



Student Learning Strategies in Digital Higher Education: Implications for Educational Administration

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ABSTRACT

Purpose - This study identifies learning strategies reported by KIP Kuliah recipients and interprets the observed patterns as evidence relevant to educational administration.

Methodology - The study employed a quantitative descriptive survey of 185 KIP Kuliah recipients across 14 study programs. Data were collected through a five-point Likert questionnaire containing nine items on technology use, independent resource seeking, learning consistency, note-taking and summarizing, online academic interaction, self-evaluation, academic motivation, review habits, and perceived strategy effectiveness. Item-level means, standard deviations, minimums, and maximums were analyzed descriptively. No composite scale, causal inference, or correlational claim was used in the present analysis.

Findings - Independent online resource seeking obtained the highest mean ($M = 4.22$), followed by technology use ($M = 4.16$), note-taking and summarizing ($M = 4.14$), and academic motivation ($M = 4.03$). Maintaining learning habits during online learning had the lowest mean ($M = 3.77$), while online discussion, self-evaluation, and review habits were also comparatively weaker. The pattern indicates strong use of digital resources but less stable learning routines, reflection, and academic interaction.

Contribution - The study extends learner-level evidence into educational administration by linking observed learning patterns to practical priorities in academic advising, digital resource organization, progress monitoring, feedback, and support for KIP Kuliah recipients. It distinguishes measured student behaviors from institutional responses proposed as implications, providing an administratively relevant basis for service improvement without attributing the observed patterns to administrative practices that were not directly measured.

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INTRODUCTION

Digital transformation has altered not only the tools used for teaching and learning but also the administrative responsibilities of higher education institutions. Universities increasingly operate learning environments in which students move between face-to-face interaction, learning management systems, digital libraries, video-based resources, messaging platforms, and open internet sources. This shift creates an administrative problem that is broader than the procurement of technology. Institutions must determine how academic services, learning resources, guidance, monitoring, and communication should be organized to enable students to use digital environments productively and consistently. A multivocal review of digital transformation initiatives in higher education by Fernández et al. (2023) shows that digital transformation is an institution-wide process involving strategy, people, processes, and technology rather than a purely technical change. From an educational administration perspective, the central question is therefore not only whether technology is available, but whether institutional arrangements enable students to translate access into sustainable learning practices.

This distinction matters because digital availability and effective learning are not equivalent. Technology-rich learning environments place substantial demands on students' capacity to plan, monitor, organize, and evaluate their own learning. Recent reviews show that self-regulated learning is especially important in online and blended settings, where students often have greater autonomy but also face greater responsibility for managing time, attention, help-seeking, and learning resources (Prasse et al., 2024; Faza & Lestari, 2025). Luo and Zhou (2024), reviewing self-regulated learning strategies in higher-education blended learning, found that resource management, motivational beliefs, and metacognitive strategies are prominent themes, and that educators remain important in supporting their implementation. These findings indicate that the learner's capacity to self-regulate is partly shaped by the environment that institutions design and administer.

Educational administration provides a useful lens for interpreting this relationship because it concerns the organization of educational services, institutional processes, support systems, monitoring mechanisms, and resource allocation. In a digital context, administrative quality includes how academic information is communicated, how students access credible learning resources, how academic progress is monitored, how guidance is delivered, and how students who need additional support are identified. Research in the *International Journal of Educational Management* has increasingly treated digital transformation and student services as strategic administrative concerns. Khatir and Madani (2024), for example, examined digital transformation in educational administration and emphasized its relationship with electronic services, infrastructure, human resources, and organizational culture. Tejero-Dakay et al. (2024) showed that student support and services can be analyzed strategically to help higher education institutions allocate resources to areas that most strongly affect the student experience. Together, these studies support an administrative interpretation of evidence of student learning: student behavior can serve as a diagnostic signal of where academic support systems may need strengthening.

Examining learning strategies among KIP Kuliah recipients is relevant because academic continuity in this group depends not only on access to financial assistance but also on how students manage learning demands within digitally mediated environments.

The present study focuses on recipients of *Kartu Indonesia Pintar Kuliah* (KIP Kuliah), an Indonesian government financial-assistance program for students with academic potential and economic constraints. This population is administratively important because institutional responsibilities extend beyond disbursement to verification and periodic evaluation. Current official guidance requires higher education institutions and/or LLDIKTI to evaluate recipients' academic ability, economic capacity, and condition each semester, with academic evaluation based on minimum grade-point average standards established by each institution (Kementerian Pendidikan Tinggi, Sains, dan Teknologi Republik Indonesia, 2026). The same guidance notes that recipients are expected to improve and report their academic performance. Consequently, universities

have an administrative interest in understanding not only whether KIP Kuliah recipients remain enrolled, but also how they manage learning demands that can affect academic continuity.

At the learner level, strategies for managing academic work commonly include cognitive, metacognitive, motivational, and resource-management practices. Cognitive strategies help students process information through activities such as note-taking, summarizing, organizing ideas, and elaborating concepts. Metacognitive strategies involve planning, monitoring comprehension, and evaluating progress. Anggo et al. (2021) illustrate how metacognitive strategies support systematic problem solving, whereas Daumiller and Dresel (2019) demonstrate that motivational regulation and metacognitive prompts can support self-regulated learning with digital media. Motivation also interacts with learning behavior. Tokan and Imakulata (2019), using student achievement data, found that motivation and learning behavior were related to achievement. These strands of research establish a strong learner-centered foundation for understanding study strategies. However, they do not, by themselves, answer how institutions should respond administratively to patterns of strength and difficulty among specific student groups.

More recent research has begun to make the connection between instructional support and students' digital learning behavior more explicit. Juhaňák et al. (2025) found that perceived instructional support and structured self-regulated learning support were associated with aspects of students' behavior in online learning environments. Cheng et al. (2025) also showed that structured digital diaries could support selected self-regulated learning skills during transitions between in-person and online learning. Such findings are important for educational administration because they suggest that student consistency is not simply an individual trait. Institutional and instructional structures can create prompts, feedback loops, monitoring opportunities, and learning routines that make self-regulation easier to sustain. This shifts the administrative focus from expecting students to manage digital learning independently toward designing support systems that make productive learning behavior more likely.

The Indonesian higher-education context adds another layer to the problem. Students increasingly combine conventional study habits with digital practices. Technology may be used to search for additional materials, watch instructional videos, access course platforms, or communicate with peers and lecturers, while note-taking and summarizing remain central cognitive practices. Suprapti et al. (2021) found positive learning outcomes from technology-supported flipped learning among Indonesian university students, illustrating that digital tools can complement established learning processes. However, the presence of technology does not automatically ensure stable study routines. Students may be motivated and digitally active yet still struggle to sustain regular learning, evaluate their own progress, or engage in academic interaction online. For administrators, these differences matter because each pattern suggests a different service need.

This perspective highlights the importance of translating learner-reported strategy patterns into evidence that can support institutional academic services and student development initiatives.

This gap concerns how learner-level evidence can be translated into administratively relevant information for organizing academic support.

This distinction defines the novelty of the present study. The study does not introduce a new institutional-management scale, nor does it test the effect of an administrative intervention. Instead, it uses an educational administration lens to reinterpret an existing quantitative survey of student learning strategies. The contribution lies in identifying which learning behaviors appear strongest, which appear comparatively fragile, and what those patterns imply for the administration of digital academic services and support for KIP Kuliah recipients. This approach is particularly relevant where institutions have limited resources and need practical indicators for deciding whether to strengthen digital resource curation, academic advising, monitoring, peer interaction, study-skills support, or other services.

Accordingly, this study has three objectives: (1) to identify the dominant learning strategies reported by KIP Kuliah recipients in a digital higher-education environment; (2) to identify learning practices that appear comparatively weaker and may signal areas requiring additional administrative attention; and (3) to interpret these findings as implications for educational administration, particularly academic services, digital learning

support, student monitoring, and targeted support for KIP Kuliah recipients. The study addresses three research questions: (RQ1) What learning strategies are most strongly reported by KIP Kuliah recipients? (RQ2) Which aspects of students' learning routines show the greatest potential need for administrative support? (RQ3) What implications do the observed patterns have for educational administration in higher education?

METHODOLOGY

Research Design

This study used a quantitative descriptive survey design. A descriptive survey is appropriate for summarizing patterns in measurable responses without manipulating study variables (Creswell, 2014). The analysis focused on item-level descriptive statistics for nine questionnaire statements and therefore describes the relative prominence of reported learning practices rather than testing causal effects of educational administration or academic achievement. This design aligns with the study objectives, which emphasize identifying dominant and comparatively weaker learning practices and interpreting their implications for academic support and service organization. In this study, educational administration serves as an interpretive lens through which descriptive learning patterns are examined to identify potential areas for institutional support.

Participant

Participants were 185 students registered as KIP Kuliah recipients across 14 study programs at Universitas PGRI Silampari in South Sumatra, Indonesia. Purposive sampling was used to recruit students who fit the study context and had experienced both online and offline learning. The participant group, therefore, represents a criterion-based institutional subgroup rather than a probability sample of all Indonesian university students, and the findings should be interpreted within that context.

The choice of KIP Kuliah recipients has substantive administrative relevance. Under current program guidance, higher education institutions are responsible for recipient verification, periodic academic evaluation, and continuing eligibility. Official guidance requires higher education institutions and/or LLDIKTI to evaluate recipients' academic ability, economic capacity, and condition each semester; academic evaluation is based on the minimum grade-point average standard set by each institution (Kementerian Pendidikan Tinggi, Sains, dan Teknologi Republik Indonesia, 2026). Although the survey did not measure the quality of KIP Kuliah administration itself, this population provides a meaningful setting for examining learning patterns that may inform academic support and monitoring practices.

Data Collection

Data were collected through an online questionnaire administered using Google Forms. The instrument used a five-point Likert response format ranging from Strongly Disagree to Agree Strongly. Nine statements captured students' reported learning practices and perceptions: use of learning technology; independent searching for additional internet resources; maintenance of learning habits during online learning; note-taking and summarizing; online discussion with friends or lecturers; regular self-evaluation; academic motivation; use of free time to review material; and perceived effectiveness of current learning strategies.

Instrument

Before distribution, the questionnaire underwent expert review for substantive appropriateness and alignment with the intended learning-strategy indicators. Because item-level content validity indices, pilot-test statistics, and an internal consistency coefficient were not available for the nine-item instrument, the analysis was conducted at the descriptive item level rather than as a validated latent scale. This boundary is important when interpreting the findings and is addressed again in the study limitations.

Data Analysis

Descriptive statistics were used to summarize responses to each item. For all nine statements, the mean, standard deviation, minimum, and maximum were reported. Because all items used the same five-point response scale, item means were compared descriptively to identify relatively prominent and relatively weak learning practices. No arbitrary labels such as 'very high' or 'low' were imposed because the study did not establish validated cut-off points for such categories.

For the educational administration interpretation, the item patterns were grouped conceptually into four administrative domains: (1) access to and organization of learning resources; (2) learning routine and self-regulation support; (3) academic interaction and guidance; and (4) academic monitoring and support for KIP Kuliah recipients. This grouping is an interpretive framework developed for the discussion. It is not a factor structure derived from statistical analysis and should not be treated as evidence of latent constructs.

FINDINGS

Table 1 presents the descriptive statistics for the nine questionnaire statements. All items used the same five-point scale and displayed the full observed range from 1.0 to 5.0. The means varied from 3.77 to 4.22. The relatively narrow range suggests that students generally reported favorable learning practices. However, the ranking of items reveals meaningful differences in where their learning appears strongest and where greater difficulty may occur.

Table 1. Descriptive Statistics of Student Learning Strategy Items

No.	Statement	Mean	SD	Min	Max
1	I use technology (such as learning apps and online videos).	4.16	0.94	1.0	5.0
2	I searched for additional learning resources independently on the internet	4.22	0.95	1.0	5.0
3	I still maintain my learning habits even though learning is done online	3.77	0.82	1.0	5.0
4	I take notes and summarize the subject matter to help with understanding	4.14	0.89	1.0	5.0
5	I discuss with friends or teachers online to understand difficult material	3.81	0.93	1.0	5.0
6	I evaluate my learning outcomes regularly	3.81	0.82	1.0	5.0
7	I have a high motivation to maintain academic achievement	4.03	0.88	1.0	5.0
8	I use my free time to repeat the subject matter	3.80	0.90	1.0	5.0
9	I feel that my current learning strategy is quite effective	3.92	0.82	1.0	5.0

The highest mean was recorded for independently searching for additional learning resources on the internet ($M = 4.22$, $SD = 0.95$). This was followed by the use of technology such as learning applications and online videos ($M = 4.16$, $SD = 0.94$). These two items indicate that digital access and independent resource seeking are prominent features of the respondents' learning practices. The results do not indicate whether the selected resources were academically validated or institutionally curated; they only show that students frequently report using the internet and digital tools in their learning.

A conventional cognitive strategy also remained prominent. Taking notes and summarizing course material had a mean of 4.14 ($SD = 0.89$), close to the scores for digital resource use. This pattern suggests coexistence rather than replacement: students appear to combine digital access with familiar information-processing practices. Academic motivation also received a relatively high mean of 4.03 ($SD = 0.88$), indicating that respondents generally reported motivation to maintain academic achievement.

By contrast, the lowest mean concerned maintaining learning habits when learning is conducted online ($M = 3.77$, $SD = 0.82$). Using free time to review subject matter was similarly lower ($M = 3.80$, $SD = 0.90$), while online discussion with friends or lecturers and regular self-evaluation both had means of 3.81. These items represent activities that require sustained routines, monitoring, interaction, or deliberate reflection. Their

lower position relative to resource seeking and technology use identifies consistency as the clearest area of potential difficulty in the descriptive profile.

Students' overall perception of the effectiveness of their current learning strategy had a mean of 3.92 (SD = 0.82). This score is positive relative to the scale midpoint, but it is below the means for resource seeking, technology use, note-taking, and motivation. The pattern, therefore, supports a cautious interpretation: students generally perceive their strategies favorably, yet some aspects associated with persistence, review, self-evaluation, and academic interaction appear less stable.

Findings in Relation to the Research Questions

For RQ1, the strongest reported strategies were independent online resource seeking, use of digital learning technologies, and note-taking or summarizing. These practices indicate active access to learning resources and a combination of digital and conventional cognitive strategies. For RQ2, the comparatively weakest areas were maintaining learning habits during online learning, using free time for review, engaging in online academic discussion, and regularly evaluating learning outcomes. The most consistent descriptive signal is therefore not a lack of access or motivation, but rather difficulty sustaining and monitoring learning routines. For RQ3, the observed learning patterns provide learner-level evidence to help institutions identify priorities for academic support, digital resource organization, feedback mechanisms, and student monitoring.

DISCUSSION

From Digital Access to Administratively Supported Learning

The most visible strength in the findings is students' independent search for additional learning resources. In a narrow interpretation, this result reflects learner autonomy. In an educational administration interpretation, however, it also raises a governance question: what kinds of resources are students finding, and how effectively does the institution help them distinguish credible academic materials from unstructured internet content? Digital transformation research emphasizes that technology adoption must be accompanied by institutional processes and human capacity (Fernández et al., 2023). Therefore, a high score for internet resource seeking should not be read as evidence that the institution can reduce its role. It may instead justify stronger curation through digital libraries, recommended resource portals, course-level reading pathways, and information-literacy support.

This interpretation is consistent with the idea that educational administration concerns the organization of services around the learner. Tejero-Dakay et al. (2024) show how student support and services can be treated as strategic inputs for resource allocation rather than as peripheral administrative functions. Applied to the present findings, the administrative task is to transform a student strength, willingness to seek resources, into an institutional advantage. If students already search independently, a well-administered resource system can reduce search costs, improve source quality, and connect self-directed learning with program expectations. Conversely, if resource access is left entirely unstructured, high activity does not necessarily imply high-quality learning.

The second-highest pattern, use of learning applications and online videos, further reinforces this point. Students are not resistant to digital tools. The administrative challenge, therefore, appears less about initial adoption and more about integration, consistency, and support. Khatir and Madani (2024) describe digital transformation in educational administration as involving infrastructure, human resources, culture, and service development. In this study, technology use is already present at the learner level. The next administrative question is whether institutional systems create coherent learning journeys across platforms or leave students to assemble fragmented resources on their own.

Hybrid Strategy Use and the Continuing Role of Conventional Learning Practices

The high mean for note-taking and summarizing shows that digital learning has not displaced conventional cognitive strategies. This is important because institutional digitalization can sometimes be

framed as a replacement project in which newer technologies are assumed to supersede older learning practices. The findings suggest a different pattern: students combine modalities. They search online, use learning apps and videos, and continue summarizing or taking notes. Educational administration should therefore support a hybrid ecology of learning rather than privileging technology for its own sake.

From a self-regulated learning perspective, note-taking and summarizing are part of the broader process through which students organize information and construct understanding. Anggo et al. (2021) emphasize the role of metacognitive organization in systematic problem solving, while recent reviews of self-regulated learning in blended settings show that cognitive, metacognitive, motivational, and resource-management strategies remain interconnected (Luo & Zhou, 2024; Faza & Lestari, 2025). Administratively, this means that digital learning support should be integrated with study-skills support. Learning management systems can provide access to materials, but students may also need guidance on how to process them, monitor their understanding, and convert information into durable knowledge.

A practical implication is that academic services should not be divided too rigidly into 'technology support' and 'learning support.' The two functions increasingly overlap. A digital platform may contain course content, but its educational value depends on how students use it. Likewise, a study-skills program may be more effective when embedded into digital courses rather than delivered as a disconnected workshop. Educational administration can coordinate these functions by aligning academic advising, learning-resource units, libraries, program leaders, and lecturers around common student-support goals.

Learning Consistency as the Primary Administrative Signal

The lowest mean in the study concerns maintaining learning habits during online learning. This is the most important result from an educational administration standpoint. The respondents reported relatively high motivation and active use of technology, yet their ability to maintain routines was comparatively weaker. The gap between motivation ($M = 4.03$) and learning consistency ($M = 3.77$) suggests that willingness alone may not be sufficient to sustain behavior. This interpretation is consistent with research showing that self-regulated learning in technology-supported environments requires support across planning, monitoring, reflection, and other phases of the learning cycle (Prasse et al., 2024).

Recent empirical evidence further supports the role of structured support. Juhaňák et al. (2025) found that instructional and self-regulated learning support can influence aspects of student behavior in online learning environments. Cheng et al. (2025) demonstrated that structured digital diaries can strengthen selected self-regulated learning skills during transitions between learning modes. These studies do not prove that the same interventions would work with the present participants. However, they strengthen the administrative rationale for considering structured routines rather than relying exclusively on student motivation.

For educational administrators, consistency can be approached through several mechanisms. Academic calendars can make workload expectations more predictable; learning management systems can provide regular milestones and reminders; advisers can monitor students who show signs of disengagement; lecturers can provide frequent low-stakes feedback; and KIP Kuliah program administrators can coordinate academic progress reviews with developmental support rather than treating monitoring as a purely compliance-oriented process. The administrative logic is preventive: use patterns of learning difficulty to design support before problems become failures, withdrawals, or eligibility concerns.

The lower means for self-evaluation and use of free time to review material support the same interpretation. These activities require students to create their own monitoring cycles. When those cycles are weak, institutions can provide scaffolds. Faza and Lestari (2025) identify goal setting, monitoring, reflection, time management, and help-seeking as recurring components of self-regulated learning in the digital age. Educational administration can use these components as a practical framework for student-support programming without claiming that administrators directly control individual learning behavior.

Academic Interaction, Guidance, and Student Support Services

Online discussion with friends or lecturers had a mean of 3.81, lower than independent resource seeking and technology use. This difference is administratively meaningful. Students may be comfortable locating information independently, but less consistent in using social and instructional support when they encounter difficulty. Help-seeking is a recognized part of self-regulated learning, and digital learning environments can either facilitate or inhibit it depending on course design, communication norms, and availability of support.

Educational administration can influence this environment indirectly by establishing service standards and communication structures. Programs can define expectations for lecturers' response times, create virtual consultation schedules, strengthen peer mentoring systems, integrate academic advisers into digital platforms, and ensure that students know where to seek help. These actions fall under the administration of academic services rather than student psychology. Their purpose is to reduce friction between the moment a student experiences difficulty and the moment appropriate academic support becomes available.

The student-services literature is relevant here because the quality of support depends on prioritization. Tejero-Dakay et al. (2024) argue that higher education institutions need systematic ways to understand which services matter to students and to allocate resources accordingly. The present study offers one modest source of such evidence. It does not measure satisfaction with services, but it identifies behaviors where students report lower consistency. Those behaviors can guide administrators toward questions that deserve follow-up investigation, such as whether students know how to access academic consultation, whether online discussions are sufficiently structured, and whether advisers have timely information about learning difficulties.

KIP Kuliah Recipients as an Educational Administration Priority

The KIP Kuliah context strengthens the administrative relevance of the findings. Current national guidance requires higher education institutions to evaluate recipients' academic ability every semester. It links academic evaluation to institutional minimum grade-point standards (Kementerian Pendidikan Tinggi, Sains, dan Teknologi Republik Indonesia, 2026). This means that academic monitoring of KIP recipients is already part of institutional responsibility. The opportunity lies in connecting compliance-oriented monitoring with developmental support.

A purely administrative model may identify whether a student meets eligibility requirements but provide limited insight into why academic difficulties are emerging. A developmental administration model can supplement status monitoring with early indicators related to study consistency, self-evaluation, interaction, and resource use. The present survey suggests that KIP recipients in this sample are motivated and digitally active, but some routines are less stable. Administrators could therefore avoid deficit assumptions and instead build on existing strengths while targeting specific support needs.

For example, independent resource-seeking can be leveraged by providing curated digital collections and guidance on research skills. The use of high technology can be supported through integrated platforms and consistent course design. Strong motivation can be connected to mentoring and goal-setting programs. Meanwhile, weaker learning consistency can become a trigger for optional coaching, academic advising, or progress check-ins. The principle is not to intensify surveillance of KIP Kuliah recipients, but to make monitoring more educationally useful and responsive.

The KIP Kuliah setting also illustrates how program administration can be connected with academic development. The observed strategies are not treated as effects of KIP Kuliah governance. Rather, student-level learning evidence can complement routine administrative indicators by helping institutions identify where recipients may benefit from academic guidance, digital resource support, opportunities for interaction, or early assistance.

Administrative Interpretation Matrix

Table 2 translates the descriptive findings into possible administrative questions and responses. The table is an interpretive synthesis rather than an additional empirical result. It should be used as a framework for institutional inquiry, not as proof that the recommended actions will produce specific outcomes.

Table 2. Administrative Interpretation of the Descriptive Learning Patterns

Observed pattern	Evidence	Administrative question	Possible response
High independent resource seeking.	M = 4.22	Are students being directed to credible, program-relevant digital resources?	Curated resource portals, library integration, information-literacy guidance
High use of learning technology	M = 4.16	Are multiple tools integrated into a coherent institutional learning environment?	Platform integration, technical support, and consistent course organization
Strong note-taking and summarizing	M = 4.14	Are digital services connected to study skills and learning support programs?	Embedded study-skills support, learning strategy workshops, and course-level scaffolds
Relatively high motivation	M = 4.03	How can motivation be translated into sustained routines and progress?	Goal-setting, advising, mentoring, milestone-based feedback
Weakest learning consistency	M = 3.77	Which students need early support to maintain online learning routines?	Progress monitoring, reminders, check-ins, and academic coaching
Lower discussion and self-evaluation	M = 3.81 each	Do students have accessible opportunities for help-seeking and reflection?	Consultation channels, peer mentoring, reflective prompts, and feedback cycles

Note. Administrative questions and possible responses are interpretive implications derived from the descriptive findings; they were not measured as study variables.

Contribution to Educational Administration

The study contributes to educational administration in three ways. First, it demonstrates how student learning data can serve as administrative evidence without reducing implications to unmeasured institutional variables. The descriptive pattern provides a practical basis for identifying possible service priorities while maintaining a clear boundary between empirical findings and administrative interpretation.

Second, the study connects student support to digital transformation. Digital transformation can be evaluated in terms of infrastructure, systems, leadership, and organizational culture, but its educational value ultimately depends on the learner experience. The descriptive data show that students can be digitally active while still experiencing weaker learning consistency. This pattern supports an administrative principle: digital maturity should not be assessed only through availability or usage statistics. Institutions also need indicators of learning continuity, interaction, self-monitoring, and uptake of support.

Third, the KIP Kuliah context shows how educational administration can integrate program governance with academic development. KIP Kuliah administration includes eligibility, reporting, accountability, and periodic evaluations of recipients. The present findings suggest that academic support data can complement those functions. A more integrated system could connect KIP Kuliah administration, academic advising, student affairs, learning support, and digital services. Such integration is consistent with the broader view of educational administration as coordination of institutional resources toward educational goals.

Limitations and Future Research

Several limitations constrain the conclusions. First, the study is based on respondents from one university and a purposively selected subgroup of KIP Kuliah recipients. The results cannot be statistically generalized to all KIP Kuliah recipients or to all Indonesian university students. Multi-institutional research would be

needed to examine whether the same pattern appears across regions, institutional types, and academic disciplines.

Second, the questionnaire captures self-reported practices rather than behavioral trace data or objective academic outcomes. Students' perceptions of strategy effectiveness should not be equated with grade-point average, course completion, or actual persistence. Future studies should combine questionnaires with GPA records, learning management system activity, attendance, course completion, or longitudinal academic outcomes where ethically and legally appropriate.

Third, institutional administrative practices were not directly measured. The discussion of educational administration is therefore an interpretive application of the findings, not an evaluation of leadership, governance, service quality, digital infrastructure, or KIP Kuliah administration. A stronger future design could measure dimensions of administrative support and test their associations with student self-regulation and academic outcomes.

Fourth, although the questionnaire underwent expert review, the study does not report psychometric evidence such as reliability coefficients, item validity indices, pilot procedures, or construct validation. Future studies should report these elements and, where possible, develop validated scales that distinguish learner strategies from institutional support variables.

Finally, research involving recipients of financial-assistance programs should pay careful attention to ethics, privacy, and power relations. Administrative monitoring can support students, but it can also become intrusive if educational data are used without a clear purpose, consent, and safeguards. Future studies should report applicable ethics approval, informed consent procedures, data protection measures, and the boundaries between research data and administrative eligibility decisions.

CONCLUSION

This study examined the learning strategies reported by 185 KIP Kuliah recipients across 14 study programs and interpreted the descriptive patterns through the lens of educational administration. The strongest reported practices were independent searching for additional online resources ($M = 4.22$), use of digital learning technologies ($M = 4.16$), and note-taking or summarizing ($M = 4.14$). Academic motivation was also relatively strong ($M = 4.03$), while maintaining learning habits during online learning represented the weakest area ($M = 3.77$), accompanied by comparatively lower scores for review habits, online academic discussion, and regular self-evaluation. The findings indicate that digital higher education should be administered as a learning-support ecosystem rather than merely a collection of technologies. Universities can use learner-level evidence to strengthen academic guidance, digital resource organization, help-seeking channels, progress monitoring, feedback, and support for self-regulation. For KIP Kuliah recipients, this approach connects program monitoring with developmental academic support.

The central administrative implication is that digital higher education should be administered as a learning-support ecosystem rather than as a collection of technologies. The use of high technology does not eliminate the need for institutional support. Universities can use learner-level evidence to ask more precise questions about the organization of digital resources, academic guidance, help-seeking channels, progress monitoring, feedback, and support for self-regulation. For KIP Kuliah recipients, this approach can connect program monitoring to developmental academic support rather than limiting administration to compliance and eligibility checks.

The study's contribution is therefore a bridge between evidence of student learning and educational administration. It shows how administrators can interpret student learning data as signals for institutional inquiry and service improvement. Future research should test this framework using multi-institutional samples, validated administrative-support measures, objective academic outcomes, and longitudinal designs.

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