



Exploring Undergraduate Students' Lived Experiences of Learning Critical Thinking and Reflective Practices: A Phenomenological Study

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ARTICLE INFO

Submission:

May 31, 2026

Revised:

June 14, 2026

Accepted:

June 29, 2026

Available Online:

July 16, 2026

Keywords:

critical thinking, reflective practice, phenomenology, undergraduate students, teacher education

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ABSTRACT

Critical thinking and reflective practice are essential competencies for prospective teachers in contemporary education. This study explores the lived experiences of undergraduate students who took the course Critical Thinking and Reflective Practices in a BS program of a public university at Sialkot. It was a qualitative study with a phenomenological research design. 8 prospective teachers were selected through a purposive sampling technique to get rich and detailed descriptions of their experiences. For data collection, semi-structured interviews were conducted through a self-developed interview guide. All the interviews were audio-recorded with the permission of the participants and lasted for 30-45 minutes. Data were analyzed using reflexive thematic analysis. The analysis generated three major themes: (1) transformative learning through student-centred pedagogy, (2) learning activities for critical thinking, reflective practice, and professional identity development and (3) contextual challenges and pathways for sustaining transformative learning. The results indicated that the students' analytical thinking, self-awareness, problem-solving skills, and reflective learning habits were improved. Some of the difficulties mentioned by participants were unfamiliar learning approaches, not having encountered critical inquiry before, and writing reflections. The study shows that critical thinking and reflective practice courses have a significant effect on students' intellectual and professional development and suggests that reflection/interactive learning should be introduced more in the academic curriculum in higher education institutions.

Introduction

Critical thinking is the ability to process information, assess evidence, detect assumptions and make informed decisions (Halpern & Dunn, 2022). Reflective practice is a process of thinking through experiences to enhance understanding and next steps. The 21st century education system demands that higher education institutions equip students with a set of higher-order thinking skills to prepare them to solve problems in society, their profession and education (Brookfield, 2019). Critical thinking and reflective practice have received a lot of focus as they aid decision-making, problem-solving and lifelong learning (Facione, 2015). These skills are increasingly recognized as being vital for undergraduate education all over the world (UNESCO, 2021). These abilities, when combined, enable students to be 'active' learners, who can think and critically respond to what they have learnt (Moon, 2021).

Although these skills are highly valued and important, students of certain undergraduate programs struggle to acquire critical thinking and reflective skills. Content-focused and performance-driven traditional teaching methods may restrict space for inquiry and analysis, as well as for self-reflection and self-questioning. At the school level, cultural, institutional and pedagogical barriers can hinder students from questioning existing wisdom, putting forth their own perspectives, or thinking more deeply. Students also evidence that they often do not have a clear understanding of the purpose of reflection and need to be guided in their reflective learning.

Critical thinking and reflective practice are significant for prospective teachers because teachers make decisions, evaluate themselves and adapt to various learning environments constantly during teaching (Larrivee, 2012). The teacher education programs thus incorporate courses to enable students to develop their analytical and reflective capacity. But students' lived experiences and perceptions are the best way to appreciate the effectiveness of these courses. Having students' experiences allows students to get insights into how teaching approaches affect the students' critical thinking and reflective skills (Yildirim & Ozkahraman, 2021). Therefore, this phenomenological study explores the experiences of the undergraduate students who took the course Critical Thinking and Reflective Practices in a BS program. The study aims to find out the students' perceptions about the learning activities adopted in the course and the effects of the learning activities on intellectual development and the learning process of the students.

Research Objectives

The following were the research objectives of the study:

1. To explore and describe the lived experiences of undergraduate BS students in learning critical thinking and reflective practices through courses offered in their teacher education program.
2. To examine undergraduate BS students' perceptions of the influence of course activities, such as questioning, discussion, text analysis, and reflective exercises, on the development of their critical thinking and reflective learning capacities.
3. To identify the challenges undergraduate BS students encounter in developing critical thinking and reflective practices and to explore their recommendations for strengthening the teaching of these competencies in their teacher education program.

Literature Review

Critical Thinking in Higher Education

Critical thinking is one of the most basic objectives of higher education as it helps the student to analyze information critically and make decisions (Halpern & Dunn, 2022). Interpretation, analysis, evaluation, inference, explanation and self-regulation are all components of critical thinking (Facione, 2015). These cognitive skills enable students to reflect on issues on many different levels and draw logical conclusions. The latest research studies have shown that critical thinking can help improve academic performance and encourage independent learning (Dwyer et al., 2020; Jamil & Muhammad, 2019; Jamil et al., 2024; Jamil & Rizvi, 2025; Majeed et al., 2026; Naseer et al., 2022; Naz et al., 2026). Students who have high critical thinking skills can analyze arguments, solve problems and assess arguments and evidence both in academic and professional settings (Davies & Barnett, 2021). Universities have, therefore, been expanding the importance of critical thinking in their curricula, incorporating in their learning activities inquiry-based learning, discussions and problem solving (OECD, 2023).

Reflective Practice in Education

Reflective practice has its origins in the work of Schon, who raised the subject of reflection in the process of learning. Reflection helps people to see what went well, what they didn't do so well and what they can do better in the future. Reflective practice is a strategy that can be used by teacher educators to reflect on their pedagogical choices and hone professional skills (Larrivee, 2012). Self-reflection by means of writing journals, portfolios and self-assessment activities is recommended as a method that will lead to deeper learning and self-awareness. The students who experience reflection are more able to link theory with practice and understand their learning processes (Korthagen et al., 2001).

Relationship between Critical Thinking and Reflective Practice

There is a close relationship between critical thinking and reflective practice. Reflection involves questioning experiences, assumptions and beliefs, while critical thinking may also include questioning and self-evaluation (Moon, 2021). These skills promote meaningful learning and intellectual growth in tandem (Mezirow, 2018). Learning environments that provide questioning, discussion and reflection have significant effects on critical thinking skill development (Yildirim & Ozkahraman,

2021). Reflective activities enable the students to self-reflect on their thoughts and thought processes, which enhance their critical thinking skills.

Critical Thinking and Reflective Practice in Teacher Education

Critical thinking and Reflective practice in teacher education are emphasized in teacher education programs since teacher evaluation of practice is essential and teachers need to be responsive to the changing educational needs. Reflective teachers are more likely to be good at improving their teaching and supporting students' learning (Larrivee, 2012). Collaborative discussions, case analysis, reflective writing and inquiry-based learning are beneficial learning experiences for teacher-education students (Flores & Day, 2006). These kinds of activities can enable students to build professional identities and act as reflective practitioners who can solve learning problems (Brookfield, 2019; Korthagen et al., 2001).

Research Methodology

This study employed a qualitative phenomenological research design. This research design provides an understanding of the meaning of participants' lived experiences of a specific phenomenon (Creswell & Poth, 2018). The design was deemed appropriate as it was designed to examine students' personal experiences with learning critical thinking and reflective practices. The study was carried out in a public university which provides a BS program in Education. The participants had taken the course Critical Thinking and Reflective Practices as part of their undergraduate education. The participants were 8 undergraduate students who were selected using purposive sampling. The inclusion of this number of informants was by purposive sampling since participants knew the phenomenon being studied first-hand (Merriam & Tisdell, 2019). Inclusion criteria included participants who had taken the course Critical Thinking and Reflective Practices in a BS degree program. Semi-structured interviews were used to collect data. Semi-structured interviews served as a flexible interviewing method but also helped to cover key topics for the critical thinking and reflective practice project (Brinkmann & Kvale, 2018). A self-developed interview guide was used based on previous literature and objectives of the study. All the interviews were audio-recorded with the permission of the participants and lasted for 30-45 minutes. The collected data were analyzed using thematic analysis as outlined by Braun and Clarke (2021). The analysis involved:

- Familiarization with the data.
- Generating initial codes.
- Searching for themes.
- Reviewing themes.
- Defining and naming themes.
- Producing the final report.

The researchers carefully examined participants' narratives to identify recurring patterns and meanings related to their experiences of learning critical thinking and reflective practices. Ethical Issues were carefully adhered to during the study. Before the participants were involved in the research, they were given full details of the research and were asked to complete informed consent forms. All participants were volunteers, and there were no penalties for dropping out. All information about the interviews was kept in a secure place, and pseudonyms were used to ensure confidentiality.

Results of the Study

The results of the study are narrated with the following themes and subthemes.

Theme 1: Transformative Learning Through Student-Centered Pedagogy (Objective 1)

The first theme reflects students' experiences in being an undergraduate BS student in their overarching experience of the Critical Thinking and Reflective Practices course. A common theme from all participants' accounts was that as students came into the course, they were initially looking for a topic based on theory and lecture but gradually changed into a personal and intellectual process which moved them from a passive receiver of information into questioning and a reflective student.

Students might have the idea that they would never be able to master a topic until they have just begun their studies of it. Further subthemes are as under:

Subtheme 1: Evolving Perceptions of the Course Experience

When asked about their approach to the course and their thinking about how it would be like other courses with lots of content, almost all the participants expressed their skepticism/less than optimum expectations. As the semester progressed, this initial perception was consistently revised as students experienced the course's interactive, discussion-based format.

Participant 1 said, "We also learnt to think in different ways and to learn from our own experiences throughout it. In the course I was taught to reflect on the things I have done wrong, and to learn from them."

Participant 2 mentioned,

At the beginning of the course, I believed critical thinking was nothing more than being able to resolve complicated queries, but as the course progressed, I discovered that critical thinking is about examining evidence, working through a matter logically, and knowing various points of view, and how to pinpoint my errors and strengths through reflective practice.

Participant 6 commented,

I had a theoretical-expository approach to this course when I first began, and I thought that it might be a dull course with only definitions and concepts; however, as the course progressed my thoughts changed because I had discussions with my peers, reflective exercises, and heard various perspectives which gave me the understanding that this course is not just about studying but it is about developing our thinking skills as well.

Subtheme 2: Reflective Dialogue as a Catalyst for Meaningful Learning

The activities were seen as moments that were important in the participants' learning experience. Debates and group discussions, which challenged students' own misconceptions, and reflective writing activities were particularly found to be very influential, forcing students to look for and revisit their own misconceptions, as well as listen to and learn from different perspectives.

In the process of the discussion, one thing of meaning to participant 2 was when a discussion was led on the subject of 'Traditional teaching versus student-centred learning'. All students expressed a variety of views. Recognized that learning goes beyond the teacher and teaching. It is important that opportunities are provided for students to be involved and ask questions. One of the participants who shared her experience at school was focused on the teachers' approach to rote learning. Participant 4 said,

One of the most meaningful activities for me was a classroom debate. It taught me how to present my ideas confidently and logically. I also learned that different people could have different opinions on the same topic, and every opinion usually has a valid reason behind it.

Participant 3 narrated,

The teacher assigned a reflective writing task in which we had to write about our weaknesses. I realized that I become nervous during presentations. During one presentation, my voice became very soft, and the teacher encouraged me by saying that confidence comes with practice.

Subtheme 3: Student-Centered Classroom Climate and Active Learning

Students consistently noted that the course felt distinctly different from their other BS courses. The learning environment was described as open, supportive, student-centred, and inquiry-driven, in sharp contrast to the lecture-based, note-taking culture of other courses. Participant 1 explained, "This course was different because it did not rely only on lectures."

Participant 4 said, "This course was more student-centred than other courses, where the teacher would lecture, and students would listen; instead, the teacher made the students feel involved in the class in discussions, group work and reflections after each topic."

Participant 8 reported: "This course was very different from others – the teacher encouraged students to give suggestions, ask questions and join in the discussion in the classroom and in this interactive approach to learning, my interest in the subject was greatly increased."

Subtheme 4: Peer Interaction as a Source of Confidence and Psychological Safety

4th sub-theme that was observed in the data of Objective 1 was that there was an initial reluctance to speak and anxiety and fear of judgment. Barriers started to dissolve as students participated in the dialogue and started to be aware of other student groups and grew communicatively confident and open. Participant 1 commented,

At first, it wasn't easy to engage in conversations and to ask questions as I did not want my responses to be incorrect, but as I started to engage, I gained more confidence, as did my teacher and fellow children.

Participant 3 said,

I was initially nervous to ask in class as I thought that others would laugh at me, but as time went on, I became more relaxed and more at ease; I would discuss my learning mistakes in one of the class activities, which I felt uncomfortable at the time but later found that everyone had their own set of learning mistakes.

Peer influence was described by participant 6 in the following words:

The participation of my classmates had a great influence on my learning experiences, as they have different ways of thinking and different experiences; I remember one conversation was around teacher behaviours and student learning and how much it had influenced my learning experience, as one of my classmates shared how a teacher's positive behaviour had had a great impact on her confidence level.

Theme 2: Learning Activities for Critical Thinking, Reflective Practice, and Professional Identity Development

The second theme is a collection of participant experiences related to how their designed course activities (questioning, discussions, text analysis, and reflective journaling and argumentation activities) facilitated them in developing into critical thinkers and reflective learners. Not just in terms of their academic achievement, but in terms of personal habits, professional orientation and the new insight into the role of a good teacher, students reported changes.

Subtheme 1: Questioning and Text Analysis for Analytical and Evaluative Thinking

The analysis tasks on text and the structured questioning were reported by many participants to have moved them from receiving information to questioning and evaluating it. It was discovered that they were able to think about logic, evidence and authenticity before making a conclusion and introduced this into their studies and personal life.

Participant 2 explained,

As a part of an assignment on inclusive education, he/she would have accepted the author's word without analysis of arguments, evidence and limitations, but after such analysis, he/she compared the author's arguments, evidence and limitations with the practical issues of school in Pakistan, which helped him/her with enhancing analytical thinking.

Participant 6 narrated,

Prior to this, I never really thought about information, and now I think about analyzing information before accepting it. In classroom activities, discussion, and questioning, I have learnt to think logically and have developed a positive and negative attitude towards a problem.

Participant 8 described,

I have learned a lot more to be critical in this course; before this, if somebody told me something, there was no need for me to be critical of it, but now I'm considering things that are good about it and the things that are not; I'm doing the appropriate research before I accept it.

Subtheme 2: Reflective Journaling for Self-Awareness and Professional Growth

Reflective writing and journaling were very effective means of promoting self-awareness and professional development. The participants indicated that they gained insight into their own strengths and weaknesses and improved their time management skills because of the documentation of their experiences and a plan for future development of their teaching.

Participant 2 shared,

Reflective journaling was very useful to reflect on what I learnt, what I got wrong and how I will improve; this helped me to look at my learning and teaching style. During teaching practice, it was observed that the students did not have an interest in

the lecture method, and during this time my reflective journal was used to reflect on this and group discussion and questioning strategies to promote student participation.

Participant 6 shared her perspective in the following words:

Reflective exercises and journaling activities have helped me to gain a deeper understanding of my learning, instead of grades, I began to think about what I learned and what I still needed to learn, I noticed that I now became a more responsible person as I no longer saw my mistakes negatively, I tried to see what I learned from it and what I still needed to learn from it.

Participant 8 explained,

Reflective practice was not something I knew – prior to taking this course, reflecting meant reflecting on one's skills and performance – but it can be a process that can take time and grow over time, to help me continually refine and transform my skills.

Subtheme 3: Debate and Text Analysis for Argumentation and Reasoning

Participants gave their perceptions of facilitation in terms of developing and justifying arguments based on evidence from text analysis and academic discussion tasks. Through these activities, learners could be helped to differentiate between opinion and reasoned argument and how to sustain ideas with reasoned argument. Participant 2 stated,

The main aim of the activity was to enhance the argumentation skills of the participants. Some students during the discussion on 'Technology in Education' agreed that the use of mobile phones is a distraction in the classroom for this purpose. This was followed by the presentation of research papers by the students, and examples were given of the role of educational Apps and online learning in enhancing learning, provided they are properly guided.

Participant 5 said,

The text analysis and class discussions helped me to develop my argumentation skills. I used to not be able to explain my ideas; now I can do it with evidence and logic. In discussion with the class, I learned that arguments need to have evidence and logic.

Participant 8 stated,

In these activities, I learned that when people want to express an opinion, they should be able to provide supportive facts and evidence for their opinion; and that people are more easily understood and accepted when they come with evidence and facts. I remember I'd make a presentation with some research-based examples to illustrate points.

Subtheme 4: Transfer of Learning to Professional Teaching Practice

One of the most significant results was that although students could only apply the analytical process of critical thinking and reflection within the course, they could also apply it in other courses. They reported increased transfer from their more general learning activities and increased sense of thinking about their role as a future student-centred teacher, reflecting on learning. Participant 2 said,

As for the teaching practice, I can critically examine research articles more easily as I am already trained in critical thinking skills in my Research Methods class, and I made it a point to prompt students to ask questions as opposed to just giving answers to them.

Participant 5 commented,

I think that these are important critical thinking skills and reflective skills that have had a very positive impact in my studies. As a future teacher, developing kids' critical thinking skills and asking questions is very important, as well as giving them knowledge.

Participant 1 narrated,

My pedagogical philosophy has evolved to a constant reflection on my work, my experiences and my pedagogy with the goal of improving my pedagogy. I used to think that teaching was simply about giving a lesson, but now I know that the other part of teaching is reflecting on how good/bad it was and changing it.

Theme 3: Contextual Challenges and Pathways for Sustaining Transformative Learning

The third theme contains problems faced by the participants in implementing critical thinking and reflective practice, as well as the participants' concrete recommendations to teach critical thinking and reflective practice in the BS teacher education. The results show that barriers are personal, cultural, institutional and assessment-related, while the recommendations are related to practical learning, formative assessment, supportive pedagogy and empowerment of students.

Subtheme 1: Influence of Rote Learning Backgrounds on Critical Inquiry

The most consistently cited challenge was students' prior socialization into rote-learning, teacher-centred educational environments. This background made questioning, open discussion, and independent opinion expression feel unfamiliar and uncomfortable at the start of the course. Participant 2 explained,

The biggest challenge was overcoming traditional learning habits. Previously, we relied heavily on rote memorization and accepted teachers' views without questioning them. When the course required analysis, questioning, and argumentation, I initially felt confused. During a discussion on the advantages and disadvantages of an educational policy, I found it difficult to support my opinion with evidence.

Participant 3 stated, "I found independent thinking difficult because, at the school level, we mostly relied on ready-made answers. When the teacher asked open-ended questions, I initially found it difficult to respond." Participant 8 said, "At the beginning of the course, I found the concept of critical thinking difficult because I was used to a rote-learning system where information from teachers and textbooks was accepted without question."

Subtheme 2: Challenges of Reflective Writing as a Cognitive and Emotional Process

Many students found it difficult to express the deepest movement or reflection in the journaling and to be direct in expressing oneself through the process of self-exposure, especially at the beginning of the course. Participant 2 shared,

The concept of reflective writing proved challenging to start with, as I didn't feel able to say negative things about the things that I was not very strong on in my lesson, and I was challenged with time management. I produced a reflective journal, and it was challenging to provide explanations following the teaching practice of what it was that was lacking in my lesson.

Participant 5 explained that,

At first, it was hard for me to be honest and acknowledge my weaknesses and my mistakes; to discuss them, it was hard to allocate time for reflective journals, but it was a process of reflection, of deep analysis of my experiences that, over time, I became better at, helped by the teachers' feedback and suggestions from my classmates.

Participant 3 said,

Yes, it was uncomfortable for me to start with, because I had to look back on my weaknesses in my journal, but as I started to see how important it was to be able to look at myself to make myself better, I felt uncomfortable at first, but then I became used to it.

Subtheme 3: Cultural and Institutional Constraints on Active Learning

In addition to the above-mentioned cultural norms, other than students' personal norms which make them hesitate to express their opinions when they do not agree with their teachers are excessive workloads and the culture of the school, which is dominated by students' listening attitude towards the lecturers. Other cultural norms, in addition to the above-mentioned cultural norms apart from the students' personal norms which make them hesitate to express their opinions when they have not reached the same opinion, are excessive workloads and the culture of the school which is dominated by the attitude of listening to the lecturers. Participant 2 observed,

Cultural and institutional factors also influenced engagement, as in my education system, students are not constantly encouraged to question ideas; some students were too busy to have the opportunity to reflect on the ideas they were given, with multiple assignments to do; many students were not encouraged to voice their opinions in discussions.

Participant 5 commented,

Some personal and institutional factors made engagement difficult: some of the students failed to be able to express their opinions openly due to a lack of self-confidence in giving the correct answers; classes were mostly lecturing based resulting in limited engagement of students in critical thinking activities.

Participant 1 said that there were some obstacles that were identified as personal factors: “Not being confident, lack of time, fear of speaking in front of class, sometimes lack of openness in the class to give free expression.”

Subtheme 4: Assessment Practices as Both Enablers and Constraints of Learning

The following aspects were reported helpful in developing critical thinking in the students: Presentations, group discussions, reflective journals and assignments. However, it was felt that heavily memorized written tests were against the spirit of the course.

Participant 2 suggested, “Further implementation of project-based learning and reflective journals, open-ended questions and practice in the assessment system.” Participant 5 commented: “Some of the assessments could be useful in that they requested that the student explain their thinking, including group discussions, assignments and presentations; others relied on the memorization of concepts, and did not involve critical thinking.”

Participant 6 commented that,

I learnt a lot about how to be more critical and reflective when I did presentations and assignments in the class and discussed my ideas; I have changed my strategy from being a textbook-based learner to being a concept-based learner.

Discussion

The findings of this phenomenological study indicate that the critical thinking and reflective practice course facilitated authentic and multi-dimensional changes in students' intellectual habits, self-awareness and professional orientations, which closely correspond with the theoretical framework of the study and are based on Facione's (2015) components of critical thinking and Korthagen et al. (2021) concept of reflective teacher education. The participants' lived experiences reflect what the literature identifies as the fundamental value of inquiry-based, discussion-centred and reflective pedagogy: when students are allowed to question, compare, debate and engage in journaling, they transition from surface memorization to deeper analytical engagement. Notably, this study provides phenomenological depth by illustrating that transformation did not occur instantly but developed through progressively accumulating experiences-starting with initial discomfort in open discussion followed by enhancing confidence through teacher support and peer interaction and ultimately leading to a stable shift in learning identity.

These findings support Yildirim and Ozkahraman's (2021) assertion that a learning environment fostering questions and reflection substantially enhances critical thinking skills while simultaneously extending that claim by capturing the emotional and cultural aspects of this process among Pakistani undergraduate students. The study further indicates that the course effects reached beyond the classroom, shaping how students engage with other courses, carry out the research assignment and perceive their future responsibilities. This transfer effect aligns with Moon's (2021) arguments that reflection and critical thinking. When nurtured simultaneously, create active learners who can respond thoughtfully to a wide range of intellectual and professional challenges.

However, the data also indicate that major barriers continued to exist, particularly the longstanding effects of rote-learning backgrounds, cultural reluctance to question authority and the assessment system that still partly emphasized memorization rather than reasoning. These findings support the argument that institutional reforms should go hand in hand with pedagogical reform for critical thinking education to be sustainably effective in Pakistani higher education.

Conclusion

It was found that in a non-memorisation-based learning style course like Critical Thinking and Reflective Practices, which introduced students to the consideration of multiple perspectives, reflective learning and evidence-based thinking, the course created a positive and identity-creating educational experience for the BS undergraduate students. The discussions, debates, text analysis and reflective journaling activities were considered effective for enhancing students' critical thinking abilities, their argumentation skills, and self-awareness while preparing them to be reflective professionals as teachers. The other side of this research is, however, that the benefits of such courses are constrained by the background in which the learners find themselves socialised, the expectation of open questions in their culture, the emotional challenges the learners face when having to engage in reflective tasks and differences between the interactive teaching that is offered during the course and the assessment systems that are based on examinations. Based on the results, it can be concluded that education with critical thinking and reflective practice has great potential to transform the teacher training program in BS. If this potential can be achieved, then it is necessary to have continuous systemic support to make it effective from the point of view of pedagogy, assessment, institutional culture and curriculum design.

Recommendations

The following were some recommendations based on the findings of the study:

1. Establish a psychologically safe and confidence-enhancing classroom environment from the first week so students from rote-learning backgrounds can engage with questioning and discussion without fear of judgment.
2. Incorporate practical, real-life case studies, classroom scenarios, and problem-based tasks from the beginning of the course to bridge the gap between abstract concepts and applied understanding.
3. Update assessments to focus on the presentation, reflective journals, open-ended assignments and group projects, rather than memorization-based assessments; remove assessments that do not foster critical thinking skills.
4. Ensure that all courses in the BS program have a critical thinking and reflective practice element that helps reinforce, extend, and apply the skills that were taught in the course and to give greater consistency in the skills across courses.
5. For teacher preparation programs, a critical thinking course should be included that is significant to support students in thinking and making decisions.

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