General Questions
1. **What is the primary focus of the study by Chao-hsiu Chen?**
   - **Solution:** The study focuses on developing and evaluating a Mobile Assessment Participation System (MAPS) using Personal Digital Assistants (PDAs) to facilitate self- and peer-assessment in education. It explores how mobile technology can support new instructional strategies, emphasizing student engagement and understanding of assessment criteria.

2. **What platform was used to develop the Mobile Assessment Participation System (MAPS)?**
   - **Solution:** The MAPS was developed using Personal Digital Assistants (PDAs) as the platform, leveraging their mobility, affordability, and connectivity via wireless networks.

3. **What are the keywords associated with this study?**
   - **Solution:** The keywords listed are "Evaluation of CAL systems," "Improving the address of the" (likely a typo or OCR error, possibly meant to be "Improving classroom teaching"), and "Teaching/learning strategies," indicating a focus on computer-assisted learning and pedagogical improvements.

Abstract
4. **What motivated the development of the MAPS according to the abstract?**
   - **Solution:** The development of MAPS was motivated by research findings on the benefits of peer and self-assessment, combined with the growing exploration of mobile technology to support innovative instructional strategies.

5. **What does the study propose beyond developing the MAPS?**
   - **Solution:** The study proposes an implementation model for MAPS to enhance its effectiveness in educational settings, aiming to improve student participation and learning outcomes through structured mobile assessment.

Introduction and Background
6. **Why does Gibbs (2006) argue against over-emphasizing reliability in student marking?**
   - **Solution:** Gibbs argues that focusing too heavily on the reliability of student marking dilutes the educational benefits of self- and peer-assessment, which lie in students internalizing academic standards and making judgments about their own and peers' performance relative to these standards.

7. **What strategies do Bloxham and West (2004) suggest for involving students in peer assessment?**
   - **Solution:** They suggest discussing assessment criteria with students, providing scoring rubrics, encouraging feedback-giving, and evaluating the appropriateness of student

assessments to help students understand how their work is assessed and improve based on feedback.

8. **What disciplines have been involved in studies on self- and peer-assessment mentioned in the paper?**
   - **Solution:** Studies cited involve participants from education, health, business, computer science, and the humanities, indicating broad applicability across higher education fields.

9. **Why is defining assessment criteria a priority according to the cited research?**
   - **Solution:** Explicitly defining assessment criteria is a priority because it ensures meaningful self- and peer-assessment, enhances assessment effectiveness, and facilitates collaborative learning by involving students in criteria formation and feedback processes.

10. **What are the benefits of peer assessment for student learning?**
   - **Solution:** Peer assessment improves students' ability to connect instructional objectives to assessment, understand criteria and processes, identify strengths and weaknesses in their work, and boost their understanding and confidence in the subject matter.

Methodology and Context
11. **What challenges did students face with peer assessment according to Tsai et al.?**
   - **Solution:** Students found peer assessment time-consuming, were uncomfortable criticizing peers despite anonymity, provided vague or irrelevant feedback, and some intentionally gave low scores to gain an advantage. Tsai et al. suggest ensuring engagement, discussing criteria openly, and monitoring the process to prevent unfair grading.

12. **How does mobile technology support educational strategies according to Pownell and Bailey (2002)?**
   - **Solution:** Mobile technology supports education through ubiquity, small size, affordability, and wireless networks, enabling access to information and communication anytime, anywhere, which aligns with the latest trends in educational computing.

13. **What types of handheld devices are mentioned as being explored for educational strategies?**
   - **Solution:** The paper mentions mobile phones, laptop computers, PDAs, and graphic calculators as handheld devices being studied for their supportive applications in education.

14. **What critical issue arises from mobile-learning studies according to the paper?**
   - **Solution:** The critical issue is how to use handheld computers innovatively to enhance assessment, moving beyond traditional methods to leverage their unique capabilities.

Results
15. **What does Table 2 show about student perceptions of using PDAs for assessment?**
   - **Solution:** Table 2 shows survey results (n=34):
     - 70.58% (47.05% Agree + 23.53% Strongly Agree) found PDAs more efficient than paper and pencils.
     - 76.47% (11.76% Agree + 64.71% Strongly Agree) found PDA operation easy and convenient.
     - 94.12% (73.53% Agree + 20.59% Strongly Agree) said explicit rubrics helped with the final project.
     - The fourth item is incomplete, but it likely relates to obtaining concrete revision suggestions, with high agreement expected based on context.

16. **What do the paired t-tests in Table 4 indicate about self- and peer-assessment scores?**
   - **Solution:** Table 4 (n=30) compares Round 1 and Round 2 scores:
     - **Self-assessment:** Significant improvements ($p<0.05$) in "Instructional strategies" (7.000 to 7.667, t=-2.433) and "Assessment" (6.333 to 7.633, t=-3.949), but not in "Oral communication" (7.000 to 7.133, t=-0.571) or "Ways of presentation" (6.533 to 7.333, t=-2.283, possibly misreported significance).
     - **Peer-assessment:** Significant improvements ($p<0.05$) in all categories: "Oral communication" (7.242 to 7.681, t=-2.443), "Ways of presentation" (6.965 to 7.557, t=-2.483), "Instructional strategies" (6.772 to 7.722, t=-5.036), and "Assessment" (6.699 to 7.701, t=-5.295).
     - This suggests peer scores improved more consistently than self-scores over rounds.

17. **Why didn't the instructor's grading correlate significantly with student self- and peer-grading?**
   - **Solution:** The lack of correlation is partly explained by post-assessment revisions, where students improved their work based on feedback, altering the final product evaluated by the instructor compared to the versions assessed by students.

18. **Which assessment categories showed consistency between self- and peer-assessment in Round 1?**
   - **Solution:** Only "Manner of presentation" and "Instructional strategies" in Round 1 showed significant positive correlation between self- and peer-assessment scores, per Table 3 (mentioned but not provided).

Discussion and Analysis
19. **What did Tsai et al. find about the timing of peer assessment benefits?**
   - **Solution:** They found that the positive effects of peer assessment might not appear immediately after the activities, suggesting that its impact on learning develops over time and may not directly reflect in immediate performance scores.

20. **Why might students who gave comments benefit more from peer assessment?**
   - **Solution:** Students who provided comments gained deeper insights into improving their own work by engaging actively with the assessment process, analyzing peers' work, and reflecting on standards, compared to those who did not comment.

21. **What negative behaviors were observed in peer assessment?**
   - **Solution:** Some students gave unjustifiably low scores to peers to gain a competitive advantage, provided vague or irrelevant feedback, and were reluctant to criticize despite anonymity, reducing the usefulness of the feedback.

22. **How does the MAPS address the challenges of traditional peer assessment?**
   - **Solution:** MAPS uses PDAs to streamline the process, making it more efficient and convenient (per Table 2), potentially reducing time burdens and enabling anonymous, structured feedback to mitigate discomfort and improve engagement.

Conclusions and Implications
23. **What overall conclusion can be drawn about the efficiency of PDAs in assessment?**
   - **Solution:** Based on Table 2, most students (70.58%) agreed that PDAs were more efficient than paper and pencils, suggesting that mobile technology can enhance the practicality and speed of self- and peer-assessment.

24. **How did explicit rubrics impact student understanding of the final project?**
   - **Solution:** Table 2 shows 94.12% of students agreed that explicit rubrics helped them understand how to undertake the final project, indicating that clear criteria improve preparation and performance.

25. **What does the improvement in peer-assessment scores suggest about MAPS?**
   - **Solution:** The significant increases in peer-assessment scores from Round 1 to Round 2 (Table 4) suggest that MAPS facilitated learning and improvement over time, possibly due to better feedback and rubric use.

Critical Thinking Questions
26. **How might the use of PDAs in MAPS address student reluctance to criticize peers?**
   - **Solution:** PDAs enable anonymous feedback, which could reduce discomfort, and their structured interface might encourage more focused, relevant comments, though some students still struggled with providing useful feedback.

27. **What are potential limitations of relying on PDAs for assessment?**

- **Solution:** Limitations could include technical issues (e.g., battery life, connectivity), student unfamiliarity with the technology (11.76% disagreed on efficiency), and the risk of superficial engagement if the interface oversimplifies complex judgments.

28. **Could MAPS be applied to disciplines beyond education?**
   - **Solution:** Yes, given its basis in self- and peer-assessment, MAPS could be adapted to fields like health, business, or computer science (as noted in prior studies), where collaborative evaluation and feedback are valuable.

29. **Why might post-assessment revisions disrupt correlation with instructor grading?**
   - **Solution:** Revisions allow students to address feedback, improving their work beyond what was initially assessed, while the instructor grades the final product, which reflects these changes rather than the original assessed version.

30. **How could teachers prevent inappropriate grading in MAPS?**
   - **Solution:** Teachers could monitor scores in real-time via the PDA system, discuss criteria openly (as Tsai et al. suggest), and implement checks (e.g., requiring justification for low scores) to deter competitive manipulation.

Additional Questions from Tables
31. **What does the low disagreement rate in Table 2 imply about PDA acceptance?**
   - **Solution:** With only 0-11.76% disagreeing on efficiency and ease, it implies high acceptance of PDAs among students, suggesting MAPS was well-received as a practical tool.

32. **Why is the self-assessment t-test for oral communication not significant?**
   - **Solution:** The small change (7.000 to 7.133) and high initial score suggest students already rated themselves highly in Round 1, leaving little room for improvement, unlike other categories with lower starting points.

33. **What might explain the larger t-values in peer-assessment improvements?**
   - **Solution:** Larger t-values (e.g., -5.295 for "Assessment") indicate more substantial improvement, possibly due to peer feedback being more critical or diverse, prompting greater revisions than self-reflection alone.

This list encompasses a wide range of questions, from factual recall to analytical and speculative inquiries, based on the available content. Due to OCR errors and incomplete sections (e.g., truncated text on Pages 6 and 7), some inferences were made to fill gaps logically. Let me know if you'd like further clarification or expansion on any question!