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The Heutagogy and Its Effect on Learners Critical Thinking Skills

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Index Terms:

heutagogy practice, learner autonomy, collaborative learning, critical, analysis, evaluation

Abstract. This study aimed to determine the level of heutagogy practice and its effect on learners' critical thinking skills. Specifically, it examined the implementation of heutagogical approaches among teachers and their relationship with learners' critical thinking abilities. The study employed a descriptive–correlational research design, which is appropriate for assessing both the level of heutagogy practice and its relationship with learners' critical thinking skills. Data were collected through structured questionnaires administered to teacher respondents. The results revealed that the respondents were predominantly aged 31–40 years (42.0%) and largely female (72.0%), indicating a middle-aged and female-majority sample. In terms of teaching experience, most participants had 1-20 years of service, with 31.2% having 1–10 years and 28.0% having 11–20 years, reflecting a balance of early- and mid-career educators. Regarding professional development, nearly half of the respondents attended district-level trainings (46.5%), while participation in school-based, national, and international trainings was comparatively lower. This finding suggests that teachers' professional growth mainly occurs through locally accessible programs. Furthermore, the level of heutagogy practice in terms of learner autonomy and collaborative learning was interpreted as very high. Meanwhile, the effect on learners' critical thinking skills was high in analysis and moderate in evaluation. The findings also revealed no significant relationship between respondents' demographic profile and either heutagogy practice or learners' critical thinking skills. Similarly, no significant relationship was found between heutagogy practice and learners' critical thinking skills. These findings suggest that schools may expand professional development opportunities beyond the district level and encourage teachers to integrate explicit critical thinking instruction alongside heutagogical strategies to strengthen learners' higher-order thinking skills further.

Introduction

In the rapidly evolving educational landscape of the 21st century, learner-centered approaches have emerged as essential frameworks for fostering autonomy, motivation, and higher-order thinking skills. One such approach is heutagogy, or self-determined learning, which emphasizes the learner's ability to define their own learning paths, assess progress, and apply knowledge independently. Unlike pedagogy, where the teacher directs learning, or andragogy, where learning is guided by experience, heutagogy encourages learners to take full ownership of their learning journey. In an era where adaptability and lifelong learning are vital, heutagogy has become increasingly relevant in developing skills such as critical thinking and intrinsic motivation, both of which are vital for success in complex and uncertain environments.

Several studies have explored the role of heutagogy in enhancing learners' engagement and cognitive abilities. For instance, Segara et al. (2021) emphasized that heutagogical learning environments cultivate self-efficacy and intrinsic motivation by empowering learners to make meaningful decisions about their learning processes. Similarly, Blaschke (2012) found that self-determined learning fosters reflective thinking, which contributes to the development of critical and analytical reasoning skills. In addition, Agonács and Matos (2019) highlighted that heutagogy supports learners' transition from dependent to self-directed and self-determined individuals, making them more capable of solving complex real-world problems. Panta (2025) also argued that motivation and critical thinking are interdependent outcomes of learner

autonomy, as students who experience control over their learning tend to engage more deeply in evaluative and analytical tasks.

Despite growing attention to heutagogy, there remains a need to examine its concrete impact on learners' motivation and critical thinking skills within various educational contexts, particularly in the digital learning environment. Thus, this study aims to investigate the effect of heutagogy on learners' motivation and critical thinking skills, providing empirical evidence to support its integration in contemporary teaching practices. By doing so, this research seeks to contribute to a deeper understanding of how self-determined learning approaches can enhance educational outcomes and prepare learners for lifelong learning in a dynamic world.

Conceptual Framework of the Study

This study is grounded in Mynbayeva et al. (2025) Self-Determination Theory (SDT), which emphasizes autonomy, competence, and relatedness as key drivers of intrinsic motivation and personal growth. SDT suggests that when learners have control over their educational choices and are supported in pursuing interests aligned with their goals, they experience deeper engagement, enhanced motivation, and improved learning outcomes. Heutagogy, or self-determined learning, embodies these principles by placing learners at the center of the educational process, allowing them to set learning objectives, explore topics of interest, and reflect on their progress. By integrating heutagogical approaches, educators foster not only motivation but also critical thinking, creativity, and independent decision-making, providing a strong theoretical foundation for understanding how SDT can inform learner-centered practices.

Heutagogy's impact on critical thinking skills is evident through its emphasis on learner autonomy and collaborative learning. Autonomy encourages students to plan, implement, and evaluate their own learning, promoting higher-order thinking skills such as analysis and systematic problem-solving. Collaborative activities further enhance critical thinking by exposing learners to diverse perspectives, requiring them to compare, synthesize, and evaluate peer contributions. The interplay between independent learning and group interaction creates a synergistic effect: autonomous learners contribute meaningfully to discussions, while collaborative engagement refines their analytical and evaluative abilities. Consequently, advanced heutagogical practices increase the likelihood that students will demonstrate stronger critical thinking skills, integrating both individual reflection and collective reasoning.

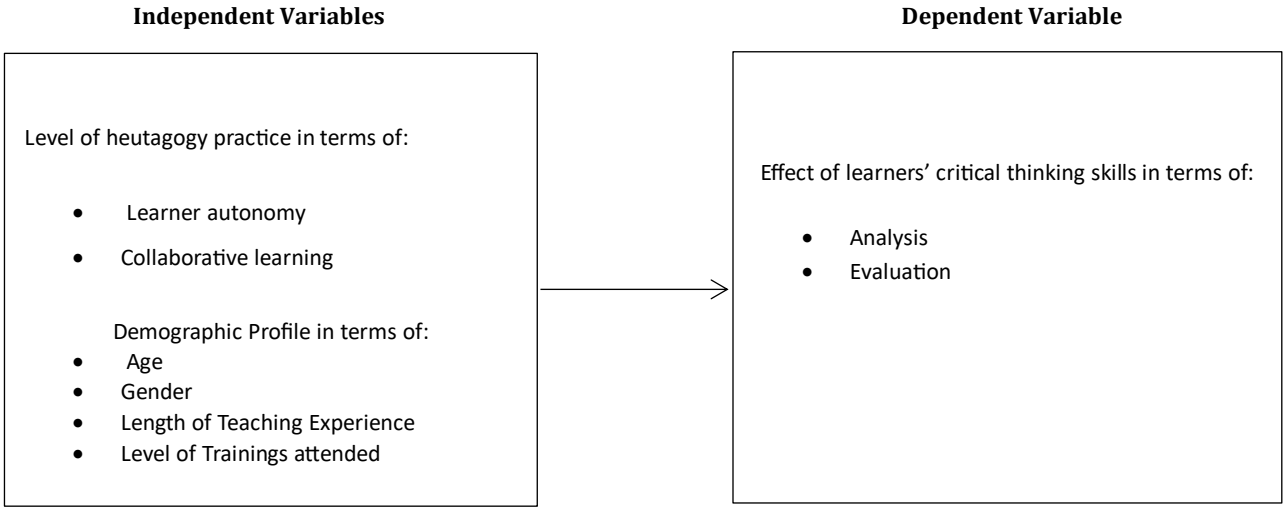

Figure 1. Schematic Presentation Showing the Relationship Between the Independent and Dependent Variables of the Study

Statement of the Problem

This study aimed to determine the heutagogy practice and the effect of learners' critical thinking skills. Specifically, it sought to answer the following questions:

1. What is the demographic profile of the respondents in terms of age, gender, length of teaching experience, and level of trainings attended?
2. What is the level of heutagogy practice in terms of learner autonomy and collaborative learning?
3. What is the effect of learners' critical thinking skills in terms of analysis and evaluation?

4. Is there a significant relationship between demographic profile and heutagogy practice and learners' critical thinking skills?
5. Is there a significant relationship between heutagogy practice and learners' critical thinking skills?

Delimitation of the Study

This study focused on the effect of heutagogy on learners' critical thinking skills in selected schools in San Fernando, Bukidnon. It specifically examines how collaborative learning, and learner autonomy, as key components of heutagogy practices, influence learners' abilities in analysis, and evaluation. The study is limited to senior high school students and their classroom experiences within the academic year, excluding other levels or informal learning settings. Additionally, the research relies on questionnaires and observation as primary data collection tools, which may not capture all aspects of critical thinking development.

Methodology

An acceptable research method for studying both the level of heutagogy practice and its relationship with learners' critical thinking abilities was the descriptive-correlational research design, which was used in the study on Heutagogy and its Effect on Learners' Critical Thinking abilities. Using this methodology, the researcher was able to both document the present condition of learners' involvement in heutagogy (self-determined learning) and ascertain the extent to which heutagogy practices correlate with critical thinking outcomes, namely in the areas of analysis and assessment. To measure students' independence, propensity for group work, and capacity for self-evaluation, researchers used standardized critical thinking tests and questionnaires.

The relevance and strength of the correlations between variables were assessed using statistical methods, such as Pearson's r correlation coefficient. Analytical evidence of heutagogy's potential impact on improving students' critical thinking abilities and descriptive insights into its execution are both provided by this technique.

Site of the Research

San Fernando District 2, in the Philippine province of Bukidnon, was the site of the research. The hilly topography, tight-knit towns, and abundant agricultural land in San Fernando are well-known for their commitment to sustainability and environmental protection. Several barangays make up the district, and in each one, education and community involvement play key roles in fostering local development. With its abundance of natural features—forests, rivers, and farmlands - this area is perfect for research that looks at how the community might help students become more environmentally conscious. A public school that serves both primary and secondary students, Kibongkong Integrated School is one of the sites of the investigation. Tree planting, solid waste management, and vegetable gardening are just a few of the school's environmental activities that get strong community support in the rural barangay where it is located. The school's dedication to creating students who are conscious of environmental issues is demonstrated by its incorporation of environmental education throughout the curriculum. An ideal setting for investigating the impact of community involvement on pupils' environmental consciousness would be a school where instructors and community members work closely together.

The research also takes place at Iglusad Integrated School, which educates students from a variety of neighboring barangays. Environmental measures spearheaded by the school and the city government have earned the institution a stellar reputation. Community members are frequently enlisted in environmental cleanup initiatives and "Clean and Green" campaigns. This research would not have been possible without the school and community working together to provide a stimulating learning environment where children can see the value of environmental conservation in action.

This research also included Mahayag Elementary School and Namnam Integrated School, both of which are in rural areas where farming and the exploitation of natural resources are major economic drivers. Lessons on sustainable agriculture, forest preservation, and biodiversity conservation are a part of these schools' environmental education programs. Students can make a stronger connection between what they learn in the classroom and what they do to protect the environment when members of the community pitch in with school programs like recycling and replanting. Through their involvement, we gain a better grasp of how getting people in the community involved raises students' environmental consciousness.

Finally, another district-based research site was Bonacao Elementary School. Together with parents and barangay officials, the school is working to make the community more environmentally conscious and clean. It runs environmental initiatives that inspire students to do their part for the environment in and out of the classroom. There is a mutual commitment to fostering ecologically conscious individuals, and the school and community work together to make that happen.

Respondents of the Study

A total of 166 educators from various schools in the San Fernando Bukidnon 2 District participated as respondents for the 2025–2026 academic year.

Schools	Population Teachers
Kibongkong Integrated School	41
Iglusad Integrated School	30
Namnam Integrated School	50
Mahayag Elementary School	20
Bonacao Elementary School	25
Total	**166**

Table 1. Distribution of Respondents by Schools

Sampling Procedure

The study used a method called total enumeration sampling, which involves asking every single person in the target group a question. Since the entire number of teachers at that school is manageable and can be easily accessed for data gathering, this method is considered adequate. The study's use of total enumeration increases the reliability and correctness of the results by making sure the full teaching staff is represented. This method gave a comprehensive picture of the views and experiences of all educators in the study area while reducing the possibility of sampling bias.

Research Instrument

For this study, researchers used a modified version of a questionnaire developed by Johnson and Johnson (2015). The study objectives are addressed fully by the instrument's two-part structure. The first section is devoted to evaluating the heutagogy practice level, particularly about student independence and group work in the classroom. To gain insight into the level of heutagogical approaches, this section seeks to discover how learners participate in cooperative activities and self-direct their learning.

The second section of the survey looks at how students' critical thinking abilities, namely in analysis and evaluation, were impacted. Learners' capacity to comprehend data, develop reasonable inferences, and create sound opinions will be evaluated in this section. The study can investigate the frequency of heutagogy practices and their effect on improving students' critical thinking skills because the instrument combines the two components.

Validity And Reliability Test

We ran validity and reliability testing to make sure this study was accurate and trustworthy. To ensure that the survey and assessment tools effectively measured heutagogy practices and critical thinking skills, they underwent expert review and content validation. To further verify that the questions accurately reflected the intended theoretical constructs, we conducted pilot testing with a small group of learners to establish construct validity.

Applying Cronbach's alpha, a measure of the instruments' internal consistency, proved reliability; the resultant coefficients were higher than the generally recognized threshold of 0.70, suggesting strong reliability. Taken as a whole, these tests provide credence to the idea that the research tools are reliable and accurate, allowing us to trust that the results represent the connection between heutagogy methods and students' capacity for critical thinking.

Data Gathering Procedure

This study's data came from the respondents who filled out a customized questionnaire based on Johnson and Johnson (2015) work. To make sure everything was coordinated and done ethically, we got the school's OK before we handed it out. The participants were briefed on the study's goals and given instructions on how to fill out the questionnaire correctly. Respondents were given explicit instructions and guaranteed that their comments would remain secret to elicit thoughtful and honest responses. The researcher gave the respondents enough time to finish the surveys after they were sent out. Data was double-checked for accuracy and completeness before coding and tabulating for analysis. The data collected will accurately represent the state of heutagogy practice in terms of student agency and group work, and the impact on students' analytical and evaluative reasoning abilities, thanks to this methodical strategy. In keeping with the aims of the study, significant inferences were drawn from the structured data.

Statistical Treatment of Data

To evaluate and analyze the data from this study, the following statistical tools were used:
The demographic profile of the respondents was determined using percentages and frequencies. We will use the mean and standard deviation to find out how well heutagogy is working, particularly in regard to student independence and group projects.

Find out how much of an impact students' critical thinking abilities, especially in analysis and assessment, had by looking at their means and standard deviations.

To determine the strong connection between heutagogy practice and students' critical thinking abilities, the Pearson r Product-Moment Correlation Coefficient (Pearson r) was employed.

Ethical Considerations

All participants' rights and welfare were safeguarded by the study's adherence to ethical standards. All participants were given full disclosure of the study's goals, importance, and methods before they voluntarily participated. The questionnaire will be administered in a clear and anonymous manner, and participants will receive clear instructions on how to fill it out. This method reduces the possibility of discomfort or pressure while collecting data and promotes candor. In addition, the researcher made sure to get the required approvals from the school administration before carrying out the study. Additionally, participants were made aware that they might discontinue participation in the study at any moment without incurring any penalties.

Results and Discussion

This chapter summarizes the study's conclusions on heutagogy and its effect on students' capacity for critical thinking. Participants' perceptions of heutagogy practice, especially as it pertains to learner autonomy and collaborative learning, are the primary foci of the investigation. To shed light on the implementation and impact of self-determined learning approaches on student involvement, the study will analyze these variables. The findings provide a holistic picture of the students' educational journeys since they are structured to mirror descriptive and inferential statistics. In addition, the chapter delves into the impact of students' critical thinking abilities, particularly in the domains of analysis and assessment, and how these skills relate to the art of heutagogy.

The purpose of this study is to examine the relationship between improved heutagogical methods and improved critical thinking among learners through statistical analysis and interpretative discussion. Educators who are attempting to create classroom settings that encourage higher-order thinking through student autonomy, reflection, and collaboration can find useful information in the results offered here.

Age	f	%
20 – 30 Years Old	17	10.8
31 – 40 Years Old	66	42.0
41 – 50 Years Old	40	25.4
51 Years Old and Above	34	21.7
Total	**156**	**99.4**

Table 2 Demographic profile of the respondents in terms of age

The age distribution of the 156 respondents is shown in Table 2. There are four groups based on age: 20–30 years old (f = 17, 10.8%), 31–40 years old (f = 66, 42.0%), 41–50 years old (f = 40, 25.4%), and 51 and up (f = 34, 21.7%). A total of 99.4% of the people in each group were reported, indicating that the dataset for the distribution of ages in the sample is nearly complete. According to the age distribution, the group consisting of people aged 31–40 accounts for 42.0% of the total, followed by those aged 41–50 (25.4%) and 51 and up (21.7%), with the youngest grouping coming in at 10.8%. People in their 30s and 40s are more likely to be involved in community, job, or organizational settings than younger people, which could explain why this pattern indicates a sample that is biased toward middle-aged adults.

The 31–40 age bracket is frequently listed as the modal group in demographic profiles of survey studies, and similar distributions have been noted in other contemporary research where respondent samples are regularly dominated by middle-aged people. The study's results are likely shaped by people in the early to mid-career phases, who may have a bigger impact on the attitudes, actions, or experiences measured, since the 31-40 age group comprises most respondents. The viewpoints of young people, who may have different goals, levels of technological use, or engagement patterns, may be underrepresented due to the relatively small participation of the youngest group (20-30).

On the other hand, there is still a sizable minority of people who are 51 and up, which highlights the need to include perspectives from older adults. This age profile can affect the generalizability of the results across other age groups because it reflects a respondent base that is typically older, experienced, and may be steady in socioeconomic roles.

Research by Kamrozzaman and Liew (2025) confirms the typical distribution of adult samples in social research settings, with many populations congregating around middle-aged adults. One study, for instance, found a modal age range of 31–40 years, with subsequent declines in the younger and older age brackets.

Gender	f	%
Male	44	28.0
Female	113	72.0
Total	**157**	**100.0**

Table 3. Demographic profile of the respondents in terms of gender

The gender breakdown of the 157 responders is seen in Table 3. The sample is fully representative of both sexes, since there are 44 male respondents (28.0% of the total) and 113 female respondents (72.0% of the total). According to the numbers, 72.0% of the people who filled out the survey were female, while only 28.0% were male. More than twice as many women as men are represented, indicating a significant gender imbalance. Women typically make up a larger proportion of survey respondents, and this pattern is especially true when looking at studies that focus on social, educational, or health-related issues. Since women made up most respondents, their experiences, viewpoints, and actions may be the ones most reflected in the study's results. Generalizability may be affected if there are significant gender-related inequalities due to the underrepresentation of male opinions caused by the lesser proportion of male respondents. When analyzing the results, researchers should keep this disparity in mind and recognize that the sample may lean more toward the female gender.

Female survey takers are more common in community, educational, and health research settings, according to Gillaspy and Vasilica (2021). For example, research shows that women are more likely to participate in research studies than men are. This could be because women are more accessible, interested, or think the topics being examined are relevant to their lives. Consistent with the observed distribution, this confirms the recognized pattern of female dominance in survey samples.

Length of Teaching Experience	f	%
Less Than 1 Year	32	20.4
1 – 10 Years	49	31.2
11 – 20 Years	44	28.0
More Than 20 Years	32	20.4
Total	**157**	**100.0**

Table 4. Demographic profile of the respondents in terms of length of teaching experience

In Table 4, we can see the breakdown of the 157 respondents' demographics by teaching experience level. There are four groups into which the respondents are divided: those with less than one year of experience (f = 32, 20.4%), those with one to ten years of experience (f = 49, 31.2%), those with eleven to twenty years of experience (f = 44, 28.0%), and those with more than twenty years of experience (f = 32,‹20.4%). All of the sample members have teaching experience, as the total proportion is 100%. The age group of 1–10 years old accounts for the largest proportion of responses (31.2%), with the 11–20 years old group coming in second with 28.0%. Equally tiny percentages (20.4% each) fall into the groups with fewer than one year and more than twenty years of experience.

Teachers in all phases of their careers seem to have had their perspectives captured by the study, with a slight preponderance of those in the early and mid-career stages. The inclusion of both inexperienced teachers (less than one year) and seasoned educators (more than twenty years) guarantees that a wide range of viewpoints is covered, offering a holistic understanding of teaching methods, difficulties, and areas for professional growth.

According to Dwyer's (2023) research on educational demography, a large percentage of instructors fall within the age bracket of 1–20. This reflects the current trend in the profession, where educators in the early and mid-career stages make up the bulk of the teaching staff. Since inexperienced and seasoned educators frequently have different perspectives on pedagogy, classroom management, and the application of curriculum, studies also highlight the importance of having a mix of experience levels to enhance study results.

Level of Training Attended	f	%
School Based	12	7.6
District Level	73	46.5
Division Level	30	19.1
Regional Level	19	12.1
National Level	18	11.5
International Level	5	3.2
Total	**157**	**100.0**

Table 5. Demographic profile of the respondents in terms of the level of training attended

According to Table 5, which shows the demographic profile of the respondents, the highest percentage went to training at the district level (f = 73, 46.5%). Groups that participated in training at the division, regional, and national levels are as follows: f = 30, 19.1%, f = 19, 12.1%, and f = 18, 11.5%, respectively. Training courses held in schools had a lower response rate (f = 12, 7.6%), while those held on a global scale had the lowest response rate (f = 5, 3.2%). According to the statistics, nearly half of the participants (46.5% to be exact) attend training held at the district level. Training at the division level follows at 19.1%, while those at the regional level follow at 12.1%. Participation in national (11.5%) and international (3.2%) training sessions was quite low. Low attendance (7.6% in school-based training) is another indicator of low engagement right there in the school.

The distribution points to a lack of access to higher-level or worldwide training options and a concentration on accessible, local environments for professional growth. Respondents' professional growth is heavily influenced by locally available programs, as seen by the prevalence of district-level training. A lack of exposure to cutting-edge pedagogical practices or more systemic advances in education may be attributable to a lack of involvement in national and international training. It's possible that problems with scheduling, funding, or perceived value contribute to the underrepresentation of school-based training. Teachers may bring a variety of perspectives and experiences to the classroom as a result of this distribution. As a result, global or expansive learning experiences are less important for professional development than easily accessible programs funded by institutions. According to Abdullah et al. (2025) professional development for teachers is usually focused on the district or local level since it is more convenient, cheaper, and has the backing of the organization. Fewer people can attend more advanced training like national and international programs due to logistical, financial, or time limitations. While district-level trainings address pressing issues in the classroom, research suggests that they may not provide enough opportunity to learn about innovative methods in other settings. Consistent trends have been noted in various nations, which further support the idea that local professional development is common. Consistent with the existing data set, this shows that training that is easily accessible has the most impact on how teachers are involved.

Indicator	Mean	SD	Interpretation
I give my pupils a lot of leeway in deciding how to tackle their homework.	5.00	0.000	Very High Level
I make it possible for students to select their own learning materials.	5.00	0.000	Very High Level
I encourage my pupils to take stock of their own learning and make informed decisions.	5.00	0.000	Very High Level
I encourage my students to do their own work in class and complete their own assignments.	5.00	0.000	Very High Level
Overall	**5.00**	**0.000**	**Very High Level**

Table 6. Level of heutagogy practice in terms of learner autonomy

The participants' level of heutagogy practice as measured by learner autonomy is shown in Table 6. Some of the signs include giving students agency over their own learning, letting them choose the best resources for their needs, encouraging them to reflect on their own work, and holding them accountable for their own progress. With a standard deviation of 0.000, every indicator achieved an ideal mean score of 5.00. Learner autonomy is categorized as "Very High" with an overall mean of 5.00. Clearly, this is a classroom setting that regularly encourages students to take an active role in their own education. The evidence points to the fact that heutagogical tactics about autonomy are deeply ingrained in the way teachers conduct

their lessons. Participants report a high degree of learner autonomy in their classroom, according to the findings. The consistent recognition of self-directed learning techniques by all learners is indicated by the uniform mean scores. All participants agreed that these tactics worked, as shown by the zero-standard deviation. Teachers seem to place a premium on students' capacity for self-reflection, critical thinking, and accountability. This way of doing things gives the impression that pupils are given the tools they need to become independent learners. The results show that, overall, students are encouraged to learn independently in this classroom. According to these results, students can learn at their own pace and in their own way in a classroom setting. Students with high levels of learner autonomy can plan their own lessons, select effective materials, and assess their own development. Students are more motivated, take responsibility, and actively participate in learning when given this much freedom. The ideas of heutagogy, which stress the importance of the learner and their autonomy in the learning process, are likewise congruent with this. The outcomes suggest that learners are being adequately equipped to manage intricate, autonomous assignments. Thus, the ability to learn independently and critically is a key component of a well-rounded education. The importance of learner autonomy to efficient heutagogical practice is emphasized in the work of Blaschke (2012), which is supported by these findings. Freedom of choice, according to Agonács and Matos (2019), encourages students to think critically, take responsibility, and reflect on their own learning.

According to Panta (2025), there is a strong correlation between learner autonomy and higher levels of motivation and engagement. Another finding from the research is that self-directed learning promotes a love of learning that lasts a lifetime. High levels of learner autonomy are an important sign of effective heutagogical implementation, according to these studies. Taken as a whole, the findings show that encouraging learners' autonomy greatly improves their growth and the quality of their learning. The participants' level of heutagogy practice as measured by learner autonomy is shown in Table 6. Some of the signs include giving students agency over their own learning, letting them choose the best resources for their needs, encouraging them to reflect on their own work, and holding them accountable for their own progress. With a standard deviation of 0.000, every indicator achieved an ideal mean score of 5.00. Learner autonomy is categorized as "Very High" with an overall mean of 5.00. Clearly, this is a classroom setting that regularly encourages students to take an active role in their own education. The evidence points to the fact that heutagogical tactics about autonomy are deeply ingrained in the way teachers conduct their lessons. Participants report a high degree of learner autonomy in their classroom, according to the findings. The consistent recognition of self-directed learning techniques by all learners is indicated by the uniform mean scores. All participants agreed that these tactics worked, as shown by the zero-standard deviation. Teachers seem to place a premium on students' capacity for self-reflection, critical thinking, and accountability. This way of doing things gives the impression that pupils are given the tools they need to become independent learners.

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Indicator	Mean	SD	Interpretation
I think it's important for kids to collaborate and learn from one another.	5.00	0.000	Very High Level
My role is to guide class discussions so that students can work together to find solutions.	5.00	0.000	Very High Level
In class, I try to acknowledge and appreciate students' group work and individual contributions.	5.00	0.000	Very High Level
Group projects that necessitate student cooperation are something I devise and oversee.	4.90	0.295	Very High Level
I encourage collaboration by distributing assignments to groups.	4.86	0.348	Very High Level
Overall	**4.95**	**0.094**	**Very High Level**

Table 7 Level of heutagogy practice in terms of collaborative learning

Collaborative learning is also seen as having a very high level of heutagogy practice (Table 7). I promote an environment where students feel comfortable sharing ideas and learning from one another (Mean = 5.00, SD = 0.000). Equally important is the fact that "I facilitate discussions where students collaborate to solve problems" (Mean = 5.00, SD = 0.000), which indicates that I consistently incorporate collaborative problem-solving into my lessons. Also, I always make sure to acknowledge and appreciate when students work together in class, as indicated by the statement "I value students' contributions and recognize collaborative efforts in the classroom" (Mean = 5.00, SD = 0.000). At the same time, "I promote teamwork by assigning group projects and tasks" (Mean = 4.86, SD = 0.348) and "I organize activities that require students to work together in groups" (Mean = 4.90, SD = 0.295) both qualify as Very High Level. With a mean score of 4.95 and a standard deviation of 0.094, the results show that heutagogy is being used very effectively in group projects.

The findings demonstrate that the participants report a highly collaborative learning atmosphere in their educational setting. The perfect scores of indicators like idea sharing (Mean = 5.00, SD = 0.000) and conversation facilitation (Mean = 5.00, SD = 0.000) indicate that there is strong and persistent collaboration. Group activity planning (Mean = 4.90, SD = 0.295) and teamwork promotion (Mean = 4.86, SD = 0.348) both show a high level of involvement despite slightly lower averages. Participants generally feel that collaborative tactics are effective, as seen by the comparatively low standard deviations. In general, the results show that students are motivated to collaborate, share what they know, and back each other up when solving problems. This emphasizes the importance of teamwork in heutagogical practice. These results suggest that students can engage in productive group work in the classroom, where they can exchange ideas, work through challenges, and ultimately achieve better results. Working together effectively improves communication, teamwork, and the ability to learn from one another. Teachers foster a conducive learning atmosphere by praising student work and planning group projects (Mean = 4.90-5.00, SD = 0.000-0.348).

Also, the findings are in line with what is known as "heutagogy's core principles," which stress the importance of collaborative learning and individual accountability. There may be room for improvement in certain group projects in terms of how to encourage participation, based on the little differences in scores. Students' engagement and knowledge construction are both significantly enhanced by collaborative learning. The results corroborate those Jogymol and Mukuka (2024) who found that working together improved both students' ability to study independently and their capacity for critical thinking. Group projects and conversations between classmates encourage introspection, collective duty, and creative problem-solving Singgih et al. (2024) in a similar vein.

Indicator	Mean	SD	Interpretation
In order to obtain a deeper grasp of difficulties, the student looks at them from many angles.	4.19	0.907	High Level
The student makes connections and recognizes patterns among many concepts.	3.66	1.113	High Level
The student deduces deeper meanings from given facts and figures.	3.64	1.172	High Level
In order to better grasp the material, the student simplifies it.	3.62	0.828	High Level
The student separates important facts from superfluous details.	3.41	1.132	High Level
Overall	**3.70**	**0.496**	**High Level**

Table 8. Effect of learners' critical thinking skills in terms of analysis

Learners' critical thinking skills have an impact on analysis, as seen in Table 8. With a mean of 4.19 and a standard deviation of 0.907, the indicator "The learner examines problems from multiple perspectives to gain a deeper understanding" had the best average. "The learner interprets data and information to recognize underlying meanings" (Mean = 3.64, SD = 1.172) and "The learner identifies relationships and patterns among ideas or concepts" (Mean = 3.66, SD = 1.113), both of which show that learners can frequently make connections and understand information. "The learner breaks down complex information into smaller, understandable parts" (Mean = 3.62, SD = 0.828) is another indicator of a significant level of understanding. The lowest mean was reached by "The learner distinguishes relevant information from irrelevant details" (Mean = 3.41, SD = 1.132). Participants' high levels of analytical critical thinking were confirmed by the overall result (Mean = 3.70, SD = 0.496).

According to the findings, students do very well when asked to look at problems from many angles; they perform somewhat worse when asked to interpret data, spot patterns, and separate significant information, but they still do very well overall. The wide range of results indicates that some students may have difficulty identifying hidden meanings or distinguishing between important and unimportant information. Regardless, with all signs still at a high level, it's clear that analytical thinking is consistently being engaged. Students are doing a great job of simplifying difficult concepts.

Based on these results, it seems that students can do thorough and precise analyses of given material. They incline reflective and thoughtful participation, as seen by their capacity to consider issues from several angles. The fact that some indicators show some fluctuation implies that specific help could improve the ability to spot patterns and differentiate important details even more. In general, students can successfully analyze, organize, and assess data because of their analytical abilities. At this stage of analysis, one can solve problems, understand complex ideas, and make well-informed decisions. To encourage critical thinking in academic and professional settings, it is crucial to develop these abilities. Blaschke (2021) argues that analytical abilities are fundamental to critical thinking, which is in line with our results. Just as Hm and Mulyadi (2024) point out, it is crucial for informed reasoning and decision-making to look at situations from several angles and find patterns. Strong analytical skills are associated with improved information interpretation, issue solving, and idea correlation, according to research.

Indicator	Mean	SD	Interpretation
The student provides explicit and rational justifications for their actions and findings.	4.00	.855	High Level
The student evaluates multiple points of view by comparing and contrasting them.	3.55	.843	High Level
The effectiveness of decisions is evaluated by the learner through reflection on their outcomes.	3.14	.473	Moderate Level
The student becomes adept at spotting arguments that suffer from logical fallacies, biases, and assumptions.	2.92	.776	Moderate Level
The student determines the trustworthiness of sources before drawing any judgments.	2.88	1.237	Moderate Level
Overall	**3.30**	**.382**	**Moderate**

Table 9. Effect of learners' critical thinking skills in terms of evaluation

Table 9 shows that students' critical thinking abilities have a moderate impact on their grades. With a mean score of 4.00 and a standard deviation of 0.855, the indicator "The learner justifies decisions or conclusions with clear and logical reasoning" had the best average. "The learner compares and contrasts different viewpoints before making judgments" (Mean = 3.55, SD = 0.843) is likewise considered to be at a quite high level. Nevertheless, there are other indicators that are mild. With a mean score of 3.14 and a standard deviation of 0.473, reflective evaluation is clearly not done very often by the learner. "The learner assesses the credibility and reliability of sources before forming conclusions" (Mean = 2.88, SD = 1.237) and "The learner identifies biases, assumptions, and logical fallacies in arguments" (Mean = 2.92, SD = 0.776) also achieved the lowest means. The results show that the level of evaluation skills is moderate, with a mean of 3.30 and a standard deviation of 0.382. Students' strengths lie in providing reasoning for their choices and contrasting other points of view, while their weaknesses lie in reflecting on their own learning, recognizing their own biases, and critically evaluating the reliability of sources. Learners may have difficulty with deeper evaluation thinking in regions where scores vary. Indicators at the moderate level imply that students might benefit from additional instruction in conducting thorough evaluations of evidence and critical thinking.

Learners are showing signs of improving their capacity to reason logically and make well-informed decisions, despite these limitations. It turns out that people aren't always good at using their evaluation skills; in fact, some parts are worse than others. In sum, this highlights the importance of developing specific methods to improve students' capacity for higher-order evaluations. These results suggest that students have a good grasp of basic evaluation skills but are still working on developing their critical thinking abilities to evaluate results, sources, and arguments. Reasoning and analysis skills are demonstrated by high scores on the decision-justification and viewpoint-comparing sections. Students may skim the surface instead of diving deep into critical thinking if they get moderate marks in reflection, bias detection, and credibility evaluation. Learners' appraisal skills are useful for making decisions, but they can be improved with practice. Students' critical thinking and their ability to make rational, unbiased decisions can both benefit from honing these abilities. To promote the development of comprehensive critical thinking skills, evaluation should continue to be an area of improvement.

In line with these results, Dwyer (2023) argues that learners frequently find assessment abilities, such as evaluating evidence and identifying biases, more difficult to acquire than analytical or reasoning skills. Evaluating effectively necessitates contemplation, rational thought, and evaluation of presumptions Gillaspy and Vasilica (2021). Research shows that students acquire the ability to critically evaluate sources and arguments over time, with the help of both classroom instruction and independent practice. To make educated decisions and solve problems, evaluation is crucial, as pointed out by Kamrozzaman and Liew (2025). Although students demonstrate proficiency in reasoning and comparison, this study's results reveal that they still have room to grow in their ability to make more nuanced evaluations. All things considered,

these findings provide credence to the idea that teaching methods should prioritize activities that foster critical thinking, such as self-reflection, evaluation of sources, and recognition of biases.

Variable	$r/r_{pb}/\rho$	p-value	Interpretation
Age	.026	.750	Not Significant
Gender	-.063	.431	Not Significant
Length of Teaching Experience	.012	.881	Not Significant
Level of Training Attended	-.025	.756	Not Significant
Overall	**.099**	**.219**	**Not Significant**

Table 10. Test of the significant relationship between demographic profile, heutagogy practice, and learners' critical thinking skills

Table 10 shows the outcomes of the correlation analysis that was conducted between the study variable and the demographic factors of the respondents. The results indicate that there are extremely weak associations and no statistical significance between age (ρ =.026, p =.750), gender (ρ = −.063, p =.431), duration of teaching experience (ρ =.012, p =.881), and level of training attended (ρ = −.025, p =.756). The total association is similarly not statistically significant (r=.099, p=.219). This leads us to accept the null hypothesis. According to the results, there is a small positive association between age and gender (ρ =.026, p =.750), and a weak negative correlation between gender and age (r = −.063, p =.431). The relationships between the level of training attended (ρ = −.025, p =.756) and length of teaching experience (ρ =.012, p =.881) are similarly very weak and not statistically significant. There is little to no relationship between demographic characteristics and the research variables (r =.099, p =.219).

These findings point to the lack of a relevant relationship between the demographic characteristics and either heutagogy practices or the critical thinking skills of the learners. So, in this dataset, we do not find any indication of a statistically significant connection. The lack of statistically significant relationships suggests that heutagogy practices and the growth of students' critical thinking abilities are unaffected by demographic variables, including gender, age, years of teaching experience, and degree of formal education, in this group. This suggests that there is internal consistency between demographic groupings and the educational approaches used by teachers, as well as the consequences of students' critical thinking. Therefore, it is possible to establish instructional methodologies and professional development programs without giving preference to any one population.

According to the results, heutagogy and critical thinking results may be less affected by individual variables and more affected by institutional backing, instructional resources, and instructor motivation. In general, it seems that demographic factors were not a deciding factor in this research. The study by Abdullah et al. (2025) backs up the claim that demographic factors seldom have a major impact on creative pedagogical approaches or the cognitive achievements of students. Rather than age, gender, or years of experience, research shows that teaching tactics, classroom climate, and quality of professional development are more predictive. For example, it is often said that institutional support and teacher training have a greater impact on heutagogical practices than individual demographics. Instructional design and student involvement, not instructors' demographics, are more important predictors of students' critical thinking abilities. This is in line with the current study, which further supports the idea that demographic factors do not play a substantial role in determining the application of heutagogy or the development of critical thinking skills.

Variable	r	p-value	Interpretation
Learner Autonomy Collaborative Learning	.099	.219	Not Significant
Overall	**.099**	**.219**	**Not Significant**

Table 11. Test of the significant relationship between heutagogy practice and learners' critical thinking skills.

The test of the substantial association between learners' critical thinking skills and heutagogy practice is presented in Table 6. Collaborative Learning has a modestly favorable association, according to the estimated correlation (r =.099, p =.219). Nevertheless, the correlation does not hold water because the p-value (.219) is higher than the 0.05 level of significance. Because of this, we cannot rule out the possibility that the observed correlation between students' critical thinking abilities and their use of collaborative learning activities is coincidental. Furthermore, it is considered that there is no significant association between heutagogy practice and learners' critical thinking skills (r =.099, p =.219). There may be a tiny positive trend in the correlation coefficient, but the extremely low number shows that the relationship between the two variables is insignificant. This leads us to accept the null hypothesis. There appears to be only a tenuous connection between heutagogy and students' capacity for critical thinking, according to the results of the correlation analysis. There is essentially no linear link between learner autonomy and collaborative learning, as both variables have a correlation coefficient of 0.099.

As expected, the correlation is not statistically significant because the p-value of 0.219 is higher than the conventional 0.05 cutoff. This suggests that students' critical thinking abilities are not predicted by differences in heutagogy practice in this sample. Beyond heutagogical tactics, additional factors may impact the development of critical thinking, according to the research. In sum, the findings show that extensive heutagogy may not be enough to provide enhanced critical thinking skills. These results suggest that students' increased degrees of independence and teamwork may not necessarily result in improved analytical reasoning. Additional elements, such as instructional support, scaffolding, or more organized learning experiences, may be necessary for the development of critical thinking skills. There is some evidence that heutagogy may improve other learning outcomes (poor and non-significant connection), but the effect on critical thinking is unclear. Teachers might consider incorporating self-directed learning methodologies with explicit critical thinking tasks. In line with previous research, these findings disprove the idea that heutagogy has the power to improve students' ability to think critically on its own.

Conclusion and Recommendations

Summary

Examining the relationship between heutagogy and students' capacity for critical thinking was the overarching goal of this research. To investigate the extent to which heutagogy is practiced and how it impacts learners' critical thinking abilities, this study will utilize a descriptive-correlational research approach. To measure students' independence, propensity for group work, and capacity for self-evaluation, researchers used standardized critical thinking tests and questionnaires. The relevance and strength of the correlations between variables were assessed using statistical methods, such as Pearson's r correlation coefficient.

Findings

The results of this investigation are detailed below.
Many of the respondents were female (72.0%), and the age range of the respondents was 31–40 years, suggesting that this is a sample with a middle-aged female majority. With 31.2% having 1-10 years of experience and 28.0% having 11-20 years, most participants were either early- or mid-career educators, with the majority having 1-20 years of teaching under their belts. Nearly half of the participants (46.5%) went to district-level trainings for professional development, while comparatively fewer participated in school-based, national, and international trainings. This suggests that programs accessible locally are the main venues for professional growth.

When looking at learner autonomy and collaborative learning, the results showed that heutagogy practice was at a very high level. Learners' critical thinking skills had a modest impact on evaluation and a strong impact on analysis.
Learners' critical thinking skills are unrelated to their demographic profile or the heutagogy practice they undergo. The critical thinking skills of learners are unrelated to heutagogy practice.

Conclusions

Using the data collected, the researchers came to the following conclusions.
Based on the demographic profile of the respondents, it appears that the sample mainly consists of female educators in their middle-aged years, with a balanced distribution of experience in early and mid-career teaching. There is a dearth of involvement in trainings held at the school, national, or international levels, and most professional development activities take place at the district level.

Based on these results, it seems that opportunities that are easily available to teachers at the local level have a greater impact on their professional development than programs that are more global in scope. In general, the data shows that the workforce is experienced, mostly female, and very involved in training programs at the district level. To create professional development and support programs that cater to most teachers' requirements, it is crucial to understand this profile.

According to the results, heutagogy is highly effective in fostering student agency and group work in the classroom. This shows that students regularly engage in a learning setting that promotes independent decision-making, self-reflection, and teamwork. Learners are better able to take charge of their own education and participate actively in class discussions when heutagogical tactics are used.

Analyzed as having a moderate impact and evaluated as having a high one, the impact of students' critical thinking abilities differed across domains. This indicates that students can analyze issues, spot patterns, and effectively break down material, but they struggle with judging the validity of judgments, spotting biases, and determining the reliability of sources. This finding demonstrates that the participants' analytical thinking outshines their evaluative thinking.

The results show that neither the heutagogy practices of teachers nor the critical thinking skills of their students are significantly correlated with demographic variables such as gender, age, years of teaching experience, or the number of trainings attended. This data demonstrates that these educational effects are independent of teachers' individual traits and persist across a variety of demographic types.

The results suggest that all educators, regardless of their prior knowledge or experience, have the same potential to employ heutagogical tactics and encourage critical thinking in their students. Consequently, the efficacy of instruction and the growth of students' higher-order thinking abilities are not determined by demographic profile alone.

These findings stress the need to consider variables other than demographics, such as teaching methods, available materials, and social networks. Students' capacity for critical thinking was unrelated to their exposure to heutagogy, according to the research. This suggests that learners can gain from both independent and group work, but that neither approach is certain to improve their critical or evaluation skills. To take these abilities to the next level, they may require additional support, like scaffolding, guided instruction, and organized critical thinking activities.

Recommendations

Based on the study's findings, the following were some suggestions.
To expose teachers to a broader range of pedagogical techniques, schools may broaden access to professional development opportunities to include school-based, national, and international trainings, in addition to those at the district level.

All educators, regardless of age, gender, or level of experience, should be able to participate in professional development programs that are tailor-made for them. Educators can uphold and improve heutagogical methods by giving students more chances to make decisions, work together, and reflect. To further develop cooperation skills, it is recommended to incorporate a variety of difficult collaboration assignments. Teachers can also benefit from professional development workshops by honing their methods for keeping pupils engaged and independent. Teachers may help students become better evaluators by including exercises that make them think about their choices, spot their own biases and preconceptions, and evaluate different sources with a critical eye.

To help students develop better critical thinking skills, teachers might incorporate debates, case studies, and problem-based learning into their lessons. Learners may enhance their critical evaluation skills by consistently practicing with feedback. Instead of concentrating on students' demographic information, schools and other educational stakeholders should provide more priority to instructional assistance and professional development that focuses on students' learning techniques and practices.

All instructors should have equal opportunity to improve their heutagogical skills and cultivate critical thinking through training programs. Incorporating heutagogical tactics with explicit critical thinking education is a possibility for educators. Improved results in critical thinking can be achieved by combining student agency and group work with guided activities in reasoning, assessment, and decision-making. Another way to find out where someone needs extra help is to keep an eye on how well they're doing when it comes to critical thinking.

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The researcher, certify that this publication does not disclose or share any individual or identifiable data of the respondents. All information included in this study is presented in aggregate form to protect the confidentiality and privacy of the respondents.

References

Abdullah, M. N. L. Y., Chun, T. C., Ping, T. A., & Omar, A. F. (2025). Influences of Heutagogical Activities and Students' Psychological Needs on Self-Determined Learning of Postgraduate Students. Sage Open, 15(4). https://doi.org/10.1177/21582440251378421

Agonács, N., & Matos, J. F. (2019). Heutagogy and self-determined learning: a review of the published literature on the application and implementation of the theory. Open Learning: The Journal of Open, Distance and E-Learning, 34(3), 223–240. https://doi.org/10.1080/02680513.2018.1562329

Ashton, J., & Newman, L. (2006). An unfinished symphony: 21stcentury teacher education using knowledge creating heutagogies. British Journal of Educational Technology, 37(6), 825–840. https://doi.org/10.1111/j.1467-8535.2006.00662.x

Blaschke, Lisa Marie & Hase, Stewart. (2015). Heutagogy: A holistic framework for creating 21st century self-determined learners. https://doi.org10.1007/978-3-662-47724-3

Blaschke, L. M. (2012). (PDF) Heutagogy and Lifelong Learning: A Review of Heutagogical Practice and SelfDetermined Learning. ResearchGate. https://www.researchgate.net/publication/241891015_Heutagogy_and_Lifelong_Learning_A_Review_of_Heutagogical_Practice_and_Self-Determined_Learning

Blaschke, L. M. (2021). The dynamic mix of heutagogy and technology: Preparing learners for lifelong learning. British Journal of Educational Technology, 52(4). https://doi.org/10.1111/bjet.13105

Gillaspy, E., & Vasilica, C. (2021). Developing the digital self-determined learner through heutagogical design. Higher Education Pedagogies, 6(1), 135–155. https://doi.org/10.1080/23752696.2021.1916981

Hm, U., & Mulyadi, D. (2024). The concept of heutagogy; the implementation of 'Kurikulum Merdeka' in Indonesia. International Journal of Educational Research & Social Sciences, 5(5), 866–873. https://doi.org/10.51601/ijersc.v5i5.871

Johnson, D. W., & Johnson, R. T. (2015, January). (PDF) Cooperative Learning: Improving university instruction by basing practice on validated theory. ResearchGate. https://www.researchgate.net/publication/284471328_Cooperative_Learning_Improving_university_instruction_by_basing_practice_on

Jogymol Kalariparampil Alex, & Mukuka, A. (2024). Heutagogy in action: Unveiling the transformative power of virtual "air campus" experiences of mathematics trainee teachers. Eurasia Journal of Mathematics Science and Technology Education, 20(3), em2416–em2416. https://doi.org/10.29333/ejmste/14320

Kamrozzaman, & Liew, A. (2025). Empowering the lifelong learner: A systematic review of heutagogical approaches in language learning. Edelweiss Applied Science and Technology, 9(9), 1842–1855. https://doi.org/10.55214/2576-8484.v9i9.10228

Mynbayeva, A., Yessenova, K., & Karabutova, A. (2025). Master's Degree Students' Perspectives on Heutagogy: Self-Directed Learning in the Context of Education 3.0 and 4.0. *Journal of Learning for Development*, *12*(1), 155–167. https://doi.org/10.56059/jl4d.v12i1.1150

Panta, R. (2025). Heutagogy: A Comprehensive Review of Self-Determined Learning in Contemporary Education. Cureus. https://doi.org/10.7759/cureus.89731

Learning in the Context of Education 3.0 and 4.0. Journal of Learning for Development, 12(1), 155–167. https://doi.org/10.56059/jl4d.v12i1.1150

Segara, N. B., Suprijono, A., & Setyawan, K. G. (2021). The Influence of E-Learning towards Students' Heutagogy Skills in Higher Education. Jurnal Pendidikan Dan Pengajaran, 54(2), 286. https://doi.org/10.23887/jpp.v54i2.33128

Singgih Subiyantoro, Putra, H. K., Ismail, Mahendra, M., & Montle, E. (2024). Heutagogical Approaches in the Merdeka Curriculum: Enhancing Autonomous Student Engagement. Cognitive Development Journal, 2(1), 32–39. https://doi.org/10.32585/cognitive.v2i1.33

Appendices

No appendices are attached to this study.