



Learning Through Inquiry: Using Student-Generated Questions to Teach China's Economy

This paper presents a structured question-generation assignment implemented in an upper-level undergraduate course on China's economy. Each week, students submitted multiple-choice and essay questions based on assigned readings, fostering close reading, peer feedback, and formative assessment. The assignment evolved through rubric-based evaluation and contributed to a growing test bank. Over time, student submissions showed improved clarity and analytical depth. Grounded in active learning and cognitive theory, this approach helped students engage with unfamiliar institutional content. Though developed for China's economy, the assignment is adaptable to other economics courses that explore distinct institutional, historical, or policy contexts.

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1. Introduction

Undergraduate economics courses that focus on a specific country—especially one as institutionally distinct and historically complex as China—often face a dual challenge: students typically arrive with limited background knowledge, and the material may not align with the analytical frameworks emphasized in standard coursework. In a course centered on China's economy, many students are encountering both the country and its economic system for the first time. Traditional lectures and passive reading assignments are often insufficient to foster meaningful engagement with unfamiliar content.

To address this, I introduced a recurring assignment that asked students to generate their own multiple-choice and essay-style questions based on the weekly readings. The goal was not only to promote close reading but also to shift students from passive absorption to active inquiry—encouraging them to identify what was important, what was confusing, and what warranted further exploration. Over the course of the semester, this activity became both a learning tool and a formative assessment mechanism, helping students sharpen their understanding while contributing to a test bank used in exams. While active learning strategies are increasingly common in economics, structured student-generated question assignments remain underutilized, especially in courses covering institutionally unfamiliar topics such as China's economy.

This paper describes how the assignment was implemented in an upper-level undergraduate course on China's economy, how it evolved in response to student feedback, and what kinds of learning it appeared to support. It also offers suggestions for how similar strategies could be adapted to other economics courses where students must engage deeply with unfamiliar institutional or historical contexts.

2. Pedagogical Background

Asking students to generate their own questions is grounded in constructivist learning theory, which emphasizes that learners build knowledge most effectively through active engagement, reflection, and inquiry (Bransford, Brown, & Cocking, 2000). This approach stands in contrast to passive absorption, encouraging students to interact with course material by identifying key concepts, articulating confusion, and exploring deeper connections. Research in cognitive science supports this method: for example, Chi and Wylie (2014) show that active engagement fosters better conceptual understanding, and Freeman et al. (2014) found that active learning improved exam scores and reduced failure rates across STEM disciplines, suggesting broad cross-disciplinary relevance. Ambrose et al. (2010) and Stanton, Sebesta, and Dunlosky (2021) both underscore the value of metacognitive practices—students' ability to monitor and regulate their own learning—as central to academic success and performance.

The benefits of question-generation are also well supported in the literature. Formulating questions requires learners to reorganize knowledge, clarify gaps in understanding, and think critically about what matters (Yu, 2009; King, 1992). This process supports self-regulated learning by helping students assess their comprehension and direct their efforts accordingly (Zimmerman, 2002; Dunlosky et al., 2013). Cognitive psychology has long recognized the "generation effect"—a phenomenon first identified by Slamecka and Graf (1978)—which shows that self-produced content, such as summaries or questions, enhances memory and promotes deeper learning (Foos, Mora, & Tkacz, 1994). Bertsch et al. (2007) confirmed the robustness of this effect across learning tasks in a comprehensive meta-analysis. In line with Vygotsky's (1978) view of learning as socially mediated, the assignment's use of peer-reviewed questioning supported collaborative meaning-making and internalization of complex material.

In economics education, active learning techniques such as classroom experiments (Emerson & Taylor, 2004), cooperative learning (Yamarik, 2007), have consistently improved student engagement and conceptual understanding. Salemi (2002) further demonstrates how these approaches can enhance participation and comprehension, especially when teaching abstract economic models. Within this tradition, student-generated content has shown particular promise. Yamarik (2007) found that cooperative learning strategies helped students reach higher levels of Bloom's taxonomy—such as applying, analyzing, and evaluating economic concepts—even in analytically demanding courses. McGoldrick's (2011) review highlights the value of student-centered approaches—including question-generation—in fostering analytical reasoning and deeper engagement, even in advanced economics courses. Despite a growing body of evidence, lecture-dominated formats remain common (Watts & Schaur, 2011; Goffe & Kauper, 2014), underscoring the need for broader adoption of student-centered practices.

For courses that address global or institutional diversity, such as those focusing on China's economy, structured question-generation can be especially valuable. Despite these benefits, question-generation remains relatively underused in area-specific economics courses. Students in such courses often arrive with a limited background in the relevant institutions, policy history, or cultural frameworks. In the case of China, for example, students must grapple with distinctive institutional arrangements, such as state-owned enterprises, and a development trajectory that diverges from Western economic models (Naughton, 2018; Ang, 2016). These unfamiliar features can lead to cognitive overload or biased interpretations. A structured question-generation assignment can help students navigate this complexity by surfacing misconceptions, prompting more deliberate reading, and fostering analytical reasoning. Instructors, in turn, gain valuable insight into student thinking, allowing for more targeted clarification and support (Deslauriers et al., 2019).

I designed the assignment to put these pedagogical principles into classroom practice. This study examines how a structured question-generation task—tied to weekly readings—was implemented in an upper-level course on China's economy. The assignment promoted more engaged reading. It also improved the quality of assessment materials, deepened student understanding, and supported peer feedback and reflection. Finally, the approach may hold promise for hybrid or online learning environments, where student engagement is often harder to sustain.

3. Course Context and Implementation

This activity was implemented in an upper-level undergraduate course titled *China's Economy*, offered at a medium-sized private university in the Midwest. The course enrolled 23 students from a range of majors, most of whom had no prior background in Chinese studies or international economics. Its primary goal was to introduce students to the structure, transformation, and challenges of China's economy through institutional, historical, and comparative perspectives.

To promote deeper engagement, a structured question-generation assignment was integrated into the course, tied to weekly readings from *The Chinese Economy: Adaptation and Growth* by Barry Naughton (2nd ed.). Each week, students were assigned a section of the chapter and asked to submit the following:

- Two multiple-choice questions targeting key concepts, terms, or institutional details.
- One open-ended essay question based on a topic they were curious about or wished to explore further.

The assignment accounted for 15% of the final course grade, providing a consistent but manageable incentive for participation and thoughtful engagement. The full assignment handout appears in Appendix A.

The objective was not only to promote close reading, but also to shift students from passive absorption to active inquiry. The multiple-choice questions reinforced core concepts and were compiled into a test bank used for exam construction. Although students were not formally assessed by the essay questions, they provided insight into students' interests and areas of uncertainty. For example, one student asked, "How did China's accession to the WTO impact foreign direct investment in its service sectors?"—a question that reflected curiosity about institutional reform, global integration, and sector-specific policy outcomes. At times, student-generated prompts overlapped with the review questions I provided weekly and occasionally informed short-answer or quiz items. For instance, one student submitted the prompt, "Briefly explain the seven key elements of China's dual-track system," which mirrored a quiz question I had already written—suggesting students were beginning to recognize and prioritize foundational course concepts on their own.

Each week, I reviewed student submissions to build the test bank and identify recurring themes or misunderstandings. While the student-generated questions were not used during class sessions for peer practice or group discussion, selected quiz or review items were often aligned with them, and several were later incorporated into the broader test bank, reinforcing the connection between preparation and performance.

In a prior semester, I found that many student submissions were superficial or unclear, and students expressed a preference for having some say in which questions would appear on exams. Based on that experience, I revised the assignment to include structured peer evaluation and a more transparent grading system. Initially, peer voting was used to determine both which questions entered the test bank and how grades were assigned. After submitting their questions, students participated in anonymous polls to vote on the most exam-worthy submissions. Grades were based 50% on completion and 50% on the proportion of peer votes. For example, if one question earned 80% of the class vote and another earned 90%, the score would be: 5 points for completion, plus (2.5×0.80) and (2.5×0.90) , for a total of 9.25 out of 10.

This approach incentivized thoughtful question design, but some students raised concerns that polling results could be biased by topic difficulty. Students assigned to more abstract or technical sections felt disadvantaged, even when they had put in comparable effort. To address this concern, I revised the evaluation system. While the class poll continued to determine which questions were added to the test bank, grading shifted to a rubric-based peer review process. Each student's submission was evaluated by three peers using a shared rubric (see Appendix B), which assessed clarity, relevance, and conceptual depth. These scores were averaged and scaled from a 20-point rubric to a 2.5-point contribution per question. For example, if one question received scores of 20, 19, and 17, and another received 20, 13, and 15, the final score would be: 5 points for completion, plus $2.5 \times (18.67 / 20)$ and $2.5 \times (16 / 20)$, totaling 9.33 out of 10.

This revised system provided more consistent feedback, reduced the impact of topic variation, and clarified shared expectations for quality. It was well-received by students and encouraged greater care and intentionality in their work. Over time, submissions showed marked improvements in clarity, relevance, and analytical depth.

4. Evidence of Student Learning

One of the clearest indicators of growth in student engagement and understanding

was the improvement in the quality of student-generated multiple-choice questions over the course of the semester. Early submissions often focused on factual recall or surface-level details, while later questions demonstrated greater analytical depth and stronger integration of course themes. This pattern may partly reflect the time needed for students to build a foundational background knowledge before they can identify and explore more nuanced institutional themes.

For example, an early-semester question on Chapter 3 emphasized institutional facts:

What was the goal of the NRC (National Resources Commission) formed during the Civil War?

- A. To mobilize China's resources (manufacturing and mineral mining)
- B. To train soldiers to fight against Japan
- C. To handle international relations
- D. To increase the number of educated individuals

(Correct answer: A)

Although factually correct, the question required only basic recall. It did not prompt students to apply economic reasoning or connect the NRC's role to broader themes such as industrial policy or state-building. By contrast, a later-semester submission from Chapter 15 reflected a more nuanced understanding of institutional reform and its role in economic development:

How did the institutional reforms and improved governance of state-owned enterprises contribute to the long-term development strategy of China?

- A. Allowing the government to centralize and control all economic decision-making
- B. By creating conditions for more sustainable growth and reduced systemic financial risks for safer investments
- C. They eliminated the need for foreign investment by boosting domestic savings and exports
- D. This led them to develop the rapid privatization of all public institutions

(Correct answer: B)

This question went beyond fact recall and required students to reason through how structural reforms influenced long-term growth. It invited reflection on core concepts such as governance, financial risk, and institutional incentives—demonstrating conceptual integration.

These examples illustrate a broader trend over the semester: as students engaged more deeply with the assignment, their questions improved in clarity, relevance, and cognitive complexity. Table 1 summarizes this progression through selected question examples. Table 2 presents rubric scores assigned by the instructor using a consistent four-part grading scale (see Appendix B), highlighting gains in alignment, clarity, and depth from early to late in the semester. These patterns suggest not only improved content mastery but also increased metacognitive awareness of how well-designed questions can reflect and deepen understanding.

5. Reflection and Implications

This assignment provided a low-stakes yet effective strategy for engaging students with complex and unfamiliar material. Since most entered the course with a limited background in Chinese institutions or economic history, generating their own questions helped shift them from passive reading to purposeful inquiry. It encouraged them to identify what stood out, what was confusing, and what warranted further exploration—an especially useful habit in a course where the material often challenged standard economic narratives.

The iterative structure—weekly submissions, peer feedback, and a clearly defined rubric—gave students multiple opportunities to improve. It also helped demystify what makes a “good” exam question, which in turn supported their own studying and test preparation. Importantly, the assignment functioned not only as a learning tool but also as a mechanism for shaping course assessments, since many strong student questions were incorporated into the test bank.

Because the textbook used in this course does not provide a test bank, student-generated questions were particularly valuable for expanding the pool of assessment items. They reflected the concepts students found most salient and provided additional perspectives beyond instructor-written questions. For formative purposes, these questions were useful in review sessions, practice quizzes, and online study tools. For summative assessments, carefully vetted and edited items were integrated into exams. Although instructor oversight was necessary to ensure accuracy and consistency, the process enriched the course’s assessment resources and highlighted the dual function of the assignment—as both a learning tool and a contribution to course evaluation.

To support this process, the introduction of a peer-evaluation rubric contributed to a more equitable and transparent system. It offered a shared standard for quality, which helped improve submissions over time. This tool clarified expectations and gave students a clearer framework for evaluating both their own work and that of their peers. One student reflected on this evolution, noting:

“At the beginning of the semester, I did not like the peer grading system. The instructor was very receptive to feedback, and I think by the end of the semester, the grading system was well-structured, and the freedom we had to shape the questions we were being asked was very helpful. I really enjoyed this class and feel that I learned a lot. I leave feeling better informed on China and economics outside of the United States.”

Another student described the course as a “very unique and new class design that I enjoyed,” adding that “organized weekly assignments made for clear deadlines and expectations.” These comments indicate that the assignment supported both learning and course structure.

In future iterations, each student could be assigned two sections of a chapter and asked to create three multiple-choice questions in total. This adjustment would give them more content to draw from, reducing the likelihood of being assigned a section that is overly technical or sparse in testable material. It may also promote broader engagement with the chapter as a whole, rather than a narrow focus on a single subsection.

Overall, the assignment proved to be a practical and effective way to promote engagement and deeper thinking in an undergraduate economics course focused on China's economy. It encouraged students to take ownership of their learning and develop conceptual insight through active inquiry. Because it directly influenced course assessments, students took the task seriously, and the peer-evaluation rubric supported clear expectations and continuous improvement. Although this study does not include formal measurement of learning outcomes, the improvement in student-generated questions—as captured in Table 1 and Table 2—suggests deeper engagement and conceptual growth. Future work could explore more systematic assessment of learning gains across cohorts or instructional settings.

Though developed for a course on China's economy, this approach is readily transferable to other economics courses—particularly those involving new institutional, historical, or policy contexts. For example, courses on development economics, comparative systems, or international economics could use the same model, with readings tailored to specific countries or regions. The peer-review structure and rubric can be reused with minimal modification and adapted to online or asynchronous formats using discussion boards or collaborative tools. Instructors can also adjust the number or type of questions to suit different course levels or content densities. While this study reflects a single course and instructor, the assignment design is easily adapted across institutional contexts and course topics. This adaptable structure enriches student engagement and enhances assessment quality, making it a valuable addition to the instructional toolkit for content-heavy economics courses.

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Table 1. Evolution of Student-Generated Questions Over Time

Chapter	Question Type	Example Topic	Cognitive Level	Notes
3	Multiple Choice	Role of National Resources Commission	Recall	Factual; little integration
15	Multiple Choice	SOE Reform and Growth Strategy	Application/ Analysis	Connected institutional reforms to growth

Table 2. Instructor Rubric Ratings of Student-Generated Questions:
Early vs. Late Semester

Criterion	Early-Semester Question	Late-Semester Question
Clarity	4/5	5/5
Relevance	4/5	5/5
Level of Thinking	2/5	5/5
Plausibility of Choices	3/5	5/5
Total	13/20	20/20

Appendix A. Sample Assignment Description

Assignment #1

1. Write two multiple-choice questions for the assigned chapter section. Each question should have 4–5 answer choices. Use 'All of the Above' and 'None of the Above' with caution. Each student should submit two multiple-choice questions with answers.
2. Write at least one essay question about the material in Chapter 2 and provide your own answer(s).

Note: Each student was assigned a subsection of the chapter to ensure broad coverage of the material. This structure encouraged students to engage with the material in depth and provided a diverse pool of student-generated questions. Whenever possible, students were assigned different subsections in later chapters to maximize variety.

Appendix B: Multiple Choice Questions Writing Guidelines and Rubric

Guidelines for Writing MCQs

- Write a clear and concise question.
- Avoid “all of the above” or “none of the above” unless necessary.
- Provide one clear, correct answer and three plausible distractors.
- Make sure answer choices are similar in length and style.
- Ensure the question assesses understanding, not just memorization.

Example of a Well-Written MCQ

Question:

What was a major consequence of the Great Leap Forward (1958–1962) on China’s economy?

- A. Increased agricultural productivity due to collectivization
- B. Rapid industrialization and sustained GDP growth
- C. Severe famine and economic contraction (Correct Answer)
- D. Strengthened rural-urban economic balance

Multiple-Choice Question Writing Rubric (Total: 20 points)

Criteria	Excellent (5 points)	Good (4 points)	Needs Improvement (3-2 points)	Poor (1 point)	Points
Clarity & Grammar (5 pts)	Question is clearly written, precise, and free of grammar/spelling errors. (Example: "Which factor contributed most to China's rapid economic growth after 1978?")	Mostly clear with minor wording issues.	Somewhat unclear due to awkward phrasing or minor errors.	Hard to understand due to major clarity or grammar issues.	___/5
Accuracy & Relevance (5 pts)	Directly relates to key Chinese economy concepts, factually correct. (Example: A question on the effects of the One-Child Policy on the labor force.)	Mostly accurate but may contain minor errors.	Noticeable inaccuracies or weak connection to the course.	Contains major factual errors or is off-topic.	___/5
Level of Thinking (5 pts)	Goes beyond recall (e.g., application, analysis, evaluation). (Example: "How did Deng Xiaoping's policies differ from Mao Zedong's in terms of economic structure?")	Somewhat analytical but mostly recall-based.	Primarily recall-based with limited depth.	Only tests memorization, lacks depth.	___/5
Answer Choices (Plausibility & Balance) (5 pts)	One correct answer and three plausible distractors, no obvious giveaways. (Example in the guidelines: "What was a major consequence of the Great Leap Forward?")	Mostly reasonable distractors with minor imbalance.	Distractors are weak, too obvious, or misleading.	Incorrect answers are unrealistic, misleading, or include multiple correct answers.	___/5

Total Score: __/20