Empowering Subject Matter Awareness through Exploratory Practice: Embracing Practitioner Research in the AI Era

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Abstract: A noteworthy challenge encountered among university EFL (English as a Foreign Language) learners lies in their deficiency pertaining to subject matter awareness, a crucial dimension of self-directed learning. This deficiency mainly hampers their ability to effectively deploy critical thinking strategies. This issue has been further exacerbated by the prevalent trend of students heavily relying on Artificial Intelligence (AI) tools for various educational tasks. To address this multifaceted challenge, this experimental research was conducted within a Lebanese English medium university. The core objective of the study was to cultivate students' subject matter awareness by integrating the Exploratory Practice [EP] instructional approach into their writing classes. The research encompassed two distinct groups: an experimental group and a control group. In-depth exploration was pursued using a mixed-methods approach. The outcomes of the study highlighted a significant transformation within the experimental group's subject matter awareness. In conclusion, this study underscores the imperative of nurturing students' subject matter awareness. Through skillful incorporation of EP into writing classes, educators can cultivate a revitalized sense of self-directedness and cultivate critical engagement within learners. This strategic integration not only equips them with essential skills but also empowers them to navigate the complex educational landscape infused with AI.

Keywords: Exploratory Practice, Subject Matter Awareness- Autonomy- Practitioner Research- AI Dependency

1. Introduction

Educators in general, with a particular emphasis on English teachers, dedicate themselves to equipping their students with the ability to communicate effectively across diverse contexts. At the higher education level, students are expected to display initiative, cultivate critical thinking capabilities, make informed and autonomous decisions, and shoulder the responsibility for their own learning. Concurrently, there exists a parallel imperative for learners to foster collaborative aptitudes, including resource sharing, collaborative goal attainment, information dissemination, and collaborative problem-solving (Gaith & Diab, 2008).

Nevertheless, despite the consistent encouragement for independent decision-making and personalized learning pathways, the students under scrutiny in this study consistently exhibit a marked reliance on their instructors for tasks such as rectifying writing errors, obtaining research materials, and structuring their projects. In essence, they exhibit a lack of proactive engagement in their learning process, leaning heavily on instructors for continuous

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assessment, materials, and guidance without taking personal initiative. Consequently, their primary focus is often centered on achieving grades rather than cultivating lifelong learning capabilities. Hence, there arose a compelling need to scrutinize the efficacy of an intervention aimed at elevating students' subject matter awareness—a composite of conceptual understanding, interconnectedness, depth of knowledge, critical thinking, application and transfer, and metacognition—collectively termed as autonomous learning in this study.

An approach that educators can employ to enhance learners subject matter awareness involves guiding them to recognize and acknowledge the strategies they inherently employ during learning endeavors (Ellis et al., 2008). Subject matter awareness in the context of learner autonomy refers to a students’ understanding and knowledge of the content, topics, concepts, or subject areas they are studying. It involves a deep comprehension of the material being learned, including its significance, relevance, and interconnectedness. Subject matter awareness goes beyond surface-level memorization and involves critical thinking, reflection, and the ability to make connections between different aspects of the subject (Allwright, 2003)

Given that existing research emphasizes the significance of collaboration between educators and learners in augmenting students' subject matter awareness, in turn, their autonomy (Candy), the researcher hypothesized that involving students in the learning process as practitioner researchers could potentially cultivate a heightened sense of autonomy. Consequently, this study aimed to explore the impact of an instructional intervention rooted in Exploratory Practice (EP), a holistic method of examining classroom pedagogy. EP positions learners as active collaborators within the research process, recognizing them as practitioners in their own right (Allwright, 2003; Dikilitas & Hanks, 2008).

Therefore, the core objective of this study was to assess the effectiveness of the instructional intervention involving EP in bolstering students' subject matter awareness. This intervention was seamlessly integrated into conventional English as a Foreign Language (EFL) classes, seamlessly interwoven into the established teaching and learning framework. In doing so, the study aimed to cultivate a sense of empowered autonomy among students, positioning them as active contributors to their own educational journey.

1.1. Rationale and Significance of the Study

In the present educational landscape, where the integration of Artificial Intelligence (AI) tools has become increasingly prevalent, the question of how to foster students' self-directed learning skills gains paramount importance. Additionally, little research has explored the integration of Exploratory Practice (EP) into traditional classroom settings to promote learners' subject matter awareness in language acquisition. Therefore, this inquiry gains added significance in an era where students are extensively relying on AI tools, potentially leading to a diminished sense of self-directed learning.

In the publication titled "Developing Language Teachers with Exploratory Practice: Innovations and Explorations in Language Education," Dikilitas and Hanks (2008) emphasize that Exploratory Practice (EP) stands as a dynamic and empowering avenue for practitioner research in language education. It introduces an inventive and methodically rigorous methodology for educators to delve into their classroom practices. However,
existing literature lacks a substantial number of firsthand accounts authored by practitioners actively participating in their own EP initiatives. Therefore, by addressing the central research inquiry: To what degree does the implementation of EP contribute to enhancing students' comprehension of the subject matter in the context of English as a Foreign Language (EFL)?—this study makes a notable contribution to the scholarly domain, particularly within the sphere of pedagogy, and holds particular relevance within the Lebanese higher education context. Additionally, it offers a timely response to the prevalent AI-driven learning environment, where students' over-reliance on AI tools threatens to compromise their self-directed learning abilities.

2. Literature Review

2.1. The Four Aspects of Learner Autonomy
The attainment of learner autonomy can be realized through the following sequential stages: the initial phase in cultivating autonomous learners involves fostering their self-awareness encompassing attitudes, beliefs, motivation, needs, and learning preferences. Subsequently, the following stage, which constitutes the primary focus of this study, entails elevating their awareness concerning the subject matter, achieved through active engagement in collaborative tasks, critical thinking activities, and self-reflective narratives. The third phase centers on developing their awareness of the learning process encompassing assessment, goal establishment, progress assessment, and effective management of time and resources. The fourth and final stage entails the cultivation of social consciousness, encompassing collaboration, interaction, and cooperation with peers (Lamb & Reinders, 2007; Blasé & Kirby, 2008).

2.2. The Seven Phases for EP Implementation
As outlined in the reviewed literature (Allwright & Hanks, 2009), educators intending to incorporate EP into conventional classroom settings should adhere to the following sequential stages. In the initial step, both educators and students direct their attention toward the puzzle, or in other words, the identification and refinement of a research query. During this phase, practitioners refine their understanding of the puzzle through collaborative discussions. Subsequently, they opt for a specific subject to concentrate on. The second phase involves the methodology that will be employed to investigate the puzzle. Principally, practitioners will identify suitable classroom methodologies to probe it. Such methodologies may encompass group discussions, surveys, presentations, journal entries, or poster sessions. Then, the practitioners customize the classroom methodology to align with the puzzle they wish to examine.

3. Research Design and Methodology
This experimental investigation aimed to gauge the impact of the EP intervention on the experimental group through observation or measurement at the study's conclusion. Following a semester-long exposure to the treatment spanning 16 weeks, the researcher administered a test assessing the dependent variable. The objective was to ascertain whether a notable distinction existed between the experimental and control group.
The experimental group underwent the EP intervention within their writing classes, while the control group served as a comparative reference. The purpose of the control group was to discern whether the EP intervention surpassed the effectiveness of the conventional approach adopted in regular writing classes.

3.1. Procedure

Commencing with the fall semester and preceding the study's commencement, both the control and experimental groups completed the autonomy questionnaire (refer to Appendix). This initial step aimed to gauge their autonomy levels across the four dimensions: learner awareness, EFL subject matter awareness, learning process awareness, and social awareness.

Within the experimental group, consensus was reached to address the query: "Can peer feedback enhance students’ writing proficiency?" Following this decision, the dual process was implemented. This process entailed the application of both the seven steps to integrate EP and the four steps to foster autonomy. The seven steps, derived from Allwright's work (Allwright, 2003), are delineated as follows:

1. **Engaging with Understanding**: This step centers on the exploration of the processes themselves, involving activities such as:
   - Bringing perplexing classroom issues to conscious awareness;
   - Engaging in collaborative discussions with fellow practitioners, both peers and co-participants, inside and outside the classroom, to delve into the puzzling matter;
   - Intensified observation and attentive listening during ongoing activities;
   - Strategically employing established pedagogic procedures to cultivate participant comprehension.

2. **The subsequent stage within the Exploratory Practice framework revolves around engaging with evolving comprehension**: The emphasis is on the substance of the process:
   - Thoughtfully articulating and evaluating individual or collective revelations; dissecting and honing shared concepts of ‘alteration’;
   - Engaging in dialogues about possible individual or joint actions;
   - Sharing personal interpretations of processes to provide support to others and extend invitations to participate in the community of practice cultivated by Exploratory Practice.

After addressing the initial puzzle, students engaged in reflective exercises concerning the peer review experience through the utilization of the Record of Work Form (refer to the Appendix). Throughout the intervention period, the researcher closely monitored students' activities and documented noteworthy insights within an observation log. In instances where direct observation was impractical, the sessions were captured through video recording. Upon the culmination of the semester, the autonomy questionnaire was once again administered to both the experimental and control groups, and subsequently, a comparative analysis was conducted to evaluate the outcomes of both groups.
3.2. Autonomy Procedure: The Experimental Group

Concurrent with the aforementioned seven steps, the four dimensions aimed at fostering learner autonomy, outlined by Lamb and Reinders (2007), were attended to in the subsequent manner: (1) Enhancing learner awareness encompassing aspects such as attitude, beliefs, motivation, needs, and learning styles; (2) Cultivating subject matter awareness within the context of English as a Foreign Language (EFL) through active engagement in collaborative tasks, critical thinking activities, and self-reflective narratives; (3) Fostering an understanding of the learning process, encompassing self-assessment, goal establishment, progress monitoring, activity evaluation, and effective time and resource organization; (4) Promoting social awareness entailing collaboration with peers, active interaction, and cooperative endeavors.

Tables 1 and 2 below outline the EP and the autonomy steps for the puzzle: Can peer feedback enhance writing proficiency?

### Table 1. EP Steps

<table>
<thead>
<tr>
<th>The Puzzle: Impact of Peer Feedback on Writing Proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EP Intervention Process</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>The Puzzle</td>
</tr>
<tr>
<td>The Method</td>
</tr>
<tr>
<td>Monitor to gather data</td>
</tr>
<tr>
<td>Take action to generate data</td>
</tr>
<tr>
<td>Consider the outcome and decide what to do next</td>
</tr>
<tr>
<td>Reflection &amp; Interpretation</td>
</tr>
<tr>
<td>Go public and share findings</td>
</tr>
</tbody>
</table>
3.3. Control Group

The students assigned to the control group did not undergo any interventions, unlike their peers in the experimental group. While students in the experimental group were engaged in solving the puzzle, those in the comparison group followed the standard procedures typical of the regular sessions in the English Composition and Rhetoric course. More precisely, during one session, students composed their initial draft essays. In another session, the instructor distributed a randomly selected sample essay authored by one student. Subsequently, the students received a rubric and a checklist to facilitate the provision of peer feedback for the essay. This activity was aligned with a specific learning outcome of the course, namely, "students should demonstrate the ability to edit and revise essays." By employing the rubric and checklist, students furnished feedback for the sample essay. The objective of this activity was to practice the skills of editing and revising in preparation for composing their second drafts. In yet another session, the students engaged in revising and editing their own essays. Subsequently, they produced their second drafts and submitted them for assessment and feedback from the instructor.

4. Data Collection Tools

In accordance with an experimental research design intended to explore the impact of EP intervention on students' subject matter awareness, this study employed a variety of instruments. The research design's nature and objectives prompted the utilization of appropriate tools, as advised by Creswell (2017). This necessitated the incorporation of several instruments for data collection, encompassing both quantitative and qualitative aspects. The data collection process employed distinct tools to address each type of data. Quantitative data were collected through the utilization of a self-developed autonomy
questionnaire administered before and after the intervention. In contrast, qualitative data were gathered through the following tools: (a) semi-structured learner diary titled "Record of Work Form," (b) a self-created observation log, and (c) video recording.

4.1. Quantitative Data

4.1.1. Autonomy Questionnaire

The autonomy questionnaire served as the assessment tool in this study to gauge the degree to which students perceived themselves as possessing the attributes, attitudes, and competencies associated with self-directed learning. This questionnaire was meticulously developed and consists of a total of 32 items. The initial 20 items are drawn from Naiman et al.'s (1978) work titled "The Good Language Learner." Subsequently, items 21 through 32 were designed in alignment with Candy's (1991) depiction of the autonomous learner.

The 32 items incorporated within the autonomy questionnaire correspond to the four key dimensions of learner autonomy, as elucidated by Lamb and Reinders (2007): learner awareness, subject matter awareness in the context of EFL, learning process awareness, and social awareness. These dimensions, or 'steps' as defined by Lamb and Reinders, contribute to the enhancement of learners' autonomy (Lamb & Reinders, 2007). In detail, the autonomy questionnaire items are distributed as follows:

- Items 1, 2, 16, 18, 19, 20, 21, 23, 24, 25, 26, 27, and 28 pertain to learner awareness, encompassing facets such as attitude, beliefs, motivation, needs, and learning styles.
- Items 4, 5, 8, 9, 10, 13, 17, 22, and 29 are associated with subject matter awareness of EFL, a dimension cultivated through active engagement in collaborative tasks, critical thinking activities, and self-reflective narratives.
- Items 3, 6, 7, 11, 12, 30, and 31 center on learning process awareness, entailing goal-setting, self-assessment, progress monitoring, activity evaluation, and resource organization.
- Finally, items 14, 15, and 32 are dedicated to social awareness, encompassing cooperative, interactive, and collaborative engagement with peers.
- The initial 20 items of the questionnaire drew inspiration from Naiman et al.'s seminal study conducted in 1978, titled "The Good Language Learner." This research delved into the attributes of proficient language learners, outlining distinctive traits and characteristics associated with effective language acquisition.

The first 20 items were based on the research of Naiman et al. (1978), *The Good Language Learner*. The findings of their research included the characteristics of good language learning:

The good language learner finds a style of learning that suits him/her; he/she is actively involved in the learning process; he/she tries to figure out how the language works; he/she knows that the language is used to communicate; he/ she is like a good detective; he/she learns to think in the language; finally, he/she realizes that language learning is not easy and can overcome the feelings of frustration and lack of confidence.

Conversely, items 21 through 23 were carefully crafted to align with Candy's conceptualization of the autonomous learner as outlined in his work "Self-direction for
Lifelong Learning" published in 1991. In this comprehensive profile, Candy delineated the distinctive attributes that characterize an individual proficient in autonomous learning (Candy, 1991).

According to Candy's analysis, a self-directed learner exhibits a systematic and disciplined approach to learning. This entails a propensity for methodical planning and an analytical, logical mindset. Furthermore, autonomy is reflected in the capacity for introspection and reflection, coupled with a keen self-awareness. The autonomous learner displays a remarkable flexibility, adaptability, and persistence in tackling challenges. Responsibility, a willingness to explore new horizons, and a flair for creativity are integral facets of their learning journey (Candy, 1991).

Moreover, an autonomous learner is fueled by curiosity, demonstrating openness to diverse perspectives and an intrinsic motivation to delve deeper into the subject matter. Socially adept and interdependent, they exhibit strong interpersonal skills, along with a self-assured demeanor and a positive self-concept. Their autonomy extends to a deep-rooted sense of self-sufficiency and self-reliance, underpinned by a profound understanding of various learning processes. Ultimately, this multifaceted profile also entails the autonomous learner's ability to develop and employ comprehensive evaluation criteria in assessing their own progress and achievements (Candy, 2001).

### 4.2. Qualitative Data

#### 4.2.1. Reflective Activity Documentation: Record of Work Form

Another tool employed in this study is the "Semi-Structured Learner Diary Record of Work Form." Originating from the University of Hong Kong, this form serves as a self-assessment instrument designed to prompt learners to differentiate between their actions and their acquired knowledge in an activity. Additionally, it prompts learners to assess the value of the activity and its influence on future planning (refer to Appendix).

The utilization of the Record of Work Form aligns with the recommendation by Barfield and Brown (2007) for fostering formative self-monitoring, thereby facilitating the re-evaluation of goals and plans. The instrument maintains content validity, aligning with the study's focus on students' awareness and autonomy. Divided into four key sections, the Record of Work Form guides students through a comprehensive reflection process. The initial section prompts students to outline the undertaken activities and reference any materials utilized. The subsequent section involves summarizing the acquired knowledge during these activities. In the subsequent segment, students evaluate the utility and enjoyment of the activities, noting any encountered challenges. Lastly, the fourth part invites students to outline plans and potential adjustments to their goals or objectives. This Record of Work Form was completed by students within the experimental group throughout the intervention process.

#### 4.2.2. Observation Log

An additional instrument employed to document students' activities is the observation log, which the instructor used to record her observations throughout the various phases of the EP intervention. The observation log is structured into three primary sections:
The first section captures the instructor's recorded observations during stage 1 of the EP process, i.e., the puzzle. This includes insights into how students identified the puzzle, refined their understanding of it, and ultimately selected a specific topic to concentrate on.

The second section documents the instructor's recorded observations during stage 2 of the EP process, known as the method. It encompasses observations about how students located and explored suitable classroom procedures, as well as their utilization of these procedures during class (data collection).

The third section accounts for the instructor's recorded observations during stage 3 of the EP process, which is reflection and interpretation. This entails insights into how students interpreted the outcomes, analyzed their implications, and formulated subsequent plans.

This observation log was a pivotal tool for the instructor to monitor students' progress as they tackled the puzzles presented in their EFL classes. It facilitated real-time documentation of students' engagement in each step of the intervention process.

**4.2.3. Video Recording**

Video recording served as an integral method to capture and document students' activities within the writing lab, specifically during the revising and editing sessions. Employing a video camera, the instructor recorded the entirety of students' work. Each video recording session had a duration of 50 minutes. This approach allowed for a comprehensive visual record of students' interactions, discussions, and collaborative efforts conducted within the writing lab environment.

**5. Data Analysis**

Consistent with Cohen (2007), a comprehensive approach to data collection and analysis was adopted in this study, employing multiple methods to ensure robustness and validation of findings. Triangulation was pursued to enhance the credibility and coherence of the results. Consequently, both quantitative and qualitative analyses were conducted to thoroughly explore the research question. The diverse nature of data collection instruments facilitated a holistic understanding of the phenomenon under investigation.

The quantitative analysis initiated with the administration of the autonomy questionnaire both before and after the intervention. This instrument gauged students' self-reported proficiency in various dimensions of autonomy. The subsequent data analysis process encompassed several stages. First, scale analysis was performed, followed by the computation of composite scores for the four autonomy dimensions—learner awareness, subject-matter awareness of EFL, learning process awareness, and social awareness. The current focus is on the second dimension, specifically students' subject matter awareness.

To delve into the quantitative results, descriptive statistics (means and standard deviations) were calculated. Additionally, a multivariate analysis of variance (MANOVA) was executed to address the pivotal question of whether the EP intervention had a significant impact on students' subject matter awareness. In this analysis, the treatment condition (experimental versus control) was employed as the independent variable (Factor), and posttest levels of autonomy dimensions served as dependent variables. The level of significance (α) was
compared against the obtained Sig values, with α set at 0.05. The application of this technique aligns with literature recommendations, aiming to discern variables that potentially correlate with the outcomes and contribute to a more accurate prediction of influencing factors (Gay, 1996).

Qualitative data analysis encompassed diverse approaches. Extracts from the Record of Work Form, completed by students following the puzzle-solving phase, were subjected to thematic analysis. This process sought to illuminate students' self-perceived autonomy across the four dimensions: learner awareness, subject matter awareness of EFL, learning process awareness, and social awareness.

Furthermore, the qualitative insights derived from the teacher's observation log and video recordings played a pivotal role in enhancing the depth of understanding. These sources allowed for meticulous documentation of students' engagement during the intervention, providing valuable context to interpret and contextualize the quantitative findings.

6. Results and Discussion

6.1. Quantitative Findings - Autonomy Questionnaire

The initial step in the analysis of the quantitative data involved a thorough examination of the scale's reliability. Specifically, the assessment centered on the dimension of subject matter awareness. Utilizing Cronbach's Alpha coefficient, the reliability of the scale was evaluated. The resulting value of 0.819 surpassed the commonly accepted threshold of 0.7, as recommended by Nunan (1992) for instrument reliability assessment. The reliability coefficient's validation is documented in Table 3 below.

Table 3. Reliability of the scale for subject matter awareness

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.819</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 4 below reports the results of the research question: To what degree does the implementation of EP contribute to enhancing students' comprehension of the subject matter in the context of English as a Foreign Language (EFL)?
Table 4. MANOVA Test Results for Subject Matter Awareness

| Source  | Type III Sum of Squares | df | Mean Square | F    | Sig. | Partial Eta Squared | Noncent Parameter | Observed Powerb |
|---------|-------------------------|----|-------------|------|------|---------------------|-------------------|----------------|----------------|
| Corrected Model | 1000.410a | 4  | 250.10 3 | 9.520 | .000 | .528 | 38.082 | .999 |
| Intercept | 59.918 | 1  | 59.91 8 | 2.281 | .140 | .063 | 2.281 | .312 |
| Subject Matter Awareness | 153.365 | 1  | 153.36 5 | 5.838 | .021 | .147 | 5.838 | .651 |
| Group | 797.845 | 1  | 797.8 45 | 30.37 1 | .000 | .472 | 30.371 | 1.000 |
| Gender | 7.271 | 1  | 7.271 45 | .277 | .602 | .008 | .277 | .080 |
| Group Gender | 3.171 | 1  | 3.171 1 | .121 | .730 | .004 | .121 | .063 |
| Error | 893.180 | 34 | 26.27 0 | | | | |
| Total | 16125.00 | 39 | | | | | |
| Corrected Total | 1893.590 | 38 | | | | | |

a. R Squared = .528 (Adjusted R Squared = .473)
b. Computed using alpha = .05

In Table 4, the outcomes of the Multivariate Analysis of Variance (MANOVA) test are presented, depicting the learner autonomy scores of both the experimental and control groups.

The results reveal the following insights:
The analysis underscores a substantial disparity between the experimental and control groups due to the treatment, with a significant F value of (1.4) = 30.37, p = .00. The effect size is characterized by a Partial Eta Squared value of .47.

Furthermore, Table 4 highlights that no statistically significant variation in learner autonomy is linked to the gender variable, with an F value of (1.4) = .27, p = 0.60. This lack of significance is also reflected in the small Partial Eta Squared value of .00.

Similarly, the interaction between the treatment conditions and gender is not statistically significant, as indicated in Table 4. The associated F value is (1.4) = .12, p = 0.73, and the Partial Eta Squared value remains negligible at .00.

For a comprehensive overview of descriptive statistics (means and standard deviations) concerning learner autonomy based on treatment, Table 5 is provided below.
Table 5. Descriptive Statistics for Subject Matter Awareness

<table>
<thead>
<tr>
<th>Group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>23.5333</td>
<td>21.8750</td>
<td>22.9565</td>
</tr>
<tr>
<td></td>
<td>7.37628</td>
<td>5.02671</td>
<td>6.58150</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Experimental</td>
<td>13.5556</td>
<td>13.5714</td>
<td>13.5625</td>
</tr>
<tr>
<td></td>
<td>2.06828</td>
<td>3.50510</td>
<td>2.68251</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>19.7917</td>
<td>18.0000</td>
<td>19.1026</td>
</tr>
<tr>
<td></td>
<td>7.67820</td>
<td>6.02376</td>
<td>7.05913</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>15</td>
<td>39</td>
</tr>
</tbody>
</table>

Table 5 presents the mean scores for subject-matter awareness. In the control group, the mean score was 22.95 ± 6.58, while the experimental group exhibited a mean score of 13.56 ± 2.68.

6.2. Qualitative Findings

6.2.1. Record of Work Form

Upon analyzing the Record of Work Form, several themes surfaced: activities promoting awareness, activities contributing to writing skill development, peer support and assistance, and motivational impact. Illustrated in Figure 1, the breakdown indicates that 29.55% of students expressed heightened awareness through receiving peer feedback and grappling with related questions. Additionally, 22.73% acknowledged the helpfulness of their peers in refining their writing skills, while 18.18% found the activities motivating. The remaining 6.82% of responses were indecisive.

The subsequent excerpts have been selected from students' Record of Work Form:

- "I have gained a better understanding of how essays are corrected";
"I am uncertain about the quality of feedback from my friend, but I'm curious to see how this activity will turn out";
"I prefer to receive my instructor's feedback after my friend's feedback";
"I believe this will contribute to my improvement as a writer";
"I'm feeling highly motivated";
"I anticipate that self-correcting my writing will now be more manageable."

The following are some observations recorded by the researcher:

- **Initial observation phase:** Students are acquainting themselves with the rubric. Numerous inquiries about the assignment's grading.
- **Subsequent observation phase:** High levels of activity are evident. Positive teamwork is noticeable. Students are actively striving to provide precise feedback.
- **Concluding observation phase:** Enthusiasm arises regarding the additional grading related to editing. Enhanced engagement in the writing task becomes apparent.

**6.2.2. Observations from Video Recording**

The instructor's insights, derived from the video recording of the peer editing activity, reveal that the experience was remarkably authentic. Students displayed evident enjoyment and enthusiasm throughout the class, showcasing a high level of motivation. Notably, their participation was outstanding, exceeding expectations. The instructor was pleasantly surprised by the thorough preparation and effective management evident in each stage of the peer editing activity. The incorporation of video recording was deemed a valuable addition, contributing a sense of professionalism to the entire work endeavor. Notably, students demonstrated a commitment to delivering their peer feedback effectively and engaging collaboratively with their peers.

**7. Discussion**

The inquiry into learners' subject matter awareness of English as a Foreign Language (EFL) commenced by analyzing the dimensions related to autonomy within the autonomy questionnaire. Specifically, students were prompted to reflect on their tendencies: choosing familiar activities, identifying personal language challenges, emphasizing focus and organization in essay writing, attending to elaboration and style, paying attention to grammar and mechanics, resorting to guessing when uncertain, attempting to think and write in English, acknowledging self-awareness, and developing information retrieval skills. This assessment was conducted both before and after the intervention. The results of the multivariate analysis of variance (MANOVA) test on learner autonomy scores for the experimental and control groups within this dimension unveiled a significant difference attributed to treatment ($F = 5.83$). This conclusion reinforces the theories proposed by Hyland (2003), suggesting that autonomous learning encompasses self-reflection and collaboration. Furthermore, as noted by Wenden (1998) autonomous learners understand the purpose of their learning, assume responsibility, partake in goal-setting, proactively plan and execute learning activities, and consistently review and assess their learning effectiveness.

Moreover, the qualitative analysis of students' Record of Work Form corroborated these findings. Students reported how engaging with puzzling activities heightened their awareness and fostered writing skills development. Their strong motivation was also evident in their responses. Selected quotes from students included, "It is mind-opening and fun," "This should help me become a better writer," "I feel highly motivated," "Correcting my own writing should be easier now," and "I became more aware of how essays are corrected." These outcomes
align with previous research, such as Barfield and Brown (2007), which asserted that students' involvement in shaping classroom activities can yield positive autonomy and language learning outcomes.

Furthermore, the qualitative analysis of the researcher's observations documented in the observation log lends further support to these findings. The researcher noted the students' substantial engagement and improved performance. These observations and findings resonate with Lamb’s (2007) assertion that practicing learner autonomy necessitates insight, positive attitudes, reflective capacity, and a proactive approach to self-management and interactions. According to Lamb, conscious reflection on the learning process is a defining characteristic of autonomous learning. The findings suggest that students' reflective practices significantly enhanced their learning organization and self-confidence. This is in accordance with Allwright and Hanks's (2009) insight that "researchers were often their own diary-keepers, and so could expect to gain insights into their own learning" (p. 127).

Consequently, the hypothesis of the research question is validated:
The use of EP contributes to enhancing students' comprehension of the subject matter in the context of English as a Foreign Language (EFL).

The integration of Exploratory Practice (EP) within EFL classes offers valuable insights into avenues for enhancing students' awareness of subject matter and fostering autonomous learning, particularly in the context of productive skills like writing. However, it is crucial to underscore that such an approach should not be treated merely as an add-on to conventional teaching methodologies. To effectively empower learner autonomy, EFL instructors must engage in a comprehensive analysis of their teaching methodologies. This involves adopting a well-defined strategy that guides students towards achieving full autonomy and involves them as practitioner researchers.

8. Conclusions

In an age where Artificial Intelligence (AI) tools are playing an increasingly significant role in education, the importance of cultivating autonomous learners becomes even more pronounced. The dependency on AI for various learning tasks can potentially diminish students' self-directed learning abilities. Therefore, educators need to reassess their roles and adopt innovative approaches, such as EP, to ensure that students remain active participants in their learning journeys. This not only empowers students to be proficient language learners but also equips them with the skills to navigate an AI-driven educational landscape.

In this regard, EFL teachers need to transform their perceptions of students from passive recipients to proactive agents of their learning. Students possess untapped potential and should be provided the opportunity to assume roles both as learners and teachers. This shift in mindset acknowledges that becoming proficient language learners is intrinsically linked to becoming autonomous learners.

In conclusion, the integration of Exploratory Practice presents a promising avenue for nurturing autonomous learners, particularly in writing skills. However, its success hinges on a fundamental reevaluation of teaching methodologies. This becomes especially pertinent in the context of an AI-dominated educational environment, where fostering learner autonomy takes on added significance. The study's findings underscore the importance of reshaping pedagogical approaches to ensure that students remain active, self-directed participants in their
learning journey, capable of thriving in an evolving educational landscape driven by technology.

9. References


Appendix

**Autonomy questionnaire**

**Directions**: Read each statement; then circle the letter that best describes how you approach language learning and how you view yourself as a language learner.

- Mark (A) for **always**;
- Mark (O) for **often**;
- Mark (S) for **sometimes**;
- Mark (R) for **rarely**;
- Mark (N) for **never**.

*Please answer all questions with a pencil. Remember to circle only one answer per question.*

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</thead>
<tbody>
<tr>
<td>1. I try to get something out of every learning situation even if I do not like it.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>2. I choose learning situations that are suited to my way of learning.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>3. Besides language class, I plan activities that give me a chance to use and learn the language, especially in the area of writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>4. I choose activities because I am already familiar with the ideas.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>5. I can Figure out my special problems in language.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>6. I try to do something about my special problems particularly in writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>7. I do things I do not usually do to gain more information about English.</td>
<td>A</td>
<td>O</td>
<td>S</td>
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<td>8. I pay special attention to focus an organization in essay writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
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<td>9. I pay special attention to elaboration/support and style in essay writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
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<tr>
<td>10. I pay special attention to grammar usage and mechanics in essay writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
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<td>N</td>
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<td>11. I try to develop good techniques to practice and improve my writing.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>12. I look for clues that will help me understand how language works; I am just like a detective.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>13. When I do not know, I guess.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>14. I ask people to correct me if I make a mistake.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<tr>
<td>15. I compare what I write with what others write to see if I am using correct English.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>16. I think about what I have learned.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>17. I try to think and write in English.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>18. I overcome my feelings of frustration and lack of confidence.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>19. I can laugh at my mistakes.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>20. I am methodical and disciplined.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>21. I am logical and analytical.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>22. I am reflective and self-aware.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>23. I demonstrate curiosity, openness and motivation.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>24. I am flexible.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>25. I am persistent and responsible.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>26. I am venturesome and creative.</td>
<td>A</td>
<td>O</td>
<td>S</td>
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<td>27. I show confidence and have a positive self-concept.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>28. I am independent and self-sufficient.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>29. I have developed information seeking and retrieval skills.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>30. I have knowledge about and skill at, learning processes.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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<td>31. I develop and use criteria for evaluating learning.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
<td>N</td>
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<td>32. I demonstrate competent social skills.</td>
<td>A</td>
<td>O</td>
<td>S</td>
<td>R</td>
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Record of Work Form

My Record of Work Form
Name: ____________________
Date: _________________
Period: ____________________

What I have done:
(Describe activities and write down the titles of any materials you have used)
________________________________________________________________________
________________________________________________________________________

What I have learned:
(Summarize what you think you have learned in a few words)
________________________________________________________________________
________________________________________________________________________

Reflections:
(Comment on how useful and enjoyable your activities were. Any problems?)
________________________________________________________________________

Future plans:
(Note down next activities and when you will do them. Also, note any changes to your goals or plans)
________________________________________________________________________