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Learner autonomy in an online project-based learning: voices from Indonesian EFL students

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This study explored university students' levels of autonomy and identified the challenges they face in becoming more autonomous learners within a university context. The research involved 80 students from a public university in Surabaya, East Java, Indonesia. A mixed-methods sequential explanatory design was employed, comprising two phases: a survey phase and an interview phase. The data were collected using closed-ended questionnaires to assess students' levels of autonomy and semi-structured interviews to examine the challenges hindering students' autonomy. Next, the quantitative data from the questionnaire were analyzed using simple statistical techniques, including percentages and mean scores, while the qualitative data were analyzed using thematic analysis. The findings revealed two key results. First, students showed high levels of autonomy across all dimensions—technical, psychological, political, and socio-cultural. Notably, none of the questionnaire items indicated a low level of autonomy. Students attributed their high autonomy to the flexibility of working independently at home and leveraging internet resources to complete their projects. They also displayed strong sociability, adaptability, and collaboration skills in achieving their goals. Second, the primary challenges faced by students to be more autonomous in online meetings involved: lecturers' compulsory instructions, low motivation, lack of discipline, poor time management, dependence on lecturers, lack of skills, and limited interaction.

Keywords: EFL students, learner autonomy, online project-based learning

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INTRODUCTION

Learner autonomy has been a significant focus in the field of foreign language learning and teaching for over four decades. It has garnered increasing attention from educators, teachers, practitioners, and policymakers, as autonomous learning is considered a crucial component of lifelong learning. Facilitating the development of learner autonomy is a fundamental responsibility of English teachers, prompting the creation of policies and curricula in various countries to promote autonomy at the classroom level (e.g., Eurydice, 2008; O'Rourke & Carson, 2010; Little, 2011; Blidi, 2017; Working Groups Schools, 2018). This global trend has also emerged in Indonesia, where the national curriculum emphasizes the development of 21st-century skills, including creativity, critical thinking, independence, collaboration, and communication (Kemendikbud, 2016; Kemendikbud, 2019; Mendikbudristek, 2022).

The concept of learner autonomy has been defined in diverse ways. Holec (1981) initially defined it as the ability to take charge of one's learning. Littlewood (1996) expanded this notion by introducing two key components: learners' ability and willingness to make independent choices. Similarly, Benson (2001) emphasized autonomy as the capacity to take control of

one's learning, driven by a combination of desire, ability, and freedom. In the context of today's technology-driven era, learner autonomy has evolved to encompass the ability to manage one's learning within socially mediated and technology-enhanced environments (Suvorov & Cabello, 2017).

Over the past decade, a substantial body of research has examined learner autonomy, both in international and Indonesian education contexts. Common themes include the use of technology and pedagogical approaches to foster autonomy in classrooms (Humphreys & Wyatt, 2014; Lai et al., 2015; Padmadewi, 2016; Jing, 2017; Yuliani & Lengkanawati, 2017; Baz et al., 2018), the relationship between autonomy and language proficiency (Myartawan & Latief, 2013; Almusharraf, 2018), students' readiness for autonomy (Sonmez, 2016; Cirocki et al., 2019; Yilan, 2020), perceptions of autonomous English learning among teachers and students (Khotimah et al., 2019; Cirocki & Anam, 2021), and learner autonomy in online contexts (Al Ghazali, 2020; Aji et al., 2020; Alimyar & Lakshmi, 2021; Ludwig & Tassinari, 2021; Oliveira et al., 2021; Yeh & Heng, 2022; Hsu, 2022; Collado et al., 2022; Al-Khresheh, Naimi-Akbar et al., 2023; Susanti et al., 2023). However, among all those above issues about learner autonomy, students' levels of autonomy in four dimensions: technical, psychological, political, and socio-cultural in an online project-based learning remain underexplored.

In the post-pandemic era, online learning has gained prominence due to its ability to enhance efficiency and provide flexibility in learning. Researchers suggest that online learning addresses individual learning needs and promotes higher-order thinking skills (Lee & Choi, 2017; Caravias, 2018; Collins et al., 2022). Additionally, digital technologies foster greater learner responsibility (Bennett et al., 2017) and enhance motivation and engagement in the teaching-learning process (Dhillon & Murray, 2021). Online learning typically involves activities mediated through learning management systems and digital platforms (Leighton & Griffioen, 2021) and can be synchronous, involving real-time interaction, or asynchronous, allowing learners to engage with materials at their own pace (Ogbonna et al., 2019; Richardson et al., 2020). Both modes offer flexibility and enable teachers to design collaborative, project-based tasks that foster learner autonomy.

Project-based learning (PBL) has gained traction in online environments as a method to promote learner autonomy. Knoblauch (2022) highlights that project-based and blended learning scenarios significantly motivate learners and encourage independent work. Similarly, Dinca et al. (2023) demonstrate that Project-Based Virtual Learning (PBVL) supports the development of professional, academic, and personal skills through collaboration. They propose a three-stage framework comprising teambuilding, teamwork, and team performance in online PBL contexts.

Research further underscores the positive impact of project-based learning on learner autonomy. Studies in face-to-face settings reveal that PBL enhances students' speaking skills and fosters enthusiasm, confidence, creativity, and self-directed learning (Marisah & Robiasih, 2017; Kaunang, 2017; Astawa et al., 2017). Yuliani and Lengkanawati (2017) argue that PBL is an effective approach to developing autonomous learning, promoting self-direction, self-instruction, and self-access learning. Similarly, Marisah and Robiasih (2017) observe that integrating language, social, and technological skills into PBL encourages students to become more independent, responsible, and creative learners.

Despite its benefits, PBL in offline settings has some limitations. For instance, disparities in language proficiency among students can lead to unequal participation, with higher-proficiency students dominating discussions while others struggle to contribute effectively (Marisah & Robiasih, 2017). Additionally, learners may face challenges in conducting independent research and collaborating effectively without adequate scaffolding and support, potentially resulting in superficial project outcomes.

Although research indicates the effectiveness of project-based learning in promoting learner autonomy in both offline and online contexts, gaps remain in understanding students' levels of autonomy and the challenges they face in online PBL environments. Addressing this gap, the present study aims to explore Indonesian EFL students' perceptions of learner autonomy in online project-based learning. Specifically, it seeks to investigate students' levels of autonomy and identify the challenges they encounter in becoming autonomous learners in online PBL settings.

The research questions of this study are formulated as follows:

1. What are the students' levels of autonomy in the online project-based EFL classroom?
2. What challenges do the students face in becoming more autonomous learners in the online project-based EFL classroom?

METHODS

Research Design and Participants

This study employed a mixed-methods sequential explanatory design. This design was used to gain a comprehensive understanding of students' levels of autonomy and their challenges to become more autonomous in an online project-based learning. It combined quantitative and qualitative data collection and analysis in two consecutive phases, quantitative phase followed by qualitative phase (Creswell & Plano-Clark, 2018). It was employed to obtain a comprehensive understanding of EFL students' levels of autonomous learning and the challenges they face while developing English materials in online project-based-learning.

The study involved 80 university students majoring English language education program in the 5th semester, Surabaya State University, East Java, Indonesia. They were taken as the subject of the research since they were assigned to do projects of developing an English module for secondary school students through online meetings. The students were taken from four different classes taught by different lecturers. They took the same subject, namely Developing English Materials (DEM).

At the beginning, the teaching and learning process was conducted in blended learning (offline and online meetings); however, during the development of the English module, the

project was accomplished in online meeting and students had to report the progress to the lecturers through Zoom platform.

Instruments and Data Collection

To collect quantitative data, a learner autonomy questionnaire adapted from Murase (2015) was distributed to the 80 students via Google Forms. The questionnaire consisted of closed-ended items using a 5-point Likert scale, ranging from strongly disagree to strongly agree. The questionnaire items were divided into four dimensions of learner autonomy: technical, psychological, political, and socio-cultural autonomy (Benson, 1997; Oxford, 2003; Murase, 2015). The data were analyzed using simple descriptive statistics, including percentages and mean scores.

For qualitative data, semi-structured interviews were conducted to gain deeper insights into the students' reasons for their responses to the questionnaire and their experiences with learner autonomy. A focus group interview format was utilized to gather diverse perspectives on the challenges of becoming autonomous learners in an online project-based environment. The interview questions were reviewed and validated by two experts in the field, who provided written and oral feedback. The feedback was incorporated to ensure the validity and reliability of the interview instrument.

Instrument Validity and Reliability

Both instruments (questionnaires and semi-structured interviews) had been validated by two linguists whose expertise is on learner autonomy and material development to ensure the appropriateness and the acceptability of the questionnaire items.

In addition, the reliability of the instruments was also assessed. To assess the reliability of the questionnaire, Cronbach's alpha was calculated using SPSS 22. The result was an alpha score of 0.896, which falls within the range of 0.8–0.9, indicating that the reliability of the instrument is categorised "good."

Data Analysis

Quantitative Data Analysis

Quantitative data from the questionnaires were analyzed using descriptive statistics, including percentages and mean scores, through SPSS 22. The learner autonomy levels were categorized into three levels—low, medium, and high—based on a continuum. The categorization was derived by dividing the 5-point Likert scale into three intervals, with each interval corresponding to a score range of 1.7, as shown below.

Mean	Category
0.0–1.7	Low
1.8–3.4	Medium
3.5–5.0	High

Qualitative Data Analysis

Qualitative data from the interviews were analyzed using thematic analysis following the steps outlined by Ary et al. (2010):

1. *Familiarizing and Organizing*
   The initial step involved familiarization with the data by reviewing video recordings of the interviews and transcribing the students' responses into English. An edited transcription approach was used to focus on the main messages conveyed. The transcripts were repeatedly read to enhance comprehension and organized into excerpts for analysis.
2. *Coding and Reducing*
   During this stage, the researcher developed concepts from the raw data by identifying units of meaning, such as words, phrases, or sentences reflecting patterns of behavior, thought, or experiences. Students' verbal responses were translated and coded manually into themes such as Compulsory Instruction, Low Motivation, Lack of Discipline, Poor Time Management, Dependence on Lecturer, Lack of Skills and Limited Interaction. Students were labelled into S1 as student 1, S2 as student 2 and so on. The irrelevant data, such as off-topic conversations, were excluded to ensure focus on the key themes. Only pertinent excerpts were retained for further analysis.
3. *Interpreting and Representing*
   The final step involved interpreting the data by identifying connections among the categories and patterns related to autonomous learning and project-based instruction. The analysis linked the qualitative findings to relevant theoretical frameworks. Both quantitative and qualitative findings were presented comprehensively, with numerical data summarized in tables and qualitative data discussed in relation to the identified themes. The findings were synthesized to draw conclusions addressing the research questions.

   To collect data, students had been given informed consent to fill out before they participated in the study. These students were selected as participants because they were enrolled in the Developing EFL Materials (DEM) course, which required them to design English teaching materials through online learning**.**

RESULTS AND DISCUSSION

The Students' Levels of Autonomy in an Online Project-Based Classroom

The students' levels of autonomy were categorized into four dimensions: technical, psychological, political, and socio-cultural autonomy. Each dimension was further analyzed through quantitative and qualitative data, revealing nuanced insights into their autonomy practices.

Technical autonomy

Technical autonomy comprises two sub-dimensions: behavioral autonomy (the ability to use cognitive and metacognitive strategies like goal-setting, planning, and monitoring) and situational autonomy (the capacity to take control of learning in independent situations). Table 1 summarizes students' autonomy levels in the technical perspective.

For the sake of behavioral autonomy (see Table 1), firstly, the respondents were asked about their learner autonomy practices and whether or not they set their learning goals such as understanding the framework of developing English materials before the Developing English Material (DEM) class starts. As the data revealed, most students gave positive answers which 58.8% of respondents agreed, and 15% of respondents strongly agreed. The respondents who showed

their disagreement was only 10% and undecided 16.3%.

TABLE 1 | Students' autonomy levels in technical perspective

Sub Dimension	Q No	Statements	SD %	D %	U %	A %	SA %	M	Category
Behavioral Autonomy	1	Setting learning goals in the DEM class.	0	10	16.3	58.8	15	3.8	High
	2	Selecting basic competences for developing English modules.	1.3	10	3.7	52.5	32.5	4.1	High
	3	Using digital resources for English module development	0	0	3.8	40	56.3	4.5	High
	4	Selecting pictures for English module development	0	2.5	2.5	41.3	53.8	4.5	High
	5	Using methods in translating words	0	1.3	7.5	46.3	45	4.4	High
	6	Monitoring the progress of the project	0	2.5	13.8	56.3	27.5	4.1	High
	7	Compiling materials from any sources	0	1.3	10	55	33.8	4.2	High
	8	Checking the appropriateness of language use	0	1.3	6.3	60	32.5	4.2	High
	9	Checking the appropriateness of content	0	5	12.5	51.2	31.3	4.1	High
	10	Checking the appropriateness of the layout	1.3	3.8	8.8	46.3	40	4.2	High
Situational Autonomy	11	Making self-reflection	2.5	7.5	25	41.3	23.8	3.8	High
	12	Searching for materials from the internet	0	8.8	13.8	41.3	36.3	4.1	High
	13	Writing tasks/exercises/practices	0	5	10	56.3	28.7	4.1	High

Secondly, the respondents were asked about their practices concerning whether or not they select the basic competence of the national secondary curriculum before they develop English materials by themselves. Although all scales are filled in, the respondents still showed their positive answers by choosing the answer 'agree' 52,5%, and 'strongly agree' 32.5%. There was only 1.3% of respondents choose 'strongly disagree' and 3.7 respondents stated 'undecided'.

Thirdly, the respondents were asked whether or not they use digital resources such as websites or e-books in developing English materials by themselves. As the data showed, most respondents used digital resources in developing English materials on their own. More precisely, 40% of respondents chose the answer 'agree' and 56.3 % of respondents answered 'strongly agree'. Those who chose the option 'undecided' were only 3.8%, while none of the respondents opted for 'strongly disagree' and 'disagree'.

Next, in terms of selecting pictures whether or not the respondents selected pictures by themselves in developing English materials, only 2.5% of respondents showed their disagreement. Most respondents showed positive answers with which 41.3% respondents agreed and 53.8% respondents strongly agreed. None of the respondents chose the option 'strongly disagree'.

Additionally, the respondents were asked whether or not they used their methods such as using Google translate or using a dictionary whenever they had to translate words to develop English materials. The majority of respondents provided positive answers again: 46.3% agreed, and 45% strongly agreed. Only 1.3% disagreed and 7.5% chose the option 'undecided'. The next issue in this question is whether or not the respondents monitored the progress of their project in developing English materials. In this part, most respondents gave their positive answers by choosing 'agree' 56.3%, and 'strongly agree' 27.5%, while those who disagreed only 2.5% and 'undecided' 13.8%.

Another behavioral issue in technical autonomy is whether or not the respondents compiled materials from a variety of sources to develop listening/ speaking/ reading/ writing tasks by themselves in developing English materials. The data showed that the majority of the population agreed 55%. Those who strongly agreed also showed a relatively high percentage, that was, 33.8%. Only 1.3% of respondents agreed with this statement and none of them took the option 'strongly disagree'.

Respondents' practices of autonomy could also be seen from the aspect of whether or not they checked the appropriateness of language use such as grammar, spelling, or vocabulary in developing English materials. As the analysis revealed, 60% of respondents agreed, 32.5% strongly agreed, and 6.3% were undecided about this statement. Similar to the previous item, only 1.3% showed their disagreement with this statement. Furthermore, in terms of whether or not the respondents checked the appropriateness of the content of English materials on their own, most respondents showed positive answers. 51.2% of respondents agreed and 31.3% strongly agreed with this statement. The extreme option of 'strongly disagree' was not selected by respondents at all.

Similarly, for the question of whether or not the respondents checked the appropriateness of the layout of the designed English materials, those who gave positive answers were still dominant over those who gave negative answers. More explicitly, 46.3% of respondents showed their agreement, and 40% showed their strong agreement. In contrast, the negative answers were only 1.3% for 'strongly agree' and 3.8% for 'disagree'. Those who chose the option

'undecided' of this statement were still relatively low as much as 8.8%.

Lastly, the most important aspect of behavioral autonomy was whether or not the respondent's made self-reflection after accomplishing their final project of designing the English materials; the majority of the population still provided positive answers. In this respect, 41,3% of respondents showed their agreement, and 23.8 % expressed their strong agreement with this statement. Interestingly, there were an increased percentage of those who chose the option 'undecided' compared to the previous all behavioral autonomy as much as 25% of respondents. It was one-fourth of the total population. Meanwhile, the respondents who showed their negative answers were not significant, only 7.5% showed their disagreement and 2.5% expressed their strong disagreement.

Psychological autonomy

Psychological autonomy relates to mental attributes supporting learner autonomy, divided into motivational, metacognitive, and affective sub-dimensions. Table 2 illustrates the survey results.

TABLE 2 | Students' autonomy levels in psychological perspective

Sub Dimension	Q No	Statements	SD %	D %	U %	A %	SA %	M	Category
Motivational	14	Maintaining motivation during the given feedback	0	0	7.5	48.8	43.8	4.4	High
	15	Maintaining motivation to finish the project on time	0	1.3	12.5	40	46.3	4.3	High
Metacognitive	16	Making plan	0	2.5	21.3	51.2	25	4	High
	17	Monitoring progress	0	1.3	25	53.8	20	3.9	High
	18	Making evaluation	0	7.5	25	50	17.5	3.8	High
Affective	19	Controlling affective states toward the lecturer's speaking time	3.8	36.3	35	21.3	3.7	2.9	Med
	20	Controlling affective states toward the supply of learning resources	0	0	6.3	41.3	52.5	4.5	High
	21	Controlling affective states toward the given models	0	0	11.3	41.3	47.5	4.4	High
	22	Controlling affective states toward the help given	0	0	3.8	38.8	57.5	4.5	High

In motivational sub-dimension, it concerns one's intrinsic/ extrinsic motivation toward learning English. It is the capacity to take control of one's learning by knowing about the strategies to motivate oneself, and one's responsibility for success/ failure in learning English. In the context of project-based learning in this study, learning English in this definition has been interpreted as the process of acquiring the knowledge of being able to design English materials through project-based instruction.

The first statement dealing with the motivational sub-dimension is whether or not the respondents were motivated when the lecturer gave them detailed feedback on their work. As the collected data revealed, 48.8% of respondents showed their agreement, and 43.8% of respondents expressed their strong agreement that they felt motivated when the lecturer gave them detailed feedback on their work. None of them answered either 'strongly agree' or 'disagree' with this statement. This data display means that most students were not autonomous in this respect. They were still dependent on the lecturer's detailed feedback for the improvement of their project.

Different from the previous result showing respondents' dependence on the lecturer, the respondents showed great optimism to finish the project on time, meaning that they felt more independent from the lecturer. The data revealed that 40% of respondents agreed that they felt optimistic to accomplish the project on time. Even, the percentage showing positive answers was much greater in the level 'strongly agree' as much as 46.3%. Those who chose 'undecided' were 12.5% and 'disagree' 1.3%.

The next data display concerned with metacognitive strategies of autonomy employed by students in project-based instruction which covered planning, monitoring, and evaluating the activities. As the data showed that the majority of respondents had made a careful plan to create innovative products of English materials by themselves. More explicitly, 51.2% expressed their agreement, 25% of respondents showed their strong agreement and only 21.3% of respondents were 'undecided'. None of the respondents showed a strong disagreement with this statement.

In terms of their activity whether or not they monitored the progress continuously in developing English materials by themselves, the data revealed that 53.8% of respondents agreed, and 20% of respondents strongly agreed with this statement. It means that the majority of students felt autonomous in monitoring the progress of their projects. The last part of the metacognitive aspect concerning psychological autonomy is whether or not the respondents evaluated designing the English materials on their own. The data showed positive answers that 50% of respondents showed their agreement, and 17.5% expressed their strong agreement. However, there were relatively a big percentage of respondents who chose 'undecided' as much as 25% and 7.5% disagreed with this statement.

The last part of psychological autonomy is the affective sub-dimension. It is the capacity to take control of one's

learning by knowing about one's effective states (anxiety, self-esteem, and other emotions) and how to control these affective factors. This students' questionnaire covers four statements related to the affective aspect of students' autonomy practices. According to the presented data in table 2 above, the majority of respondents showed their disagreement when they were asked whether or not they felt disappointed when the lecturer dominates the speaking time in explaining the materials during the online classroom. The data revealed that 36.3% of respondents disagreed, and 3.8% strongly disagreed. Those who agreed were only 21.3% and those who strongly agreed were 3.7%. Interestingly, many respondents contributed significant value for 'undecided' as much as 35%.

Political autonomy

Political autonomy encompasses students' ability to negotiate aspects of learning and their independence from teacher control. Table 3 provides a detailed overview.

TABLE 3 | Students' autonomy levels in political autonomy

Sub Dimension	Q No	Statements	SD %	D %	U %	A %	SA %	M	Category
Positive Freedom	23	Negotiating deadline	8.8	26.2	21.3	38.7	5	3.1	Med
	24	Negotiating themes	5	16.3	40	32.5	6.3	3.2	Med
Negative Freedom	25	Selecting authentic/ not authentic materials	1.3	7.5	15	53.7	22.5	3.9	High
	26	Selecting strategies used in finishing the project.	0	1.3	12.5	58.8	27.5	4.1	High
Group Autonomy	27	Obeying the online classroom rules	0	1.3	12.5	55	31.3	4.2	High
	28	Obeying the curriculum policy	0	1.3	10	63.7	25	4.1	High
Individual Autonomy	29	Selecting the model of available authentic English materials	0	1.3	7.5	62.5	28.7	4.2	High
	30	Selecting games and songs	0	0	16.3	55	28.7	4.1	High
	31	Selecting the type of skills/ exercises/activities/ tasks	0	2.5	3.8	52.5	41.3	4.3	High
	32	Ordering the four language skills	0	5	12.5	50	32.5	4.1	High
	33	Organizing the content of English materials.	0	3.8	11.2	55	30	4.1	High
	34	Selecting themes in every chapter	1.3	5	13.8	52.5	27.5	4.0	High
	35	Selecting the members of the group work.	5	10	25	42.5	17.5	3.6	High

Firstly, in the context of learning English, positive freedom is defined as one's views in which learners have the freedom to control their learning (content/goals/ purposes) with the agreement of teachers. As the data revealed, that the respondents have various answers concerning whether or not they negotiated the deadline of developing English materials with the lecturer when they have not finished doing the project. More precisely, 38.7% of respondents agreed that they negotiated with the lecturer about the deadline, 5 % of respondents answered 'strongly agree', 26, 2% respondents chose 'disagree', 8.8% respondents expressed 'strongly agree', and 21.3 % remained 'undecided'.

In terms of whether or not the respondents negotiated the themes covered in the English materials with the agreement of lecturers, those who chose 'undecided' was relatively high, as much as 40%. Meanwhile, 32.5% of respondents agreed that they negotiated about themes with the agreement of lecturers, and 6.3% of respondents showed strong agreement. Those who expressed their disagreement were 16.3% and the respondents who expressed strong disagreement were only 5%.

Different from positive freedom which emphasizes more on the agreement of teachers; negative freedom is free from teachers' intervention. It is defined as one's views in which the learners can learn whatever they want to, with no constraints. In the statement about whether or not respondents made decisions in taking authentic or not authentic materials as the model for developing English materials, a large group of students gave positive answers by deciding on taking authentic/ not authentic materials of their own will, free from lecturers' intervention. It was shown in the table 3 that 53.7% agreed with this statement, 22.5% of respondents strongly disagreed, 15% chose 'undecided', 7.5% answered 'disagree', and only 1.3% respondents chose 'strongly agree'.

When the students were asked whether or not they made decisions on any strategies that they used in finishing the project of developing English materials, the majority of the respondents gave positive responses to this statement. In this group, 58.8% of respondents expressed agreement, 27.5 % of respondents strongly agreed with this issue, and 12.5% of respondents remained undecided. On the other hand, only 1.3% of respondents disagreed, and none of the respondents strongly disagreed with the statement.

The next sub-dimension is group autonomy. It is one's views concerning teachers as authority, and other kinds of authorities, such as parents or government policy. In group autonomy, students must be aware that they must obey the instruction of the lecturer since it is the authority of the lecturer. Based on the presented data, 55% of respondents agreed that they had to follow the online classroom rules established by the lecturer such as turning on the camera during the lecture or staying mute when the respondents did not speak 31, 3% of respondents strongly agreed with this issue, 12.5% respondents remained undecided, 1.3% respondents disagreed, and none of the respondents expressed their strong disagreement.

Another aspect of group autonomy is the policy of curriculum, the majority of respondents had to follow the content of the curriculum issued by the university. More precisely, 63,7% of respondents expressed their agreement that they had to follow the curriculum, 25% of respondents expressed their strong agreement, 10% of respondents remained undecided, 1.3% of respondents disagreed with this issue, and none of the respondents expressed their strong disagreement.

The fourth sub-dimension of political autonomy is individual autonomy. It is one's view of taking control of, and one's ability to make decisions about the content/ goals/ purposes/ in learning English. Firstly, the respondents were asked whether or not they decided in selecting the model of available authentic English materials to be imitated in developing English materials. As the analysis revealed, 62.5% of respondents agreed with this statement. More explicitly, 28.7 % of respondents expressed strong agreement, 7.5% of respondents were undecided, and only 1.3% of respondents disagreed that they decided in selecting the model of available authentic materials to be imitated.

Secondly, the respondents were asked to estimate whether or not they decided on their own to use the kinds of games/ songs in developing English materials. The majority of the respondents decided on their own in using any kind of games/ songs in developing English materials. To be more specific, 55% of respondents chose 'agree', 28.7% of respondents answered 'strongly agree', and 16.3% remained undecided. None of the respondents answered either disagree or strongly disagree with this statement.

Thirdly, the respondents were questioned about the extent to which they decided on the type of skills/ exercises/ activities/ tasks to be included in developing English materials on their own. The responses to this question range from 'disagree' to 'strongly agree'. None of them chose 'strongly disagree'. More precisely, 52.2% of respondents agreed, 41.3 % of respondents strongly disagreed, 3.8 % of respondents remained undecided, and 2.5% of respondents disagreed with this statement.

Fourthly, in terms of whether or not they decided the order of four language skills (listening, speaking, reading, and writing in various order) in developing English materials on their own, the responses ranged from 'disagree' to 'strongly agree'. None of them expressed strong disagreement. More explicitly, 50% of respondents expressed their agreement, 32.5% of respondents showed their strong agreement, 12.5 % of respondents remained undecided, 5% of respondents disagreed, and none of the respondents chose the last option, that is, 'strongly disagree'.

Socio-cultural autonomy

Socio-cultural autonomy emphasizes social interaction and collaboration in learning. Table 4 highlights student responses.

The sub-dimension of social interaction, it is concerning one's views of learning with the social interaction with/from teachers and/or other learners. The first issue is whether or not the respondents collaborated with their classmates in making the layout of the English materials. According to the gathered data, 25% of respondents were undecided about this statement. The majority of the population (42.5%) agreed that they collaborated with their classmates in making the layout of the English materials. Additionally, 26.2% of respondents expressed their strong agreement with this issue. On the contrary, the respondents who expressed their disagreement and strong disagreement were only 13.8% and 1.3% respectively.

TABLE 4 | Students' autonomy levels socio-cultural perspective

Sub Dimensions	Q No	Statements	SD %	D %	U %	A %	SA %	M	Category
Social Interactive	36	Making collaboration in making the layout.	1.3	**13.8**	16.3	42.5	26.2	3.8	High
	37	Discussing the problems with classmates	0	2.5	8.8	58.8	30	4.2	High
	38	Comparing the work with classmates	2.5	11.3	13.8	47.5	25	3.8	High
Cultural	39	Working collaboratively with students who have different cultures.	2.5	3.8	26.3	47.5	20	3.8	High
	40	Working collaboratively with students who have different learning habits.	1.3	8.8	17.5	48.7	23.8	3.9	High

The next issue is about whether or not the respondents discussed the problems with their classmates for the improvement of their project of developing English materials, the majority of the respondents gave positive views on this statement. More precisely, 58.8% of respondents expressed their agreement, 30% of respondents showed their strong agreement, 8.8% of respondents remained undecided, 2.5% respondents expressed their disagreement, and none of them showed their strong disagreement that they discussed the problems with their classmates for the improvement of their project of developing English materials.

The next issue in the social-interactive sub-dimension is whether or not the respondents compared their work with other students' work in developing English materials. The responses to this question varied, ranging from 'strongly disagree' to 'strongly agree'. However, the majority of the population gave positive views that they compared their work with other students during the process of developing English

materials. More specifically, 47.5% of respondents agreed, 25% of respondents strongly agreed, 13.8% of respondents remained undecided, 11.3% of respondents disagreed, and only 2.5% of respondents expressed their strong disagreement on this statement.

Lastly, in terms of whether or not the students worked collaboratively with their classmates who have different learning habits, the majority of the population also gave positive views on this statement. The gathered data revealed that 48.7% of respondents agreed that they worked collaboratively with students who had different learning habits, 23.8% of respondents showed their strong agreement, 17.5% of respondents remained undecided, 8.8% respondents expressed their disagreement and only 1.3% of respondents who showed disagreement on this issue.

Challenges to Become More Autonomous Learners

In this research, the respondents of six students were also asked about their challenges to become more autonomous learners in online learning. The data presentation was displayed based on seven categories of students' challenges of being autonomous learners in virtual project-based learning. They are: lecturer's compulsory instruction, self-motivation, self-discipline, time management, dependence on the lecturer, lack of skills, and limited interaction. The excerpt was displayed in advance followed by the data analysis (see table 5).

TABLE 5 | Students' challenges to become more autonomous learners

No	Problem Categories	Student	Excerpt	Students' challenges to become autonomous learners
1	Compulsory instruction	S1	7	Finding instructed authentic materials
		S2	8	Finding instructed authentic materials
2	Low motivation	S1	9	Maintaining motivation
		S2	10	Having low learning motivation
		S5	11	Maintaining motivation
3	Lack of discipline	S1	12	Maintaining self-disciplined because of the distraction of social media
		S6	13	Maintaining self-disciplined and expecting continuous reminders from classmates and lecturer
4	Poor time management	S3	14	Being distracted by the use of social media and daily routines
		S5	15	Postponing the work until the due date
5	Dependence on lecturer	S4	16	Expecting the lecturer to give clear instructions and detailed explanation
		S6	17	Expecting the lecturer guided step by step instead of understanding the materials on his own.
6	Lack of skills	S4	18	Having little knowledge, skills, and experience in developing English materials.
		S5	19	Having insufficient competence to do the project and expecting the model to be imitated.
7	Limited interaction	S5	20	Having limited access to direct communication
				The absence of lecturers and classmates during independent learning

Students' Levels of Autonomy in an Online Project-Based Classroom

The findings about students' levels of autonomy in an online project-based classroom revealed some significant results. First, students demonstrated high levels of autonomy across all dimensions—technical, psychological, political, and socio-cultural. Notably, none of the questionnaire items indicated a low level of autonomy. Students attributed their high autonomy to the flexibility of working independently at home and leveraging internet resources to complete their projects of developing English materials. Second, they also displayed strong sociability, adaptability, and collaboration skills in achieving their goals. This finding is in line with some previous studies which showed that project-based learning has become an effective way to promote autonomous learning by demonstrating the ability of self-direction, self-instruction, and self-access learning (Yuliani & Lengkanawati, 2017; Marisah & Robiasih, 2017; Kaunang, 2017; Astawa et al., 2017).

In an online learning environment, the finding of the present study also supports some other studies; for example, Knoblauch's study (2022), which highlighted that project-based and blended learning scenarios significantly motivate learners, encourage independent work and promote learner autonomy. Similarly, Dinca' et al. (2023) study reveals that Project-Based Virtual Learning (PBVL) supports the development of professional, academic, and personal skills through collaboration, which are the characteristic features of autonomous learning.

On the contrary, the present study revealed different results from what had been done by Cirocki et al. (2019). In their study, it was reported that students in the secondary level

showed a low level of autonomy. They were not familiar with the concept of learner autonomy, had fairly low motivation to learn English and were not ready to act as autonomous learners.

Challenges the Students Face to Become More Autonomous Learners

Based on the results of the research, there are several factors which hinder students from being autonomous learners. They are: lecturers' compulsory instruction, low motivation, lack of discipline, poor time management, dependence on the lecturer, lack of skills, and limited interaction. A similar result was reported in Collado's et al. (2022) studies that students are not ready to be autonomous learners in online language learning and are not motivated in attending virtual classroom due to limited interaction, the absence of physical connection to teachers and schoolmates. They prefer having conventional face-to-face classroom-based meetings and getting direct guidance from teachers to taking part in virtual classrooms. Ironically, when students attend offline classes, they remain not ready to be autonomous learners (Cirocki et al., 2019; Yilan, 2020). These studies suggested that students need to be trained in planning their learning process, setting objectives, and taking a more active role in negotiating the teaching-learning process. Hence, English language teachers need particular strategies to minimize the potential challenges which could block students from being independent learners.

In this research, seven categories of students' challenges are identified. The categories are slightly different towards what has been done by Ludwig and Tassinari (2023), which revealed four categories of students' challenges to become independent learners in the virtual classroom context, they are: technology use, interaction with peers and teachers, authentic communication, and community building. Similar results are only in the aspects of lack of skills in using technology and limited interaction with teachers and peers.

There are some limitations of this research. First, the learning environment of the research was not completely online, but blended learning. Initially, several meetings were conducted offline, then, during the accomplishment of the project, it was conducted online. Second, the number of students interviewed was only six. It will provide more insight if the participants were more than six students. Lastly, the limited time to conduct the research (only one semester) made this article far from being perfect. Therefore, all these limitations can be considered as potential research gaps for future researchers to conduct similar research.

To conclude, the results of this research have provided deep insights for students, educators, researchers, book developers, as well as policy makers, that promoting autonomous learning is another goal of learning, which must be achieved besides the learning results.

CONCLUSION

Based on the findings and discussions, two conclusions are drawn about the students' levels of autonomy and the challenges in becoming more autonomous learners.

Concerning the levels of autonomy, students revealed a high level of autonomy across all 13 items in doing the project of developing the English module. In the aspect of technical autonomy, students showed a high level of autonomy in setting learning goals, utilizing digital resources, selecting pictures, employing strategies, monitoring progress, and engaging in self-reflection. Besides, the flexibility of asynchronous online meetings allowed students to work independently at home in utilizing internet to complete the project. Students also revealed a high level of autonomy in the psychological dimension. They effectively maintained motivation to complete the project (motivation), created plans, monitored progress, and conducted evaluations (metacognitive), as well as managed their attitudes toward the availability of learning resources and support from lecturers.

In the political dimension, students showed a high level of autonomy in most areas, including negative freedom, group autonomy, and individual autonomy. However, positive freedom, such as negotiating deadlines and themes with lecturers, was rated at a medium level of autonomy. Meanwhile, in socio-cultural aspects, students showed a high level of autonomy, particularly in collaborative activities such as designing the layout of the module, addressing problems with classmates, and working with peers who had different habits and cultural backgrounds.

Despite the overall high levels of autonomy, students faced several challenges that hindered their ability to become more autonomous learners. These challenges included compulsory instructions from lecturers, low motivation, lack of discipline, poor time management, dependence on the lecturer, lack of skills, and limited interaction. Among these, low motivation was identified as the most significant obstacle.

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