

Research Article

Effect of Tacit Knowledge on Student Self-Determination in Indonesia: A Mixed-Methods Study

Dadang Suwanda ¹, Dodi Suryana ², Uman Suherman ², Nadia Aulia Nadhirah ²,
Tina Hayati Dahlan ³ and Aslina Binti Ahmad ⁴

¹*Institute of Governance of Home Affairs, Sumedang 45363, Indonesia*

²*Department of Guidance and Counseling, Universitas Pendidikan Indonesia, Bandung 40154, Indonesia*

³*Department of Educational Psychology, Universitas Pendidikan Indonesia, Bandung 40154, Indonesia*

⁴*Departement of Guidance and Counseling, Universiti Pendidikan Sultan Idris, Tanjung Malim 35900, Malaysia*

Correspondence should be addressed to Dodi Suryana; dodisuryana@upi.edu

Received 26 August 2022; Revised 25 January 2023; Accepted 6 February 2023; Published 10 May 2023

Academic Editor: Ravindran Gobinath

Copyright © 2023 Dadang Suwanda et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This study was initiated in response to the condition of students' low self-determination, which results in an inability to complete tasks well, a low achievement index, and even congestion and dropout. The research employed a mixed methodology with a concurrent embedded design and a selection without random assignment. The participants of this study were 406 undergraduate students in Indonesia, with 38 experimental and control participants, respectively. The self-determination instrument refers to the theory of Ryan and Deci, which was analyzed using the Rasch Model, and the effectiveness test used the Mann–Whitney *U* test. The results showed the impact of the identified regulation level that the focus of learning in higher education was successful in developing cognitive, affective, and psychomotor aspects but still needs to reach the development of students' self-determination dimension. The tacit knowledge model has advantages in the learning process that can be attached to all courses that can produce useful output products.

1. Introduction

The basic consideration of the first tacit knowledge guidance is the development of self-determination to increase intrinsic motivation (building self-determination). There is a regulatory style that is arranged on an internalization continuum line, which represents the more capable of internalizing their extrinsic motives, so students have higher autonomy and connectedness.

The second consideration of tacit knowledge is the tendency to behave and behave in the environment, students who have an autonomous orientation are more directed to interest in and appreciate activities, and students who have a control orientation are more toward rewards and benefits that will be received in carrying out their activities, and students who have an impersonal orientation more lead to anxiety about competence in carrying out its activities.

The development of self-determination plays an essential role in the process of achieving happiness [1], well-being [2],

implicit intelligence [3], increasing motivation at work [4], positive relationships with students and other people [5], having implications for high self-motivation, internal locus of control, interest, and integrativeness in students, as well as decreasing the level of anxiety and learning helplessness [6]. Nevertheless, weak self-determination impacts the psychology of individuals in experiencing frustration [6], depression [7], anxiety, anger, bullying [8], and dropout [9, 10].

Research results from the American College Health Associations [9–11] stated that out of 97,357 students, 32% of students had low self-determination, marked by students being unable or unsuccessful in completing academic activities. This is supported by the results of the study [11], which described that 108 of 463 students had the weakest competence and relatedness. It was predicted that students would experience study delays and even dropout. The students' weak self-determination, if left unchecked, will lead the students to experience the risk of dropout, anger, bullying, frustration, anxiety, depression, and suicide [6–8].

Data on Higher Education Statistics in 2019 showed that the percentage of dropouts in Indonesia was 7%, or as many as 602,208 students from a total of 8,483,213 students, and in 2020 were as many as 601,333 dropouts. Based on gender, male students dominated with as many as 370,322 students; meanwhile, women students were among as many as 231,011 students. In addition, West Java province in Indonesia has a ratio value of 0.06, or a comparison of six students dropping out of college and one registered student.

Several studies explained that self-determination is correlated with leadership style, teacher and student perceptions, teaching styles [12], teaching strategies [13], academic achievement, work ethic, student interests, academic success, public service, children's autonomy, physical education [14], and physical health [15]. Moreover, the latest research on self-determination correlates with neuroscientific variables [16], representing self-determination supported by the presence of mammals that have a search/exploration system and even the formation of the dopamine system, which is known as an essential neurotransmitter that transmits signals in the brain.

Various self-determination studies have been directed at differences in gender, differences in social status, economy, education, support from teachers, peers, and cultural contexts [17–19]. The results of the last 21 years of research on the development of self-determination have been more on academic and health variables. Health variables are widely studied by doctors, psychiatrists, and other professionals in the medical field, while academic variables are studied and developed by educators and psychologists.

According to Hein et al. [8], many studies have examined the academic variables, focusing on the correlation of teacher's teaching styles that can control positive individual behavior and help students have optimal autonomous and independent behavior. The results of this study recommended further research on how educators carry out the learning process. Thus, the direction of research on the development of self-determination is more focused on academic variables, which are highly sustainable and unique variables for follow-up/development.

The basis for selecting the population and research sample in universities is according to the findings of a 21-year study where the tendency of research to develop self-determination in university students is rarely carried out. The most powerful strategies for developing individual self-determination are education, role models, and experience. The educational process develops individuals to have a more effective personal wholeness. Based on the results of the literature review, the latest research in developing self-determination are the ECED model, the exploratory structural equation modeling (ESEM) model, the clinical-based learning model, the model of participation and performance processes, teaching preferred and nonpreferred ways, model for interpersonal teacher behavior. It is clear that efforts to develop self-determination based on the most recent research results in the previous sub are more directed at learning models. The previous models are rooted in holistic models of knowledge creation, one of which is tacit knowledge that can be considered and reconstructed to become an integral part of philosophy.

2. Materials and Methods

2.1. Research Design. A mixed-methods approach is used in this study to obtain a detailed understanding of students' self-determination and how tacit knowledge can improve their self-determination. The research design of implementation activities is within the framework of testing the effectiveness of tacit knowledge guidance through concurrent embedded design. The concurrent embedded design is used because this research will combine statistically significant and practically significant data simultaneously, and the results can be used to understand the research problem accurately. Combining two data using an embedded strategy that applies one stage of qualitative and quantitative data collection at a time and the data obtained describe side by side two different analyses that represent a combined assessment of a problem.

2.2. Participants. The sample was drawn by a nonrandom convenience sample. Participants were sampled from a single university in West Java, consisting of 406 undergraduate students in the preliminary study, from which 38 of the data were used as groups to test effectiveness, with 19 students included in the experimental group and 19 students included in the control group. Before conducting the research, the researcher gave informed consent as a guarantee of confidentiality for the participants and also that participants could commit to participating in this study. Table 1 shows an explanation of the participants involved in this study.

2.3. Instrument. This study uses three measuring tools consist of self-determination instruments, interviews, and observations. The concept of the self-determination instrument used to collect data on the six levels of self-determination, and three aspects based on the self-determination theory refers to study by Ryan and Deci [20], the instrument has been tested for validity and reliability in previous studies to examine the quality of the self-determination instrument use the Rasch model technique, which has detailed accuracy and is carried out repeatedly [21–24]. The preparation of the self-determination instrument uses an ordinal scale because it examines based on each aspect of self-determination and the level of the self-determination continuum.

The following details the levels of the six regulatory styles in the self-determination continuum. The level of amotivation is a condition of individual psychological dynamics that does not have a clear goal orientation. The level of external regulation is a condition of individual psychological dynamics to carry out ways of thinking and acting based on the urge to get rewards or avoid punishment. The level of introjected regulation is a condition of individual psychological dynamics related to managing self-esteem. The level of identified regulation is a condition of individual psychological dynamics that lacks interest in acting, but has an interest in obtaining or completing its activities properly and correctly, and regulates the direction of behavior after identifying itself with medium-term goals. The level of integrated regulation is a condition of individual psychological dynamics to obtain constructive action by integrating the values received by the individual into his self-concept in a harmonious and meaningful way.

TABLE 1: Number of research participants.

Faculty	Total		
	Male	Female	Total
Preliminary study and service test			
Faculty of educational science	7	78	85
Faculty of mathematics and sciences education	5	35	40
Faculty of language and literature education	17	40	57
Faculty of social science education	23	63	86
Faculty of technology and vocational education	10	66	76
Faculty of sports and health education	46	16	62
Total number	108	298	406
Effectiveness test			
Experimental group	3	16	19
Control group	2	17	19
Total number	5	33	38

The level of intrinsic motivation is a condition of individual psychological dynamics that shows authenticity to find solutions constructively, enjoys obstacles, pressures, and problems as a process of maturing ways of thinking and acting, being able to produce new things and positive experiences as if the individual is absorbed in his activities.

The scale used uses an ordinal scale with alternative choices adjusted to the scoring guidelines for each appropriate answer referring to the self-determination theory of Deci and Ryan using the form of a continuum response model with six levels as alternative answers with the order of levels of amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation.

2.4. Data Collection Procedure. There are some steps taken to carry out this study. For the quantitative part, the researcher developed a research instrument to measure students' self-determination based on Ryan and Deci's [20] theory which would be used in the pretest and posttest. The instrument was given to 406 students to analyze their self-determination level. Based on this result, two groups were formed consisting of 19 participants; each group is the experimental group and the control group, which would be given academic guidance using the tacit knowledge model. Groups are made based on the results of the self-determination level, where students who are in the category of identified regulation as the control group, and students who are at the level of external regulation and interjected regulation are in the experimental group.

The experimental group was given three phases of academic guidance using the tacit knowledge model, which are the screening and intake phase, treatment or intervention phase, and follow-up phase. In the first phase, students were given illustrations, stories, and case presentations related to the issue of the self-determination construct, and they needed to be able to collect information from different perspectives, paradigms, perspectives, and beliefs and apply it through concrete actions. The responses given by students are both written and oral; besides that, information on student behavior is seen from the learning interaction process, followed by identification and analysis. The analysis identified through context

analysis, such as paper documents, assignments, or articles, as well as the learning process to obtain the actual reality, is carried out through in-depth interviews.

In the second phase, student knowledge is socially constructed through the media, institutions, and society (social situations), resulting in a knowing process that produces new objects of knowledge (knowledge). The focus of the intervention phase is to encourage individual ways of thinking to process and synthesize explicit knowledge as a foundation for thinking for the future and to prove thinking processes that can solve new knowledge, develop new ideas and produce products.

In the last phase, students need to internalize behavior and ways of thinking consistently. The focus of this phase is to determine whether the behavior of individuals who have increased self-determination can persist consistently or is temporary after the termination of the program, followed by self-determination measures again. Evaluation is carried out after each intervention which is then given input from experts for model development. If the changes are temporary, a revision will be made to the intervention design, but if the impact of the intervention tends to be permanent, the intervention target will be expanded to a university context. This experiment was conducted for three to four months and adapted to the implementation process both offline and online.

2.5. Data Analysis Procedure. The results of quantitative data to test the effectiveness of the pretest and posttest of tacit knowledge guidance to develop self-determination were carried out through the Mann-Whitney U test technique. The significance of tacit knowledge on the development of self-determination using a nonparametric test. The primary consideration is that the data type is ordinal, and the variance is not homogeneous. With this type of data, significance testing cannot be done with parametric tests. Therefore, the significance test uses the Mann-Whitney and Wilcoxon tests.

The Mann-Whitney and Wilcoxon tests are nonparametric statistical tests used to compare two independent data samples. They both measure the difference between two sets of observations without making any assumptions about the

TABLE 2: Empirical test of the effectiveness of tacit knowledge guidance for students' self-determination development.

Test statistics	Variable			
	Self-determination	Competence	Relatedness	Autonomy
Mann–Whitney U	37.000	68.500	48.000	85.000
Wilcoxon W	227.000	258.500	238.000	275.000
Z	-4.193	-3.287	-3.876	-2.796
Asymp. sig. (2-tailed)	0.000	0.001	0.000	0.005
Note	Significant	Significant	Significant	Significant

underlying distributions of the data. The Mann–Whitney U test is a rank-based test, where the ranks of the statements from one sample are compared to the observations from the other sample. Meanwhile, the Wilcoxon test is a signed-rank test where the differences between pairs of values from each sample are compared. The Mann–Whitney and Wilcoxon tests are helpful in cases where normality assumptions cannot be made or where the data are too small to allow for parametric tests. These tests are also helpful in comparing the medians of two samples since they are not affected by outliers.

This technique is used because the sample data are not normally distributed, the two sample groups are independent or not related and have no effect on each other, and the sample is an ordinal data scale. The dynamics of the factors that influence the development of self-determination were gathered through interviews, observations, and worksheets on the tacit knowledge guidance process.

Qualitative data analysis techniques were used to analyze the data obtained from the results of the pretest questionnaire, interviews, and observations. Data were analyzed from text segments and determined the meaning of each level of self-determination. Data analysis through qualitative methods can describe the inhibiting factors for the development of self-determination.

The qualitative data analysis technique used the NVivo application. In Nvivo, the data are divided into two folders, namely the interview recording folder and the interview recording transcript folder. After the data are uploaded, the researcher creates a code or theme consisting of six levels of self-determination. Afterward, words or sentences representing the six levels of self-determination are highlighted and become data codes or coding.

3. Results

3.1. Empirical Test of the Effectiveness of Tacit Knowledge Guidance for Students' Self-Determination Development. By considering the results of nonparametric statistics using the Mann–Whitney U test, knowing the value of m^2 . The Mann–Whitney U technique is used to determine the effectiveness of tacit knowledge guidance for the development of student self-determination.

Testing effectiveness of tacit knowledge guidance for students' self-determination development. The following describes Table 2, which contains data regarding the empirical test of

TABLE 3: The self-determination ranking average test.

	Group	N	Mean rank	Sum of ranks
Self determination	Control	19	11.95	227.00
	Experiment	19	27.05	514.00
	Gain		15.01	
	Total	38		
Competence	Control	19	13.61	258.50
	Experiment	19	25.39	482.50
	Gain		11.78	
	Total	38		
Relatedness	Control	19	12.53	238.00
	Experiment	19	26.47	503.00
	Gain		13.94	
	Total	38		
Autonomy	Control	19	14.47	275.00
	Experiment	19	24.53	466.00
	Gain		10.06	
	Total	38		

the effectiveness of tacit knowledge guidance for students' self-determination development.

Based on the Mann–Whitney U test results, the calculation results of the value of $m^2 = 0.001$ because the value of $m^2 < 0.05$ then H_0 is rejected; thus, tacit knowledge guidance was practical for student self-determination. The conclusion that can be drawn from this effectiveness test is that tacit knowledge guidance is able to develop student self-determination.

Hypothesis testing was also carried out on each aspect of student self-determination. In the aspect of competence, the results of the Mann–Whitney U test obtained the calculation results of the value of $m^2 = 0.001$ and m^2 value < 0.05 ; in the aspect of relatedness, the value of $m^2 = 0.000$ and the value of $m^2 < 0.05$; meanwhile, in the aspect of autonomy, the value of $m^2 = 0.005$ and the value of $m^2 < 0.05$. It appears that the value of each aspect of $m^2 < 0.05$.

Referring to the hypothesis testing criteria, then, H_0 's decision is rejected. The conclusion that can be drawn from this effectiveness test is that tacit knowledge guidance is able to develop self-determination in aspects of competence, relatedness, and autonomy. Specifically, the comparison of the self-determination ranking average test is presented in Table 3.

Table 3 shows that the tacit knowledge guidance for the development of self-determination of students who were tested in the study had a reasonably good influence which was able to produce a significant increase with an average ranking increase of 15.01. This showed that the guidance of tacit knowledge had a significant effect on the development of self-determination.

The results of qualitative data analysis showed that three factors hindered students from developing self-determination. The influencing factors were academic ability, sense of identity, and culture, which are described in detail in the following sections.

3.2. Academic Ability. The development of self-determination could be part of a student development program that the institution regularly carries out through lectures in all subjects. Students' academic ability was still focused on the level of interjected regulation. This is revealed in the following interview: "If I cannot complete an assignment, well, I look for material in the library or look for books or journals on certain websites, I (usually) finish the tasks I am interested in first..." (translated) The assignments that must be completed were found to be the reason that made some students take action to attend lectures optimally and to prepare various materials before lectures. Even though some students had no interest in certain subjects, students still showed constructive actions.

On the one hand, the rules for the professionalism of educators to improve the quality of the learning process in higher education have not been fully implemented. On the other hand, educators are "trapped" in the condition between delivering material and finishing administrative tasks, thus forgetting the feedback process for student assignments. This was found in one of the following interviews with students:

Actually, sometimes I feel disappointed. The assignments that I take seriously with all my heart are sometimes never given any feedback. There are even difficult subjects that give no appreciation to me... It is just... I feel tired, sir. (translated)

Culture education and learning should not only be limited to the pedagogical aspect but also be focused on how students can make changes in society. The perspectives of students who are influenced by the culture in this social system are seen in one of the following interview results:

... during the offline or online lectures, sometimes I feel the willingness to ask questions and discuss with friends or lecturers. Even if my friends do that kind of thing, I sometimes am motivated and think that I have to be like them or even more than them... (translated)

The research findings showed that the students' ability to produce knowledge was based on the results of asking educators who already had extensive experience. This can be used to transform ways of thinking to be internalized in daily

actions. Nevertheless, the efforts made by students were not optimal. At the level of self-determination, the students were still in the introjected regulation category.

The statement in the previous sub is reinforced by the statement of one of the students. In the interview, the student revealed that if other students were active in their class, they were seen as competitors, which triggered him to do better. The following is the expression by the student:

In fact, personally, when I look at those who are active in class, I see them as my rivals. They are my competitors to see who is the best in class. (translated)

This view of cultural imperialism is seen in one of the following interview results:

Most of the time, the task given must have international references as its source... it is quite difficult to find the source from overseas. In the end, I leave the task for the last and do the easy stuff first. (translated)

The research findings show how students are "trapped" in the policy of the learning process, which is "colored" by the values of cultural imperialism, which requires that students' assignments must have international sources. However, they tend to be less concerned in terms of local references.

3.3. Sense of Identity. The factor that influenced the development of self-determination was the ability to control. Students seem to have still confused about what to do in doing the assignments and leading group discussions. This was found from the results of the interviews as follows:

I used to be a group leader, but what I felt was a disappointment because not all group members worked... it would be better if I did not become a group leader at all (translated)

I only join an organization on campus, and it is only our department's students' association. I do not want to be the head of any division... let alone become the chair of the students' association (translated)

The research findings show that there is nothing wrong with what students do, but there were indications of weak control to form a professional identity.

4. Discussion

The effectiveness of tacit knowledge guidance for the development of student self-determination tested in research has a fairly good influence, namely, being able to produce significant increases with an average increase ranking of 15.01. This shows that tacit knowledge guidance has a significant effect on the development of self-determination.

The significant development of student self-determination is caused by the fulfillment of aspects of competence,

connectedness, and independence, so that it has an impact on the level of regulation that each student has. The results of the research are in accordance with the results of previous research conducted [25, 26] revealed that the more self-determination aspects are fulfilled the more it shows the process of internalizing individuals to a higher level (intrinsic motivation).

The research findings are relevant to the assumption that tacit knowledge guidance plays a role as a key to intelligent behavior in a practical setting that applies skills to overcome various life problems it faces, has an impact on individuals having clear and directed goals, produces ways of thinking and acting, determined motivational patterns, has intentions and persistence [27].

The significant influence of tacit knowledge guidance for the development of self-determination and an increase in the average self-determination, allegedly related to a systematic formulation model, creates a situation that is able to facilitate the process of generating knowledge and students are given the opportunity to learn to be more resilient to face various challenges and pressures as well as students able to work in their field.

The application of tacit knowledge's guidance for the development of self-determination, furthermore the findings of this study are related to understanding, explanation, and interpretation. This study is in accordance with the findings of previous studies conducted by Lange et al. [28] and Ricoeur [29] states that to obtain a complete three-term circulation, three stages are needed including, namely, the semantic stage for the development of self-determination which takes place from appreciation to thinking ideas, sources of information obtained from intuition, experience life, and the sequence of activities to be carried out.

4.1. Advice on Equations. The development of self-determination in the aspect of competence is in the category of integrated regulation, seen in the proportion of 37.19%. The research findings are related to the study results based on the Causality Orientations Theory in self-determination. Students who are conditioned systematically, logically, and creatively innovatively will tend to behave appropriately in the environment. Individuals with an autonomous orientation are more interested in and appreciate activities [26, 27].

The study results in Lin et al. [21] and Lange et al. [28] stated that when students believe that they are in control of their environment's demands, they can act more effectively and develop self-determination with their own approval. The actions taken with self-reflection become exciting and beneficial for themselves and direct their happy, voluntary, committed, and active behavior [29, 30].

The findings are supported by previous studies [31, 32] that the competencies performed by students range from determined to controlled (driven by interpersonal or intrapsychic demands). The range was distinguished using the concept of a causal locus [33–35].

The behavior accompanied by self-determination tends to be more attached to the individual, making the individual more motivated and having an internal locus of control. If the individual has self-determination, he will be more

consistent in his actions, be socially responsible, shows perseverance and persistence in achieving goals, and have higher self-awareness and adaptability [36].

The level of self-determination in the relatedness aspect was mainly at the level of identified regulation, and a small portion was at the level of external regulation and introjected regulation. This study was based on relatedness motivation theory which represented the importance of developing and maintaining personal, friends, family, and community relationships and the fulfillment of self-determination aspects, one of which is relatedness.

A study from Loman et al. [37] explained that the socio-ecological approach views self-determination as a psychological construct that refers to actions caused by oneself so that it allows a person to act volitionally based on his own desires.

Volitional, in this case, refers to the capability of consciously generating choices, decisions, and intentions. In the socioecological approach, there are several activities to develop self-determination, which are usually in the form of interventions that focus on: (1) efforts to build individual capacity to take action that leads to a higher level of self-determination, a more autonomous regulatory style (e.g., problem-solving, decision making, goal setting, and self-advocacy); (2) efforts to modify the context or environment in such a way as to encourage a person to do certain things in his life; and (3) efforts to provide the support that can develop self-determination such as technology and accommodation [33, 34].

The level of self-determination in the autonomy aspect is mainly at the level of identified regulation, and a small portion is at the level of external regulation and intrinsic regulation.

Based on the study of the organismic integration theory of self-determination, individuals to achieve intrinsic motivation/build self-determination require a regulatory style arranged on the internalization continuum line. Individuals are able to internalize intrinsic motivation and have an optimal self-determination aspect (competence and relatedness).

The previous studies [35, 36] outlined that individuals who have optimal self-determination usually because they perceive change based on a will that leads them to feel that they are able to make positive changes with their abilities. They also tend to be ready and give high priority to making changes compared to other priorities.

Another study by Ryan and Deci [26] stated that to determine individual behavior in developing relatedness aspects, and several things should be considered. First, each individual seeks his own unique potential to become capable and autonomous individuals in showing their functioning, which emphasizes the importance of choices and other constructs related to the self.

The development of self-determination in the relatedness aspect is owned by individuals who have choices, not those who do something under pressure. When individuals exercise control over something and are free to determine what results they want from an action, or when the person chooses to let go of that control, then that is where self-determination appears [8, 38]. Furthermore, individuals who feel controlled or forced to achieve specific results from an action show the

same negative impact as those who have no control. Along with these previous studies [12, 39], individuals think carefully about their decisions, dare to take the risk with the decisions made, and do something for the pleasure and satisfaction of getting things done.

The significant development of students' self-determination was caused by the fulfillment of aspects of competence, relatedness, and autonomy. Therefore, it impacted the level of regulation owned by each student. The study results followed the results of previous research conducted by Ryan and Deci [20] and Goldsworthy [40] which revealed that the more fulfilled the self-determination aspect, the more it shows the process of internalizing the individual to a higher level (intrinsic motivation).

The research findings were relevant to the assumption that tacit knowledge guidance plays a role as a key to intelligent behavior in practical settings that applies its skills to overcome various life problems it faces. It impacted individuals having clear and directed goals, producing determined ways of thinking and acting in motivational patterns, having intentions, and perseverance [27].

The significant influence of tacit knowledge's guidance on the development of self-determination and an increase in the average of self-determination were thought to be related to a systematic formulation model, creating a situation that was able to facilitate the process of generating knowledge. This also allowed the students to get the opportunity to learn to be tougher to face various challenges and pressures, as well as to work in their field of interest.

Furthermore, the application of tacit knowledge's guidance for the development of self-determination in this study was related to understanding, explanation, and interpretation. The research findings were linked to the framework of the previous research [41, 42] in order to make it easy to understand. The previous research said that to obtain a complete circularity of the three terms, three stages were needed, including the semantic stage for the development of self-determination, which takes place from appreciation to thinking ideas, sources of information obtained from intuition, life experience, and the sequence of activities to be carried out.

4.2. Academic Ability. At first glance, nothing was wrong with the statement of academic ability. However, as stated by Ryan and Deci [20], Ricoeur [43], and Cameron and Payne [44], the control process carried out by students requires support from educators to provide awareness of values and regulations and things that are paper-based that can be measured.

This is in line with Ryan and Deci [45], which explained that positive feedback or praise could support and improve aspects of the recipient's competence. Giving feedback makes the recipient feel evaluated or controlled. However, if the feedback is made too prominent, the student's self-determination development will not increase, and in some cases, the level will decrease.

The research results on academic factors supported by the leadership of educators in managing interpersonal

relationships and guiding students will be positively correlated with increasing changes in the dynamics of the development of self-determination towards identified regulation to intrinsic motivation [46].

4.3. Culture. The results of the statement, at first glance, look positive. However, the thinking and acting skills of students tend to stagnate. There was a compulsion that must be resolved and even the loss of the assumption of developing self-determination. This was considered to be a person's ability to have actions to change cognition and behavior constantly to bring up pleasant decision choices, bringing benefits for themselves, and gain flexible accommodation from the social environment and are influenced by one's sense of 'self' (meaning, confidence, joy, optimism, determination, and enthusiasm) [21, 46, 47].

This is supported by several researches [35, 48] that viewed self-determination in the cultural context as a psychological construct that refers to self-caused actions that allow a person to act volitionally based on his own desires.

4.4. Sense of Identity. The research findings showed that the vigorous process of internalizing societal norms without realizing them often makes students lose the opportunity to learn to be independent. Although it looks positive from the statement results, this is contradictory because students tended not to be unable to make choices. They did not have the courage or lack of confidence to make or making choices. This is in line with the studies of Rahnama et al. [49] and Guay et al. [50] that explained autonomy (stand-alone behavior) is related to the existence of students who can be trusted to be able to make their own choices.

In addition, self-determination behavior refers to the identification of essential characteristics, such as: (a) individual autonomous behavior, (b) self-regulation, (c) individual initiative and response to an event in a psychological context, and (d) actions that a person takes consciously [51].

5. Conclusion

The use of tacit knowledge guidance begins with research findings from 2000 to 2021 from reputable journals totaling 720 journals, directs vacancies, and needs to be followed up for the development of self-determination through a learning model that views tacit knowledge as an integral part that can describe the learning process in higher education in terms of forms of learning, task assessment, and feedback processes. In higher education itself, the level of student self-determination increased from previously in the category of amotivation and external regulation to identified regulation. This increase is based on the provision of academic guidance, which has an impact on students being able to focus on learning that is quite successful in developing cognitive, affective, and psychomotor aspects.

This research has implication for developing self-determination. Students must develop self-determination to succeed in their academic and professional careers. Tacit knowledge can be an effective tool to help students in this regard. Tacit knowledge is acquired through life experiences,

such as observations, behavior, and values. It is critical for students to understand and appreciate the value of tacit knowledge to develop self-determination. For instance, when students observe how their peers or mentors approach specific tasks, they can gain valuable insights into how to apply their knowledge and skills productively. Based on this research, students can learn how to take ownership of their learning and develop self-determination. Additionally, students can also benefit from understanding the values of their peers and mentors, as it can provide them with a better understanding of the importance of developing self-determination. Finally, tacit knowledge can also help students identify the goals and values that are important to them. By reflecting on such matters and goals, students can better understand the direction they need to take to achieve success. In summary, tacit knowledge can be a powerful tool for students to develop self-determination, as it allows them to understand the importance of taking ownership of their learning and setting their own goals.

The limitation of this research is that the provision of academic guidance by researchers does not touch on the development of student self-determination dimensions. In addition, the slight influence of self-determination on aspects of independence compared to aspects of competence and connectedness is related to the subject's social desirability in responding to instrument statements, the sensitivity of research design, and data analysis strategies. If the research design and data analysis techniques are considered to contaminate the research findings, further, and sharp studies are needed with research using a longitudinal design.

Data Availability

The quantitative data and qualitative data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

The authors would like to thank everyone who contributed to this research. Without their assistance, this project would not have been possible. The authors would also like to thank our research team for their dedication and hard work.

References

- [1] P. Cordeiro, P. Paixão, W. Lens, M. Lacante, and K. Luyckx, "The portuguese validation of the basic psychological need satisfaction and frustration scale: concurrent and longitudinal relations to well-being and ill-being," *Psychologica Belgica*, vol. 56, no. 3, pp. 193–209, 2016.
- [2] K. E. Marsden, W. J. Ma, E. L. Deci, R. M. Ryan, and P. H. Chiu, "Diminished neural responses predict enhanced intrinsic motivation and sensitivity to external incentive," *Cognitive, Affective, & Behavioral Neuroscience*, vol. 15, pp. 276–286, 2015.
- [3] A. Renaud-Dubé, F. Guay, D. Talbot, G. Taylor, and R. Koestner, "The relations between implicit intelligence beliefs, autonomous academic motivation, and school persistence intentions: a mediation model," *Social Psychology of Education*, vol. 18, pp. 255–272, 2015.
- [4] E. L. Deci, A. H. Olafsen, and R. M. Ryan, "Self-determination theory in work organizations: the state of a science," *Annual Review of Organizational Psychology and Organizational Behavior*, vol. 4, no. 1, pp. 19–43, 2017.
- [5] K. Leow, J. Lee, and M. Lynch, "Big five personality and depressive symptoms: a self-determination theory perspective on students' positive relationships with others," *VISTAS of ACA*, pp. 1–9, 2016.
- [6] T. Nishimura and T. Suzuki, "Basic psychological need satisfaction and frustration in Japan: controlling for the big five personality traits," *Japanese Psychological Research*, vol. 58, no. 4, pp. 320–331, 2016.
- [7] C. Yu, X. Li, S. Wang, and W. Zhang, "Teacher autonomy support reduces adolescent anxiety and depression: an 18-month longitudinal study," *Journal of Adolescence*, vol. 49, no. 1, pp. 115–123, 2016.
- [8] "Relationships between perceived teachers' controlling behaviour, psychological need thwarting, anger and bullying behaviour in high-school students," *Journal of Adolescence*, vol. 42, no. 1, pp. 103–114, 2015.
- [9] D. Litalien and F. Guay, "Dropout intentions in PhD studies: a comprehensive model based on interpersonal relationships and motivational resources," *Contemporary Educational Psychology*, vol. 41, pp. 218–231, 2015.
- [10] D. Litalien, A. J. S. Morin, M. Gagné, R. J. Vallerand, G. F. Losier, and R. M. Ryan, "Evidence of a continuum structure of academic self-determination: a two-study test using a bifactor-ESEM representation of academic motivation," *Contemporary Educational Psychology*, vol. 51, pp. 67–82, 2017.
- [11] M. De Clercq, M. Frenay, A. Azzi, O. Klein, and B. Galand, "All you need is self-determination: investigation of PhD students' motivation profiles and their impact on the doctoral completion process," *International Journal of Doctoral Studies*, vol. 16, pp. 189–209, 2021.
- [12] F. A. J. Korthagen and F. G. Evelein, "Relations between student teachers' basic needs fulfillment and their teaching behavior," *Teaching and Teacher Education*, vol. 60, pp. 234–244, 2016.
- [13] S. O. Ulstad, H. Halvari, Ø. Sørebo, and E. L. Deci, "Motivation, learning strategies, and performance in physical education at secondary school," *Advances in Physical Education*, vol. 6, no. 1, pp. 27–41, 2016.
- [14] P. R. Appleton, N. Ntoumanis, E. Quedsted, C. Viladrich, and J. L. Duda, "Initial validation of the coach-created Empowering and Disempowering Motivational Climate Questionnaire (EDMCQ-C)," *Psychology of Sport and Exercise*, vol. 22, pp. 53–65, 2016.
- [15] C. Orsini, V. I. Binnie, F. Fuentes, P. Ledezma, and O. Jerez, "Implicaciones de diferencias motivacionales en la transición preclínico-clínica de estudiantes de odontología: un estudio longitudinal de un año," *Educación Médica*, vol. 17, no. 4, pp. 193–196, 2016.
- [16] S. I. Di Domenico and R. M. Ryan, "The emerging neuroscience of intrinsic motivation: a new frontier in self-determination research," *Frontiers in Human Neuroscience*, vol. 11, Article ID 145, 2017.
- [17] I. Katz, "In the eye of the beholder: motivational effects of gender differences in perceptions of teachers," *The Journal of Experimental Education*, vol. 85, no. 1, pp. 73–86, 2017.

- [18] D. Suryana, "Self determination development in multicultural society," *JOMSIGN: Journal of Multicultural Studies in Guidance and Counseling*, vol. 2, no. 2, pp. 134–147, 2018.
- [19] N. Almigo, N. Rusmana, A. Hafina, Y. R. Yustiana, and D. Suryana, "The effect of adventure-based counseling modules on self-efficacy of college students council (CSC) in Sultan Idris Education University," *International Journal of Learning, Teaching and Educational Research*, vol. 18, no. 12, pp. 17–29, 2019.
- [20] R. M. Ryan and E. L. Deci, *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*, The Guilford Publications, 2017.
- [21] C.-Y. Lin, S.-C. Yang, W.-W. Lai, W.-C. Su, and J.-D. Wang, "Rasch models suggested the satisfactory psychometric properties of the World Health Organization Quality of Life—Brief among lung cancer patients," *Journal of Health Psychology*, vol. 22, no. 4, pp. 397–408, 2017.
- [22] C. J. Perera, B. Sumintono, and N. Jiang, "The psychometric validation of the principal practices questionnaire based on item response theory," *International Online Journal of Educational Leadership*, vol. 2, no. 1, pp. 21–38, 2018.
- [23] B. Sumintono, "Rasch model measurements as tools in assesment for learning," in *Proceedings of the 1st International Conference on Education Innovation (ICEI 2017)*, pp. 38–42, Atlantis Press, February 2018.
- [24] H. Y. Muslihin, D. Suryana, Ahman, U. Suherman, and T. H. Dahlan, "Analysis of the reliability and validity of the self-determination questionnaire using Rasch model," *International Journal of Instruction*, vol. 15, no. 2, pp. 207–222, 2022.
- [25] S. J. Raj and C. Chettiar, "Self-determination theory: how basic psychological needs affect well-being," *Biopsychosocial Issues in Positive Health*, vol. 3, no. 1, pp. 17–21, 2012.
- [26] R. M. Ryan and E. L. Deci, "A self-determination theory approach to psychotherapy: the motivational basis for effective change," *Canadian Psychology/Psychologie Canadienne*, vol. 49, no. 3, pp. 186–193, 2008.
- [27] J. Down, "Book review," *Administrative Science Quarterly*, vol. 45, no. 1, pp. 170–173, 2000.
- [28] D. Lange, J. Richert, M. Koring, N. Knoll, R. Schwarzer, and S. Lippke, "Self-regulation prompts can increase fruit consumption: a one-hour randomised controlled online trial," *Psychology & Health*, vol. 28, no. 5, pp. 533–545, 2013.
- [29] P. Ricoeur, "Philosophical hermeneutics and theological hermeneutics," *Studies in Religion/Sciences Religieuses*, vol. 5, no. 1, pp. 14–33, 1975.
- [30] A. Akin and U. Akin, "Self-compassion as a predictor of social safeness in Turkish University students," *Revista Latinoamericana de Psicología*, vol. 47, no. 1, pp. 43–49, 2015.
- [31] M. Gagné and E. L. Deci, "Self-determination theory and work motivation," *Journal of Organizational Behavior*, vol. 26, no. 4, pp. 331–362, 2005.
- [32] J. A. Carter, "Changing light bulbs: practice, motivation, and autonomy," *The Counseling Psychologist*, vol. 39, no. 2, pp. 261–266, 2011.
- [33] R. DeCharms, *Personal Causation: The Internal Affective Determinants of Behavior*, Academic Press, New York, 1968.
- [34] R. M. Ryan and J. P. Connell, "Perceived locus of causality and internalization: examining reasons for acting in two domains," *Journal of Personality and Social Psychology*, vol. 57, no. 5, pp. 749–761, 1989.
- [35] E. L. Deci, R. J. Vallerand, L. G. Pelletier, and R. M. Ryan, "Motivation and education: the self-determination perspective," *Educational Psychologist*, vol. 26, no. 3–4, pp. 325–346, 1991.
- [36] B. P. O'Connor and R. J. Vallerand, "Motivation, self-determination, and person–environment fit as predictors of psychological adjustment among nursing home residents," *Psychology and Aging*, vol. 9, no. 2, pp. 189–194, 1994.
- [37] S. Loman, C. Vatland, K. Strickland-Cohen, R. Horner, and H. Walker, "Promoting self-determination: a practice guide," 2010.
- [38] U. C. Millner, T. Woods, K. Furlong-Norman, E. S. Rogers, D. Rice, and Z. Russinova, "Socially valued roles, self-determination, and community participation among individuals living with serious mental illnesses," *American Journal of Community Psychology*, vol. 63, no. 1–2, pp. 32–45, 2019.
- [39] M. R. Beachboard, J. C. Beachboard, W. Li, and S. R. Adkison, "Cohorts and relatedness: self-determination theory as an explanation of how learning communities affect educational outcomes," *Research in Higher Education*, vol. 52, pp. 853–874, 2011.
- [40] J. Goldsworthy, "The case for originalism," in *The Challenge of Originalism: Theories of Constitutional Interpretation*, G. Huscroft and B. W. Miller, Eds., pp. 42–69, Cambridge University Press, Cambridge, 2011.
- [41] A. Barrable and A. Arvanitis, "Flourishing in the forest: looking at Forest School through a self-determination theory lens," *Journal of Outdoor and Environmental Education*, vol. 22, pp. 39–55, 2019.
- [42] R. M. Ryan and E. L. Deci, "Self-regulation and the problem of human autonomy: does psychology need choice, self-determination, and will?" *Journal of Personality*, vol. 74, no. 6, pp. 1557–1586, 2006.
- [43] P. Ricoeur, "Myth as a bearer of possible worlds: interview with Richard Kearney," in *The Crane Bag Book of Irish Studies, 1977–1981*, pp. 260–266, Blackman Press, Dublin, 1982.
- [44] C. D. Cameron and B. K. Payne, "The cost of callousness: regulating compassion influences the moral self-concept," *Psychological Science*, vol. 23, no. 3, pp. 225–229, 2012.
- [45] R. M. Ryan and E. L. Deci, *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*, The Guilford Press, New York, 2017.
- [46] M. Suzuki and Y. Aramata, "Relationship between students' motivation and instructors' leadership in school-based extracurricular activities," *The Japanese Journal of Psychology*, vol. 92, no. 1, pp. 1–11, 2021.
- [47] M. Joussemet, R. Landry, and R. Koestner, "A self-determination theory perspective on parenting," *Canadian Psychology/Psychologie Canadienne*, vol. 49, no. 3, pp. 194–200, 2008.
- [48] E. L. Deci and R. M. Ryan, "Levels of analysis, regnant causes of behavior and well-being: the role of psychological needs," *Psychological Inquiry*, vol. 22, no. 1, pp. 17–22, 2011.
- [49] F. K. Rahnama, A. M. Zafarghandi, and J. hassaskhah, "Teachers' instructional behaviors and students' self-determination," *International Journal of Applied Linguistics & English Literature*, vol. 2, no. 3, pp. 100–111, 2013.
- [50] F. Guay, P. Valois, É. Falardeau, and V. Lessard, "Examining the effects of a professional development program on teachers' pedagogical practices and students' motivational resources and achievement in written French," *Learning and Individual Differences*, vol. 45, pp. 291–298, 2016.
- [51] K. A. Shogren, M. L. Wehmeyer, S. B. Palmer, A. J. Forber-Pratt, T. J. Little, and S. Lopez, "Causal agency theory: reconceptualizing a functional model of self-determination," *Education and Training in Autism and Developmental Disabilities*, vol. 50, no. 3, pp. 251–263, 2015.