psychology. Cognitive load theory emphasizes that learning is substantially shaped by the limited capacity of working memory and by schemas stored in long-term memory (Sweller, 2024) (Sweller , J. J. G., & Paas, F, 2019). In second-language learning, processing demands may increase because students must simultaneously process language, meaning, form, and context (Roussel et al., 2022). Decisions concerning content segmentation, the calibration of difficulty, the use of media, and the scheduling of repetition are therefore not only

pedagogical but also cognitive. Such decisions influence the extent to which students can develop stable and accurate knowledge representations.

Previous studies have extensively examined the management of Arabic language learning. (Silvia et al., 2023) emphasize the importance of planning and organizing in maintaining coherence among objectives, content, methods, and learning resources. (Inayah et al., 2023) show that intensive Arabic language courses require curriculum development, learning management, and periodic evaluation. (Mustofa et al., 2021) situate the strengthening of Arabic language programs within the institutional agendas of universities. Studies of Arabic language learning technologies further indicate that digital media and interactive materials can broaden access to learning when integrated with appropriate pedagogical design (Akla, 2021; Nurcholis et al., 2021; Riwanda et al., 2021). Nevertheless, these studies have not specifically explained how instructional management functions operate through cognitive mechanisms and thereby influence the quality of the knowledge constructed by students.

This gap is significant because success in Arabic language learning cannot be assessed solely in terms of content coverage or increased classroom activity. Language knowledge must also possess epistemic quality; that is, it should be systematically structured, accessible, integrated, and amenable to correction. (Hudson, 2019) uses the concept of epistemic quality to foreground the quality of knowledge made available to learners within educational relationships, while (Hudson et al., 2023) emphasize the transformation of knowledge from disciplines into curricula and classroom practice. In Arabic language education, epistemic quality means that vocabulary, linguistic structures, communicative functions, and language skills are not encountered as isolated fragments but as coherent and usable knowledge.

A cognitive-epistemic perspective is also necessary because intensive Arabic language learning does not simply transfer textbook content into the classroom. Linguistic content is transformed from disciplinary knowledge into the program curriculum and subsequently into the learning experiences that students actually encounter. (Gericke et al., 2018) conceptualize transformation as an integrative process through which specialized knowledge is re-represented in educational settings, while (Hudson et al., 2022) argue that epistemic quality concerns what learners are expected to know, understand, and be able to do through the curriculum. Accordingly, Arabic language learning management should be understood as the management of knowledge transformation: vocabulary, grammatical structures, listening, speaking, reading, and

writing are not merely scheduled but transformed into sequences of learning experiences that students can process, practice, and refine through correction.

Beyond epistemic quality, this study also employs the concept of powerful knowledge. (Young & Muller, J, 2013) describe powerful knowledge as structured knowledge that enables learners to move beyond everyday experience, while Deng (Deng, 2022) stresses that the potential of knowledge to become powerful must be enabled through curricular organization and pedagogical transformation. In Arabic language learning, powerful knowledge becomes evident when students do more than merely remember content: they use language patterns to understand unfamiliar situations, produce utterances or texts, access academic and Islamic resources, and assume progressively greater responsibility for their own learning.

The need to understand management as knowledge transformation becomes even more compelling when considered alongside Young's (Young & Muller, J, 2013) critique of curricula that lose their knowledge base. (Young & Muller, J, 2010) distinguish among curricula that treat knowledge primarily as a fixed collection of facts, curricula that become overly focused on generic skills, and knowledge-based curricula that provide learners with access to systematic concepts. In Arabic language learning, the issue is not whether to choose between memorizing grammatical rules and developing communicative competence, but rather how to manage both so that students acquire usable linguistic structures. This article therefore treats POAC, cognitive psychology, epistemic quality, and powerful knowledge not as separate concepts but as components of an integrated analytical chain that explains how managerial decisions may shape both the quality and utility of language knowledge.

Against this background, the article addresses two questions: first, how is Arabic language learning managed through POAC when viewed from the perspective of cognitive psychology; and second, how does this management contribute to the epistemic quality of students' knowledge and the development of powerful knowledge? The article's principal contribution is a cognitive-epistemic management model for intensive Arabic language learning that connects management functions, the regulation of cognitive processes, the quality of knowledge, and the productive use of that knowledge.

Within the broader research landscape, this article addresses an underexplored intersection between studies of Arabic language learning management and studies of

learning psychology. The former often remain at the level of describing instructional tools, programs, classrooms, media, and evaluation, whereas the latter tend to emphasize internal learning mechanisms without examining how those mechanisms are institutionally managed. In an intensive program, these domains cannot be separated. Students face concentrated linguistic demands, while lecturers and program managers make decisions that directly affect cognitive load, attentional focus, repetition, and opportunities for language use. The significance of this article therefore lies not only in its examination of the PKPBA case but also in its argument that Arabic language learning management requires an explicit cognitive and epistemic dimension.

RESEARCH METHOD

This study adopted a qualitative approach with a case study design. The design was selected because the study sought not to assess the effectiveness of the program experimentally, but to develop an in-depth and contextualized understanding of how the management of intensive Arabic language learning operates within a specific institutional setting. The case under investigation was the Special Program for Arabic Language Development (PKPBA). Analytical attention was directed to the interrelationships among instructional management functions, students' cognitive processes, the epistemic quality of Arabic-language knowledge, and the development of powerful knowledge. The case study design was therefore used to examine management practices as situated processes rather than as variables isolated from the institutional and instructional contexts in which they occurred.

The data sources comprised PKPBA semester learning-plan documents (RPS) and semi-structured interviews with eight informants coded as AA, AS, BB, FH, IM, YH, AC, and NQ. The use of codes preserved confidentiality while maintaining the traceability of evidence throughout the analysis. The informants were selected purposively based on three criteria: direct involvement in PKPBA, access to information on learning management, and the ability to explain classroom or program practices relevant to POAC and cognitive regulation. To clarify the standpoint of the data, the informants represented actors involved in PKPBA management and instruction: some provided program-level information on level placement, teaching-team coordination, monitoring, and evaluation, while others provided classroom-level information on planning, media use, scaffolding, feedback, and instructional follow-up. Individual institutional titles are not disclosed to protect anonymity, but these role categories indicate that the data were

generated by participants involved in the design, implementation, and control of the program. The RPS documents were examined to identify the program's formal instructional design, including the sequencing of learning outcomes and language skills, learning activities, assessment procedures, and learning resources. The interviews, conducted during the dissertation data-collection period, used a guide developed from the research questions, the POAC framework, and cognitive-psychology categories, with prompts covering planning, organizing, actuating, controlling, learning difficulties, cognitive support, media use, feedback, monitoring, epistemic quality, and indicators of powerful knowledge. Interview length varied according to each informant's role and depth of response; therefore, the analysis prioritized the relevance and richness of information rather than equal duration. Interviews were documented through audio recordings when permitted and field notes when necessary, then transcribed and checked before coding. Documentary and interview data were treated as complementary evidence: the documents represented the intended and formally designed dimensions of the program, whereas the interviews explained how those arrangements were enacted, adapted, and evaluated in practice.

The data were analyzed using the interactive model of Miles and Huberman, as elaborated by (Miles et al., 2020), comprising data condensation, data display, and conclusion drawing and verification. These analytical activities were conducted iteratively rather than as strictly sequential stages. During data condensation, relevant segments of the RPS documents and interview data were selected, focused, organized, and coded in relation to the two research questions. Initial coding was guided by the POAC functions of planning, organizing, actuating, and controlling and by cognitive-psychology categories relevant to the empirical patterns, including schemas, attention, working memory, cognitive load, scaffolding, elaboration, multimodal processing, retrieval, feedback, metacognition, and self-regulation. The coding process was theoretically informed but remained responsive to the empirical data; cognitive-psychology concepts were used as interpretive categories rather than as predetermined labels imposed on the data.

During data display, the coded material was organized into thematic and analytical matrices that brought together data sources, management functions, dominant empirical patterns, cognitive mechanisms, and their pedagogical meanings. The displays enabled systematic comparison between documentary evidence and interview evidence

and facilitated the identification of convergent, complementary, and context-dependent patterns. At a subsequent interpretive level, these patterns were examined through the conceptual lenses of epistemic quality and powerful knowledge. Epistemic quality was used to interpret how management practices contributed to knowledge that was systematic, accessible, integrated, and accurate, whereas powerful knowledge was used to examine the extent to which such knowledge could support generative use, transfer across contexts, access to wider academic resources, and increasing epistemic autonomy. This layered analysis allowed the study to move from descriptive patterns of management practice to cognitive and epistemic interpretation without treating the theoretical categories as substitutes for the empirical evidence.

Conclusion drawing and verification occurred throughout the analytical process. Provisional interpretations were repeatedly compared with the original documentary and interview data, and emerging conclusions were refined when the available evidence did not support broader claims. Verification was strengthened through triangulation across data sources, consistency in the application of analytical categories, iterative rereading, and comparison between formal program design and reported classroom and program practices.

RESULT AND DISCUSSION

The findings indicate that POAC does not operate as a linear sequence of procedures in intensive Arabic language learning. Planning, organizing, actuating, and controlling intersect through an adaptive mechanism. Planning provides initial direction, yet the outcomes of controlling may lead to changes in the quantity of content, instructional pace, and strategy. Organizing structures classes, resources, media, and interaction, but its effectiveness is tested during actuating. Actuating does more than implement a plan; it becomes a site of negotiation between program design and students' actual responses. POAC is therefore better understood as an adaptive cognitive management cycle.

This interpretation strengthens the view that POAC functions as an integrated cognitive-epistemic mechanism rather than as four separate managerial stages. Planning establishes the initial cognitive pathway, organizing prepares the learning ecology, actuating activates instructional interaction, and controlling supplies feedback for recalibration. Each function contributes to the next by regulating how students encounter, process, consolidate, and reuse Arabic-language knowledge. Thus, the

effectiveness of intensive Arabic learning depends not merely on the completeness of managerial procedures, but on the extent to which these procedures are aligned with learners' cognitive readiness and the epistemic structure of the language. In this sense, management becomes pedagogically meaningful when it transforms institutional decisions into learning conditions that support understanding, retention, transfer, and gradual autonomy.

Within planning, the data show that PKPBA takes account of prior knowledge, content sequencing, and learning load. The RPS organizes skills from simpler to more complex forms, while lecturers translate the plan into practice by reviewing previously learned material, mapping proficiency, introducing vocabulary before sentences or texts, and adjusting the language of instruction. These practices align with cognitive load theory, which identifies the limitations of working memory and the role of schemas in long-term memory as fundamental to instructional design (Sweller et al., 2019). Such adaptation is particularly important in second-language learning because students process language and content simultaneously (Roussel et al., 2022).

The relationship between planning and cognitive capacity can also be understood through principles of effective learning strategies. (Dunlosky et al., 2013) demonstrate that learning techniques vary in effectiveness; repetition based only on rereading is not necessarily as powerful as retrieval practice or distributed practice. From the planning stage, programs must therefore determine whether an activity merely provides exposure or requires meaningful processing. In PKPBA, review, muraja'ah, unit cycles, and gradual introduction are important because they transform planning from a list of content into a design for repeated processing opportunities.

The planning findings also extend previous studies of Arabic language learning management. (Silvia et al., 2023) emphasize that planning organizes objectives, content, methods, and resources, while (Inayah et al., 2023) show that intensive programs require well-managed curricula and evaluation. The PKPBA data add a micro-level dimension: intensive-program planning must consider when vocabulary is introduced, when a text is opened, when input is transformed into output, and when difficulty should be reduced. Planning is therefore not merely a document; it is the architecture of the learning experience.

From an instructional-design perspective, planning in PKPBA can be understood as managing the distance between students' existing knowledge and the knowledge they

are expected to acquire. This distance is both cognitive and epistemic. It is cognitive because students differ in working-memory capacity, prior knowledge, and attention; it is epistemic because Arabic language content has an internal structure that cannot be fragmented arbitrarily. Effective planning must therefore protect two conditions simultaneously: students' access to the content and the integrity of the linguistic knowledge structure. If material is oversimplified without preserving relationships among form, meaning, and function, its epistemic quality is weakened. Conversely, if complexity is retained without cognitive bridges, students do not gain meaningful access.

Within organizing, the findings show that proficiency grouping, small-group formation, the use of class advisors and teaching teams, mobile-phone regulation, and media selection are not merely logistical arrangements. These measures structure external conditions so that students' attention, access to assistance, and participation can be better managed. Level placement reduces proficiency gaps within classes, small groups create opportunities for peer support, and digital and physical media provide multiple representational pathways. In this sense, organizing becomes the management of cognitive resources rather than only administrative resources.

Technology use within organizing must be approached selectively. (Jiang et al., 2021) show that computer-mediated collaboration is not automatically more effective because it may increase processing demands. This is consistent with PKPBA data indicating that digital devices can function both as learning resources and as distractions. Media such as Quizizz, Wordwall, Educaplay, Quizlet, smart TVs, flashcards, Uno, Snakes and Ladders, the Hati application, and dictionaries become productive only when connected to the purpose of the activity. The emerging principle is therefore function before device. Intensive programs do not need the greatest possible number of media; they require informed decisions about when a medium supports focus, when it imposes additional load, and when its use should be restricted.

Social organization through small groups and peer tutoring can likewise be interpreted as a strategy for distributing cognitive support more widely. In large classes, assistance often depends heavily on the lecturer and response time becomes limited. Small groups give students more frequent opportunities to try, ask questions, correct one another, and hear peer models. (Shaddad & Jember, B, 2024) show that feedback-supported tasks and peer-work activities can strengthen engagement and language growth. In PKPBA, the principal value of small groups is not simply increased classroom

activity, but the provision of a relatively safe space in which students can produce language before facing more formal performance demands.

Within actuating, the data show that instructional implementation engages cognitive processes through scaffolding, elaboration, multimodal processing, repeated practice, language production, and comprehension checks. Lecturers do not merely explain content; they regulate when assistance is provided, when students attempt a task independently, when media are used, and when support is reduced. Scaffolding appears in vocabulary clarification, stepwise instructions, temporary sentence simplification, bridging materials, input before production, and peer tutoring. These practices illustrate a transition from dependence on support toward increasingly independent performance.

Actuating also contains a generative dimension. (Fiorella, 2023) explains that generative learning occurs when learners organize and integrate information with what they already know. PKPBA data reveal this process through the combination of old and new vocabulary, dialogues, video assignments, group activities, and the use of language patterns in different contexts. Learning does not stop at exposure to information; students are required to produce language, connect meanings, and test linguistic forms. At this point, Arabic is processed not merely as instructional content but as an instrument of communicative action.

Multimodal processing during instruction must be situated within the principle of coherence. (Mayer, 2021) argues that multimedia learning is effective when words and images or sounds complement one another, rather than when every information channel is activated without control. PKPBA findings point in the same direction: audio, text, flashcards, smart TVs, quiz applications, and physical games are alternated according to instructional purpose. Listening activities in which students initially keep their books closed and consult the written text only after sufficient preparation demonstrate that effective multimodality does not always require simultaneity. At times, separating modalities helps students focus on sound before integrating it with written form.

Within controlling, the study found that muraja'ah, evaluation, feedback, monitoring by class advisors and teaching teams, error correction, and follow-up on evaluation results form a multilayered control system. Controlling does not end with scores. Muraja'ah functions as retrieval practice when students are required to recall information from memory. Research shows that retrieval practice produces substantial benefits for classroom learning (Agarwal et al., 2021) and can support transfer when

learners identify the rules underlying the material (Opitz & Kubik, V, 2024). PKPBA data support this principle through opening reviews, vocabulary review, unit review, quizzes, and repeated discussion of question patterns.

Retrieval-oriented controlling has important consequences for the durability of knowledge. (Roediger & Karpicke, 2006) show that testing or retrieval practice can strengthen long-term retention more effectively than simple restudy. This provides a basis for interpreting PKPBA *muraja'ah* as more valuable when students must actively retrieve information rather than merely reread notes. Quizzes, opening question-and-answer sessions, vocabulary assessments, and unit reviews can therefore be understood as mechanisms for strengthening the retrievability of knowledge that will later be needed for language production.

Feedback operates as a controlling mechanism that improves knowledge. (Shaddad & Jember, B, 2024) show that feedback-supported tasks and peer work can strengthen engagement and language growth. In PKPBA, feedback takes the form of clarification, simplification, pronunciation correction, discussion of test items, and repeated practice of patterns. Feedback does more than indicate right or wrong responses; it supports schema restructuring when students replace inaccurate connections with more appropriate understanding. At the same time, controlling opens a pathway toward self-regulation, although the data show that external regulation by lecturers and the program remains strong. This is consistent with (Little, 2022) view that learner autonomy develops gradually rather than emerging automatically from independent tasks.

In the formative-assessment literature, (Hattie & Timperley, 2007) conceptualize feedback as information that helps learners understand their current performance, the goal to be achieved, and the actions needed for improvement. This perspective strengthens the interpretation of PKPBA because feedback delivered through clarification, simplification, correction, and discussion of questions should not be reduced to spontaneous lecturer intervention. Feedback functions as an epistemic tool that moves students from partial understanding toward more accurate relationships between form and meaning. The more specific the feedback, the greater the opportunity for students to revise inaccurate language representations.

In addition to retrieval and feedback, controlling is also related to self-regulation. (Seufert et al., 2024) show that self-regulation is associated with task difficulty, learner resources, and cognitive load. This is particularly relevant to PKPBA because students

may not regulate their learning effectively when tasks are either too easy or too difficult. When tasks are too easy, students are not encouraged to employ deeper strategies; when they are excessively demanding, cognitive resources are consumed by coping with material difficulty. Effective controlling therefore does more than evaluate outcomes: it helps the program maintain a level of challenge that is sufficiently demanding while remaining cognitively manageable.

Table 1.

POAC and Cognitive Regulation in Intensive Arabic Language Learning

Management Function	Dominant Pattern	Empirical	Cognitive Mechanism	Pedagogical Meaning
Planning	Review of prior material, proficiency mapping, vocabulary-to-text segmentation, adjustment of unit load and language of instruction.		Schema activation, working-memory management, and regulation of cognitive load.	Planning becomes the design of learning experiences rather than merely completion of the RPS.
Organizing	Level placement, small groups, peer tutoring, class advisors, teaching teams, mobile-phone regulation, and digital/physical media.		Attention, distribution of support, distraction control, and proficiency differentiation.	The learning environment is structured to sustain focus and access to assistance.
Actuating	Scaffolding, elaboration, input before output, games, multimodal media, repeated practice, and video tasks.		Generative learning, multimodal processing, automatization, and metacognitive support.	Implementation orchestrates the transition from supported learning toward language use.
Controlling	Muraja'ah, quizzes, unit evaluation, feedback, monitoring by class advisors and teaching teams, and evaluation follow-up.		Retrieval practice, feedback, schema restructuring, and emerging self-regulation.	Evaluation becomes a regulatory mechanism that feeds information back into planning.

Contribution to the Epistemic Quality of Arabic Language Knowledge

The contribution of instructional management to epistemic quality becomes visible when Arabic language knowledge is not merely available as textbook content but is transformed into knowledge that students can access, understand, and correct. Three principal dimensions emerged: the systematization and progression of knowledge, the accessibility and integration of knowledge, and the accuracy and consolidation of understanding. Together, these dimensions show that instructional management affects

the quality of knowledge, not merely the smooth operation of the learning process.

The first dimension is systematization and progression. The PKPBA RPS organizes language skills from simpler units toward more complex performance. In listening, students progress from sounds to words, sentences, and simple paragraphs. In speaking, they move from pronunciation and basic responses toward conversation, description, and narration. Reading and writing display a comparable progression from basic comprehension toward production. Such systematization is important because language knowledge presented without sequence risks becoming a collection of fragments that are difficult to use.

The second dimension is accessibility and integration. The data show that lecturers do not always confront students immediately with complex forms. Vocabulary is introduced first, difficult sentences are temporarily simplified, written texts are opened after students have listened or repeated, and receptive input precedes productive output. Accessibility does not mean lowering the quality of content; rather, it creates pathways toward more complex knowledge structures. Pedagogical transformation therefore maintains a balance between the disciplinary demands of Arabic and students' cognitive capacities.

The third dimension is accuracy and the consolidation of understanding. Review, feedback, quizzes, muraja'ah, dictation, item discussion, and correction provide opportunities to determine whether students' representations are accurate. From a retrieval perspective, students must demonstrate what can actually be recalled from memory (Agarwal et al., 2021). From a cognitive-load perspective, effective instruction structures information so that it can be processed and stored within meaningful knowledge structures (Sweller et al., 2019). PKPBA data indicate that accurate understanding is not assumed to follow automatically from content delivery; it is checked repeatedly.

The use of epistemic quality in this article follows (Hudson et al., 2018) conception of the quality of knowledge made available to learners. (Hudson et al., 2023) emphasize that knowledge is transformed from disciplinary domains into curricula and classroom practice. In PKPBA, Arabic language knowledge does not move directly from the linguistic system into students' minds. It passes through the RPS, textbooks, unit targets, media, explanation, practice, interaction, and evaluation. The quality of this transformation determines whether students construct Arabic language knowledge systematically and accurately.

Within the framework of (Hudson et al., 2023), epistemic quality is connected to the relationship among the intended curriculum, enacted curriculum, and experienced curriculum. The PKPBA RPS represents the intended curriculum because it specifies targets, sequence, and formal design. Lecturers' classroom practice constitutes the enacted curriculum because it shows how plans are translated into instructional action. Students' experiences of receiving, processing, and using Arabic constitute the experienced curriculum. Epistemic quality cannot therefore be established from documents alone; it must be examined in terms of whether the transformation from plan to practice actually produces knowledge that students can understand and use. Interview data are crucial here because they reveal how formal plans are adapted in classroom practice.

These findings extend studies of Arabic language curricula and learning materials. (Zakiyah et al., 2025) emphasize the need to balance global standards with local contexts in Arabic instructional materials. (Nurcholis et al., 2021) argue that Arabic language learning technology should begin with how knowledge is constructed rather than treating technology as an end in itself. PKPBA data support these positions by showing that digital media, applications, dictionaries, audio, visuals, and games enhance epistemic quality only when they help students recognize relationships among form, meaning, and use. Technology does not automatically strengthen knowledge quality; it must be organized as part of the process of knowledge transformation.

Applied to Arabic language learning, knowledge of high epistemic quality is not simply a large stock of memorized vocabulary or the ability to answer questions correctly. Knowledge acquires quality when students understand relationships between vocabulary and structure, structure and meaning, meaning and context of use, and receptive and productive skills. Vocabulary review, sentence simplification, input before output, dictation, quizzes, and feedback therefore do not function as isolated techniques. They operate as transformational devices that keep language knowledge connected and prevent it from remaining only in short-term memory.

Critically, the contribution to epistemic quality should not be read as a claim that all students achieve the same level of understanding. This study did not experimentally examine the structure of students' mental representations. The more appropriate claim is that PKPBA management provides conditions and mechanisms that increase the likelihood of systematic, accessible, integrated, and accurate knowledge. The strength of

the finding lies in these mechanisms rather than in quantitative generalization to all students.

Table 2.
Management Contribution to Epistemic Quality

Dimension of Epistemic Quality	Empirical Indicator	Cognitive-Epistemic Interpretation
Systematic and progressive knowledge	Themes and language skills progress from familiar/simple forms toward broader/more complex forms; each unit is organized within a defined cycle.	Language knowledge develops progressively, enabling students to build relationships among components in stages.
Accessible and integrated knowledge	Vocabulary precedes texts; complex sentences are temporarily simplified; input precedes production; media and learning resources are integrated.	Cognitive access is opened without abandoning the disciplinary structure of Arabic language knowledge.
Accurate and consolidated understanding	Clarification, dictation, muraja'ah, quizzes, feedback, and item discussion are used before transition to new material.	Inaccurate representations can be corrected before they become stable patterns.

Contribution to Students' Powerful Knowledge

A further contribution emerges when epistemically organized knowledge begins to acquire productive power. Powerful knowledge is not understood as the quantity of material memorized, but as the capacity to use structured knowledge to understand, generate, transfer, and make decisions about learning. In the PKPBA data, this development appears in three dimensions: conceptual-generative mastery, transfer and expanded academic access, and epistemic autonomy.

The conceptual-generative dimension is visible in the movement from vocabulary memorization toward the use of language patterns. Students are asked not only to remember vocabulary but also to combine old and new lexical items, construct sentences, conduct dialogues, create videos, and use Arabic in group interaction. This process aligns with generative learning, in which understanding develops as learners organize and integrate information (Fiorella, 2023). In language learning, this generative process takes concrete form when students select vocabulary, organize structures, calibrate meaning, and produce utterances or texts.

The development of powerful knowledge is also related to epistemic ascent, that

is, movement from initial knowledge close to everyday experience toward more conceptual and inferential knowledge. (Winch, 2013) distinguishes knowledge by acquaintance, knowledge that, and knowledge how (Hudson, 2019) uses this distinction to explain progression from novice toward more expert forms of mastery. In PKPBA, students move from recognizing sounds, vocabulary, and everyday expressions toward understanding texts, conducting dialogues, writing, and using Arabic for more open-ended tasks. This progression indicates that Arabic can function as an epistemic resource rather than merely an object of study.

The transfer dimension appears when classroom content is used in contexts that are not identical to the original practice conditions. Video assignments about religious scholars in students' surroundings, group practice, and the use of applications, dictionaries, and digital sources show knowledge moving from the textbook context into broader social situations and learning resources. (Opitz & Kubik, 2024) show that retrieval can support transfer when learners understand the rules underlying the material. (Rogers et al., 2025) also demonstrate the importance of distributed practice for L2 vocabulary retention. In PKPBA, *muraja'ah*, repeated practice of patterns, and the use of learned material in new tasks provide conditions compatible with transfer, although this study does not claim to demonstrate far transfer experimentally.

Expanded academic access is particularly important for Arabic language programs in higher education. (Mustofa et al., 2021) show that strengthening Arabic at universities is connected to institutional vision and access to knowledge. (Arifuddin et al., 2025) relate Arabic language education to competencies that extend beyond linguistic proficiency, including communication, teamwork, adaptability, and the employability of bilingual graduates. PKPBA data support this position: Arabic begins to function as a tool for accessing learning resources, completing tasks, participating in discussion, and producing information. Arabic thus moves from being simply a course subject toward functioning as an epistemic instrument.

The dimension of epistemic autonomy must be interpreted cautiously. The data indicate opportunities for autonomy through open-ended tasks, independent review, additional resources, and application use. Nevertheless, monitoring by lecturers, class advisors, and the teaching team remains substantial. Autonomy has therefore not become a uniformly achieved endpoint, but represents a developmental direction within institutional scaffolding. This interpretation is consistent with (Little, 2022) who views

autonomy as the developing capacity to plan, monitor, and evaluate learning. (Calafato, 2020) and (Md Azmi et al., 2025) likewise show that motivation, metacognition, and learning environments contribute to autonomy among Arabic language learners.

The concept of powerful knowledge also requires critical positioning. (Young & Muller, J, 2013) and (Muller & Young, M, 2019) argue that the power of knowledge lies in structures that enable learners to understand beyond everyday experience. (Deng, 2022) adds that this potential must be enabled through curriculum and pedagogy. (Alderson, 2020) and (Miedema, 2023), however, caution that powerful knowledge can become a normative label when it is not examined through actual processes of knowing and learners' access to knowledge. PKPBA data suggest that Arabic becomes powerful not because of its complexity alone, but because students are provided pathways for accessing, using, and transferring its linguistic structures.

The article nevertheless avoids an overly expansive interpretation. Powerful knowledge does not emerge automatically from every activity that appears active or engaging. Games, projects, discussions, and digital media contribute only when they direct students toward higher-order use of knowledge structures. The critiques of (Alderson, 2020) and (Miedema, 2023) are useful reminders that powerful knowledge can become a slogan if it is detached from actual practices of knowing. In this article, powerful knowledge is therefore treated as a potential supported by management mechanisms, not as a claim that all students have attained equivalent levels of transfer and autonomy.

Accordingly, the relationship between epistemic quality and powerful knowledge is developmental but not automatic. Epistemic quality provides proximal conditions: knowledge is organized, accessible, integrated, and accurate. Powerful knowledge emerges when these qualities enable generative use, transfer, academic access, and epistemic autonomy. In PKPBA, this process is still developing and varies across students, but the program's management mechanisms provide pathways toward such transformation.

This developmental relationship also indicates that knowledge quality should be understood as a process. Students may initially know vocabulary only as items to be memorized, then connect it to sentence patterns, subsequently use it in dialogue, and eventually transfer it to new tasks or resources. Each stage requires different forms of support: early stages require examples and segmentation, consolidation requires practice and feedback, and transfer requires sufficiently open tasks. Powerful knowledge

therefore does not suddenly appear at the end of learning; it is constructed through a sequence of smaller transformations extending from planning to controlling.

Table 3.
From Epistemic Quality to Powerful Knowledge

Layer	Empirical Manifestation in PKPBA	Contribution to Students
Epistemic quality	Knowledge is progressively organized, cognitively bridged, connected to context, and corrected through evaluation.	Students gain more coherent, accessible, and accurate linguistic structures.
Conceptual-generative knowledge	Vocabulary and patterns are used in sentences, dialogues, group interaction, and video tasks.	Students move beyond remembering and begin to generate language meaningfully.
Transferable knowledge	Learned content is used in new contexts, different media, digital resources, and social interaction.	Students gain opportunities to transfer linguistic forms and functions to new situations.
Epistemic autonomy	Independent review, open-ended tasks, additional resources, and applications are used within lecturer/program scaffolding.	Students begin to assume a role in accessing, monitoring, and using knowledge.

The synthesis of the findings yields a cognitive-epistemic management model for intensive Arabic language learning. The model explains that instructional management functions do not contribute directly to powerful knowledge without mediation. At the first layer, POAC structures the external conditions of learning. At the second, these external conditions interact with students' cognitive mechanisms. At the third, alignment between management and cognitive processes contributes to the epistemic quality of knowledge. At the fourth, epistemic quality creates the conditions under which powerful knowledge can develop.

The model contains three propositions. First, the managerial-cognitive alignment proposition states that management functions become effective when decisions about content, time, grouping, media, activities, and evaluation align with students' readiness and processing limitations. Second, the epistemic mediation proposition states that management contributes to powerful knowledge through the quality of knowledge transformation, rather than directly through the mere presence of activities. Third, the

generative-transfer proposition states that knowledge becomes increasingly powerful when students are given opportunities to retrieve, combine, generate, and use knowledge across different contexts.

Theoretically, the model integrates instructional management, cognitive load theory, generative learning, retrieval practice, epistemic quality, and powerful knowledge. It is not intended as a universal grand theory, but as a middle-range model for explaining practices in intensive Arabic language programs. Its novelty lies in connecting the architecture of program management, cognitive mechanisms, knowledge quality, and the development of student agency.

The proposed cognitive-epistemic management model contributes to Arabic language learning management by integrating program-level management with individual cognitive processes. Unlike studies that view management mainly as program orderliness, this model shows that managerial decisions become pedagogically meaningful when they align with learners' cognitive needs and support the quality of knowledge transformation. Thus, the novelty lies in reconceptualizing POAC as a mediating mechanism linking intensive-program management, cognitive processes, epistemic quality, and powerful knowledge.

Table 4.

Cognitive-Epistemic Management Model for Intensive Arabic Language Learning

Analytical Layer	Main Components	Core Proposition
Learning management	Planning, organizing, actuating, and controlling.	POAC structures the external conditions of learning through documents, classes, resources, activities, and evaluation.
Cognitive regulation	Schemas, attention, working memory, cognitive load, scaffolding, elaboration, retrieval, feedback, and metacognition.	Managerial decisions acquire pedagogical meaning when they are compatible with students' cognitive processes.
Epistemic quality	Systematic, accessible, integrated, and accurate knowledge.	Knowledge quality depends on the pedagogical transformation of language content into learning experience.
Powerful knowledge	Conceptual, generative, transferable, academically enabling, and epistemically autonomous knowledge.	Knowledge becomes powerful when it is used beyond reproduction of the initial learning material.

The first theoretical implication is that POAC should be interpreted as a framework with cognitive consequences. In many institutional practices, planning is understood as document preparation, organizing as task allocation, actuating as method implementation, and controlling as evaluation. PKPBA findings show that this interpretation is insufficient for explaining intensive learning. Documents, classrooms, media, interaction, and evaluation become pedagogically meaningful only when they structure conditions that enable students to build schemas, reduce unproductive cognitive load, sustain attention, receive feedback, and revisit content through retrieval. Instructional management should therefore be positioned as the management of learning conditions that shape students' knowledge structures.

The second theoretical implication concerns the relationship between epistemic quality and powerful knowledge. In Arabic language education, knowledge does not automatically become powerful simply because it originates in an established disciplinary field. Arabic language knowledge becomes powerful when it is transformed into structures that students can access and use to understand new forms, construct utterances, read texts, complete tasks, and expand academic access. This position helps bridge knowledge-based curriculum theory and cognitive psychology. The power of knowledge is determined not only by its content, but also by how that content is managed, processed, corrected, and used by learners.

A further implication is the need to distinguish between visibly busy learning activities and epistemically productive learning. An active classroom does not necessarily build powerful knowledge if activities do not direct students toward conceptual relationships, the use of structures, or transfer. Conversely, an apparently simple classroom can have high epistemic quality when students are given opportunities to explain reasons, correct errors, apply patterns in new contexts, and reflect on strategies. This distinction is important in intensive-program development because pressure to complete content can cause evaluation to focus on implementation rather than on the quality of knowledge produced.

For program managers, the practical implication is the need for a quality-assurance system that extends beyond administrative inspection. The quality of an intensive Arabic language program should be assessed through the alignment among content targets, students' proficiency levels, forms of support, media use, and the evaluation system. Placement tests, class advisors, teaching teams, muraja'ah, and

periodic evaluation should be used as data for improving subsequent planning. When evaluation shows excessive load, recurring difficulty, or declining engagement, the program's response should not simply be to add more tasks, but to adjust the learning design.

For lecturers, the practical implication is the importance of cognitive orchestration in the classroom. Lecturers need to recognize when students require repetition, when content should be segmented, when digital devices support or disrupt learning, when group work becomes more productive, and when assistance should be reduced. They also need to design tasks that move beyond reproduction and require students to combine previously learned and new patterns. In this way, intensive Arabic language learning can shift from unit completion toward the construction of more conceptual and transferable knowledge.

For the development of research and journal-based evaluation, these findings offer a conceptual language for assessing intensive programs beyond administrative indicators. A program that is well organized in its documents is not necessarily epistemically strong; a program that employs active methods does not necessarily produce transfer; and a program rich in media is not necessarily aligned with students' cognitive load. Program evaluation should therefore examine relationships across layers: whether planning, organization, implementation, and evaluation form a learning pathway that enables students to construct stable language knowledge, use it generatively, and gradually assume responsibility for their own learning.

CONCLUSION

This study indicates that the management of intensive Arabic language learning in PKPBA operates not merely as an administrative mechanism but as an adaptive cognitive management cycle. Planning facilitates the activation of prior knowledge, the segmentation of learning content, and the regulation of cognitive load; organizing structures learners' attention, proficiency-based differentiation, and learning environments; actuating operationalizes scaffolding, elaboration, multimodal processing, practice, and metacognitive support; and controlling reinforces retrieval, feedback, monitoring, schema restructuring, and self-regulation. These four functions operate recursively and adaptively, as the outcomes of evaluation inform subsequent planning, organizational arrangements, and instructional implementation. Collectively, these processes suggest that management decisions in intensive language programs have

cognitive consequences that extend beyond administrative efficiency.

The contribution of management operates at two interrelated levels. First, management supports epistemic quality by helping Arabic-language knowledge become more systematic, accessible, integrated, and accurate. Second, such epistemic quality provides a basis for the potential development of powerful knowledge as learners gradually become able to use Arabic knowledge conceptually and generatively, transfer it across contexts, access wider academic resources, and move toward greater epistemic autonomy. Accordingly, the success of intensive Arabic language learning should be evaluated not merely in terms of administrative orderliness or content completion, but also in terms of the quality of knowledge constructed and the extent to which that knowledge can become intellectually and practically usable for learners. Practically, intensive Arabic language programs should align management functions with learners' cognitive needs by providing instructors with sufficient pedagogical flexibility, incorporating review activities that promote retrieval, selecting media according to instructional purposes, offering corrective and elaborative feedback, and designing tasks that encourage knowledge transfer.

This study has several limitations. First, it is based on a single case of an intensive Arabic language program; therefore, the findings should not be generalized statistically to all Arabic learning contexts. Second, the data were drawn from program documents and interviews with program and instructional actors, so they primarily represent management practices and interpretive accounts rather than direct measurements of students' cognitive changes. Third, the study did not employ longitudinal or experimental procedures to verify changes in students' mental representations, transfer ability, or epistemic autonomy. These limitations mean that the proposed cognitive-epistemic management model should be understood as an interpretive, middle-range framework that requires further examination in broader and more varied contexts.

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