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Study on Explicit and Implicit Learning in Internet-Based Environments

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Abstract: The popularization of the Internet has made online learning more and more popular, and people need to improve their knowledge and update their thoughts to keep up with the high-tech pace in the Internet era. This is increasingly important for individuals, businesses, or other organizations. Therefore, it is required that people learn how to learn effectively through the network in life, and how to improve learning efficiency has become the main problem to be solved, which requires a new understanding of explicit learning and implicit learning under the network. Effective learning inevitably requires the support of both implicit and explicit learning. By comparing explicit and implicit learning in traditional classrooms with those in online environments, this study conducts a detailed analysis of their transmission modes and their integration in conventional settings. It further investigates the operating mechanisms of explicit and implicit learning, as well as the transfer of explicit and implicit knowledge, in networked contexts, arriving at corresponding conclusions. Based on these findings and practical realities, the paper proposes several strategies for enhancing explicit and implicit learning online, covering three dimensions: the construction of learning environments, the development of teacher-designed courses, and the learner's own initiative.

1. Explicit and Implicit Learning in Traditional Classrooms

In traditional face-to-face classrooms, teachers can monitor students' progress and communicate easily with them, promptly resolving any problems. Peer interaction also facilitates mutual influence and knowledge exchange. Teachers should therefore impart useful knowledge that fosters students' overall development [1]. To ensure effective transmission, it is essential to understand the modes by which tacit knowledge spreads and to integrate them appropriately with explicit learning to improve academic performance and comprehensive abilities.

2. Effective Integration of Explicit and Implicit Learning in Traditional Classrooms

To achieve good results, explicit and implicit learning must be combined effectively. Teachers should guide students toward intended learning goals, allocate study time rationally, and ensure

sufficient opportunities for both forms of learning. Many parents already recognize the importance of implicit learning, often warning children that "one takes the color of one's company." Such parental concern is justified, as negative implicit learning can indeed lead students astray [2]. However, when properly harnessed, implicit learning can also strengthen learning outcomes—both in traditional classrooms and online.

3. Explicit and Implicit Learning in Networked Learning Environments

3.1 Operating Mechanism of Online Explicit Learning

Explicit learning involves acquiring overt, perceptible knowledge. According to linguist Stern, its online operation is characterized by: focused encoding, decontextualized processing, organization of knowledge "fragments," complex rule systems, and enhanced transferability [3]. Yet merely accumulating fragmented knowledge is insufficient; learners must regularly organize, summarize, and discard irrelevant information. Unfortunately, Figure 1 shows that fewer than 15 % of students frequently conduct post-study self-evaluation, while 28.5 % never do so.

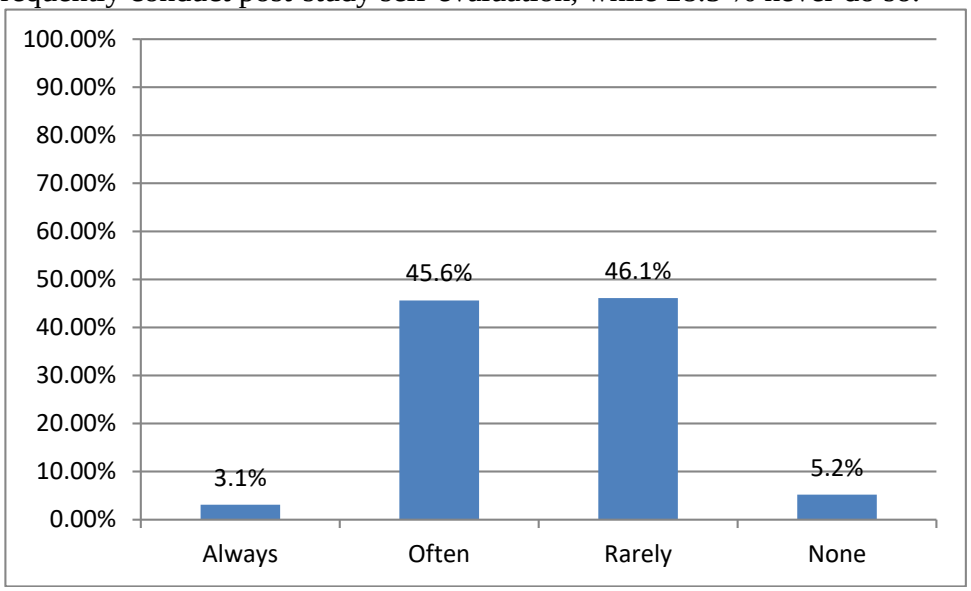

Figure 1: Self-evaluation or summarization after online self-study.

3.2 Operating Mechanism of Online Implicit Learning

3.2.1 Attention to the Topic [4]

Learning begins with accepting the object of study. Learners must voluntarily pay attention to the chosen content, obtained either through autonomous online searches or via teachers and peers.

3.2.2 Clear Goal Setting [5]

Goals should be realistic: neither so easy as to be unmotivating nor so difficult as to deter effort. They should lie just beyond current ability—"reachable with a jump."

3.2.3 Use of the Target Language [6]

Learners should translate goals into cognitive schemata and apply them during implicit learning. Teachers should likewise use the target language to guide students toward desired objectives.

3.2.4 Information Gap [7]

Learners should understand their own information-processing limits. Teachers must tailor content to these limits; learners, in turn, should provide timely feedback on their capacities.

3.2.5 Continuous Transmission [8]

Information should flow without interruption. A topic should be delivered cohesively so that learners can chunk knowledge efficiently. Senders must anticipate interference and implement error-correction measures.

3.2.6 Responding to Information, Not Mere Copying [9]

Learning is not passive reception. Learners must recode knowledge creatively, generating new insights and solutions; only then is the purpose of implicit learning fulfilled.

3.2.7 Periodic Summarization

Regularly organizing and evaluating acquired knowledge is crucial. Valuable information is retained, irrelevant information discarded, and a personal knowledge repository constructed [10].

3.2.8 Meaning and Applicability over Accuracy

Application outweighs precision. Learners should dare to transcend given templates, fostering creativity—the intrinsic demand of implicit learning.

3.2.9 Linking to Real-World Contexts

Online knowledge should be contextualized within societal needs. Tacit knowledge is tested in reality, enabling the leap from tacit understanding to explicit achievement.

4. Enhancing Explicit and Implicit Learning Online

4.1 Providing a High-Quality Online Learning Environment

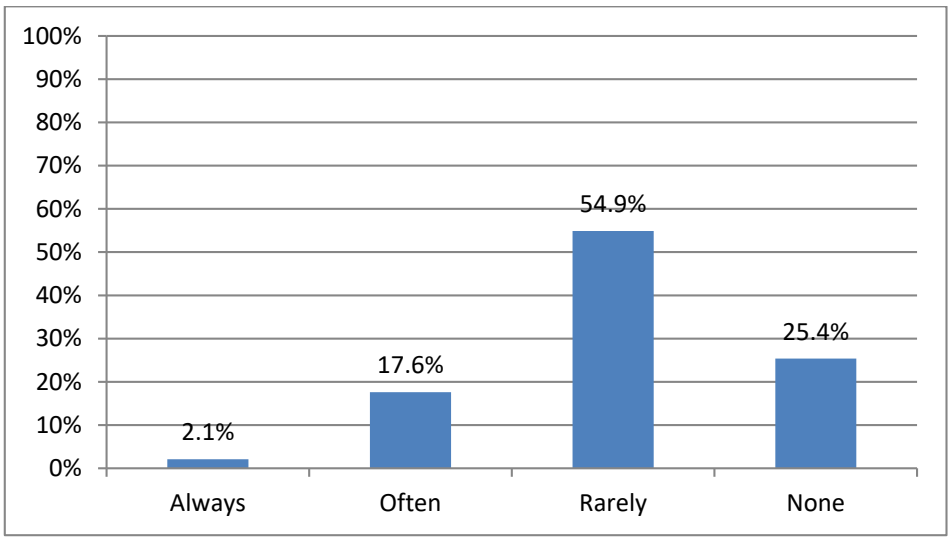

Figure 2: The degree of attention an institution pays to improving public knowledge through online learning.

An effective environment is pivotal. Yet Figures 2 and 3 reveal that only 19.7 % of respondents believe their institutions value online learning highly, and the richness of platform resources is wanting. Remedies include timely updates, abundant and accurate content, low technical barriers, and positive, healthy materials [11].

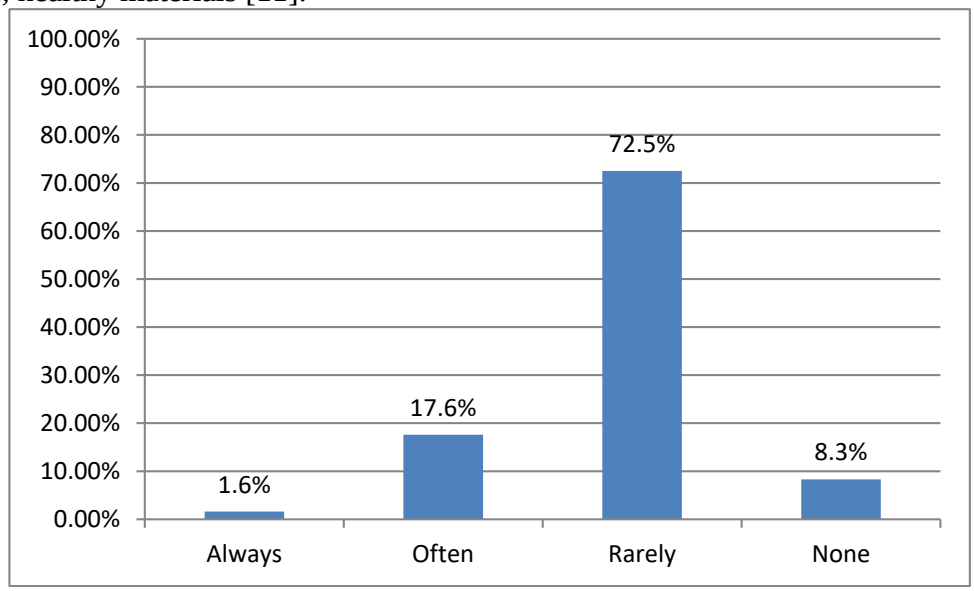

Figure 3: Survey results on the completeness of online learning platforms.

4.2 Course Development: Balancing Explicit Knowledge and Implicit Learning

4.2.1 Learner Analysis

Instructional design must be adjusted according to learners' prior knowledge and experience, while also taking their age into account.

4.2.2 Content Analysis

The nature of the course content determines the choice of instructional methods and media. For theoretical or procedural material, multimedia instruction is both acceptable and appropriate. However, when the subject requires learners to engage in inferential reasoning, presenting the entire process and its conclusion all at once via multimedia will markedly diminish the intended learning outcomes. [12].

4.2.3 Instructional Design

Courses should cultivate innovation, guiding students to internalize content through both explicit and implicit pathways rather than rote memorization.

4.2.4 Delivery

Following the pre-designed content and instructional plan, teachers convey new knowledge to students through their own explanations, which learners receive via networked media. A survey shows that 7.3 % of teachers broaden students' learning scope by directing them to relevant websites, 25.4 % recommend supplementary books, 57.5 % provide both online and print resources, while 9.8 % offer neither websites nor books.

4.2.5 Evaluation and Feedback

Feedback on online courses is often delayed; in remote, internet-based instruction, teachers cannot directly monitor students' learning processes and thus have little immediate information about learning outcomes. This creates a significant obstacle to evaluating their own teaching effectiveness. Therefore, after delivering course content, teachers should actively encourage students to evaluate the course. Teachers must then promptly collect and analyze this feedback, revise any identified deficiencies, and continuously refine the course design, instructional flow, and delivery methods [13].

4.3 Students' Construction of Tacit Knowledge

4.3.1 Self-Directed Knowledge Construction

Figure 4 shows a non-negligible proportion never use the internet to expand knowledge. Learners should leverage network resources to deepen understanding, actively synthesize explicit knowledge, and enlarge their tacit repertoire [14].

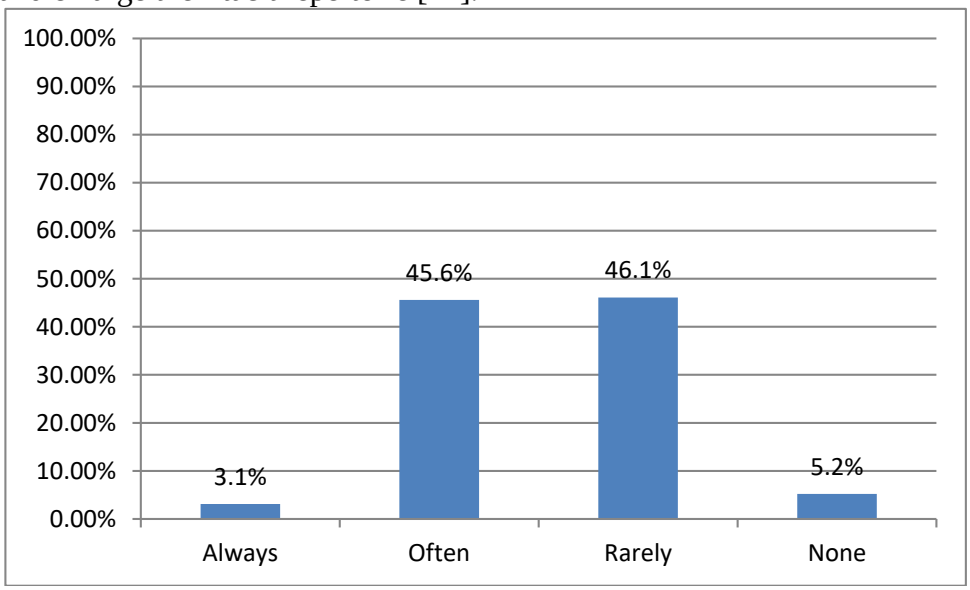

Figure 4: Situation of learners' autonomous use of the Internet to expand their knowledge.

4.3.2 Mining Teachers' Tacit Knowledge

Online learners must listen attentively, follow the teacher's flow, and capture core ideas—both explicit and tacit—which often appear fleetingly [15].

4.3.3 Emotional Interaction

Sharing results via emotional exchange fosters implicit learning. Figure 5 indicates QQ dominates online interaction. Learners should fully exploit such platforms to co-construct knowledge.

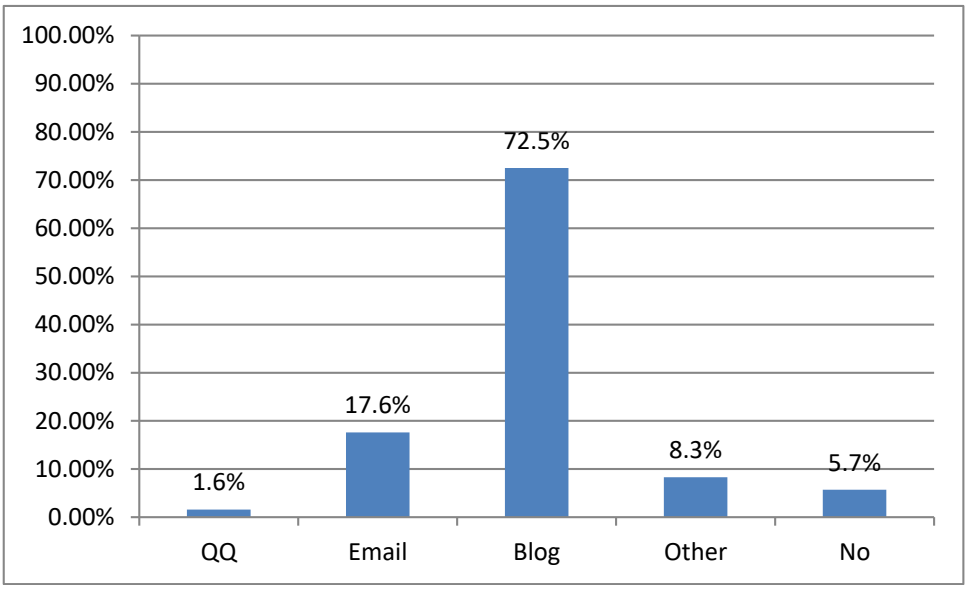

Figure 5: Communication methods in online learning.

4.3.4 Transfer and Abstraction

Mastered knowledge must be generalized and transferred. Many learners fail to apply online knowledge (Figure 6) because they seldom practice. Works such as Mars CG magazine should be abstracted into one's own tacit schemata and then converted into explicit practice.

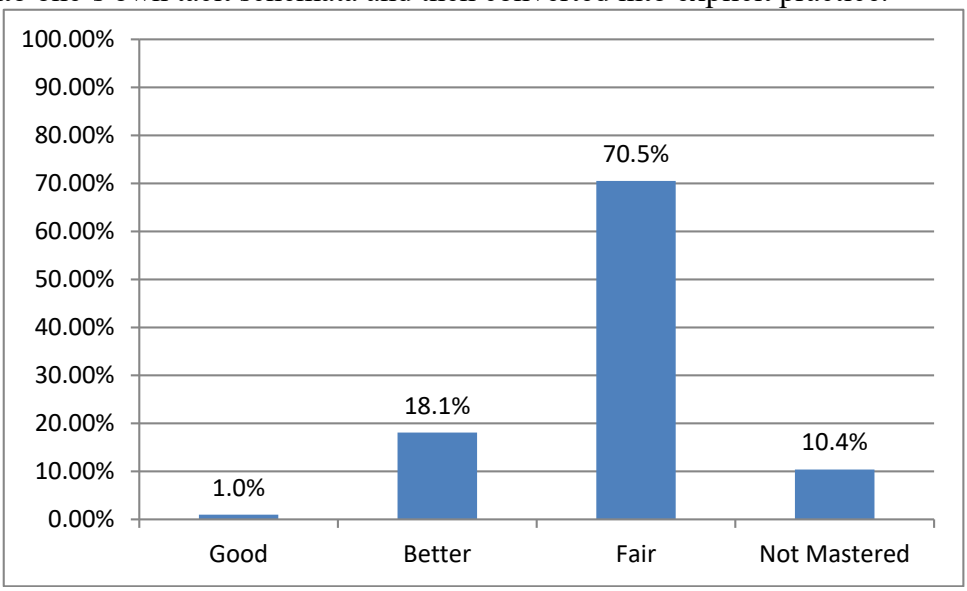

Figure 6: Level of knowledge mastery in online learning.

4.3.5 Learning by Doing

Undertake small designs or inventions and compare them with others—submitting works to crowdsourcing platforms like ZhuBaJie to receive market feedback and refine skills.

4.3.6 Self-Reflection

Reflection consolidates learning. Objectively evaluating outcomes identifies strengths and weaknesses, reinforcing knowledge through the cycle "tacit → tacit."

5. Conclusion

Explicit and implicit learning are both synergistic and distinct. Whether in traditional classrooms or networked environments, allocating time judiciously maximizes learning outcomes. Online, implicit learning may exert negative reinforcement; learners should promptly filter harmful information. Abundant online resources, active peer exchange, and continuous reflection enable the sharing of both explicit and tacit knowledge, fostering collective advancement.

References

[1] Cao, H., & Tang, J. (2017). A probe into the "explicit" and "implicit" issues in second language acquisition. Journal of Mudanjiang University, (10), 56–58.

[2] Du, X. (2011). Exploring the dynamic balance between explicit grammatical knowledge and implicit grammatical competence. Contemporary Foreign Language Studies, 11(7), 26–29+60.

[3] Lu, J., & Wei, N. (2018). The interface relationship between implicit and explicit knowledge of L2 collocations: A corpus-based psycholinguistic experiment. Foreign Language Teaching and Research, 50(6), 885–897+960.

[4] Lu, J. (2017). Characteristics of implicit and explicit knowledge of L2 collocations: An interface case combining corpus and psychological experiments. Journal of PLA University of Foreign Languages, 40(3), 52–56.

[5] Lin, L. (2017). Tacit knowledge, explicit knowledge and Zeno's circle of knowledge: On the relationship between implicit and explicit knowledge in second language acquisition. Data of Culture and Education, (26), 23–24.

[6] Rao, C. (2017). A decade of foreign research on explicit and implicit learning: A review. Oversea Chinese Education, (5), 13–16.

[7] Li, X. (2015). The application of tacit and explicit knowledge in college English reading instruction. Journal of Xinzhou Teachers University, 31(1), 112–114.

[8] Zhou, X., & Tang, L. (2016). A review of explicit and implicit knowledge in second language acquisition. Modern Chinese, (6), 11–13.

[9] Zhou, W. (2014). An empirical study of the interface between explicit and implicit knowledge in second language acquisition among English majors. Journal of Inner Mongolia University of Technology (Social Sciences Edition), 23(1), 103–107.

[10] Zhu, X. (2014). An analysis of "explicit" and "implicit" in second language acquisition. Modern Chinese (Language Research Edition), (9), 116–118.

[11] DeKeyser, R. (2000). The robustness of critical period effects in second language acquisition. Studies in Second Language Acquisition, 22(4), 499–533.

[12] Ellis, N. C. (2002). Frequency effects in language processing and acquisition. Studies in Second Language Acquisition, 24(2), 143–188.

[13] Ellis, R. (2005). Measuring implicit and explicit knowledge of a second language. Studies in Second Language Acquisition, 27(2), 141–172.

[14] Reber, A. S., Walkenfeld, F. F., & Hernstadt, R. (1991). Implicit and explicit learning: Individual differences and IQ. Journal of Experimental Psychology: Learning, Memory, and Cognition, 17(5), 888–896.

[15] Ullman, M. T. (2004). Contributions of memory circuits to language: The declarative/procedural model. Cognition, 92(1–2), 231–270.