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Staff Education to Improve Nurse Use of Teach-Back in Outpatient Diabetes Care

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Walden University

College of Nursing

This is to certify that the doctoral study by

Latoya Hodge-Curtis

has been found to be complete and satisfactory in all respects,

and that any and all revisions required by

the review committee have been made.

Review Committee

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Walden University

2026

Executive Summary: Staff Education Project

Staff Education to Improve Nurse Use of Teach-Back in Outpatient Diabetes Care

by

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MS, South University, 2012

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Executive Summary Submitted in Partial Fulfillment

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Summary

Type 2 diabetes mellitus is a prevalent chronic condition in the United States, with ineffective patient education and low health literacy linked to poor glycemic control, preventable complications, and increased health care utilization. At the project site, a practice gap was identified related to a lack of knowledge among nurses regarding the use of teach-back strategy for use with Type 2 diabetes education. The practice-focused question was: Does educating nurses on the teach back strategy for Type 2 diabetes improve knowledge as evidenced by pre- to post-survey? This project was implemented using the ADDIE (analysis, design, development, implementation, and evaluation) instructional design framework, and was guided by the Johns Hopkins evidence-based practice model and Walden University's *DNP Project Process Guide*. A comprehensive literature search was conducted using PubMed/MEDLINE, CINAHL, and ProQuest. From the initial 900 articles located, 11 peer-reviewed studies met inclusion criteria and informed project development. Three content experts were identified to inform on the educational intervention. Ten outpatient registered nurses participated in two 60-minute in-person education sessions delivered over 2 days. Outcomes were evaluated using pre- and post-intervention assessments and a six-item teach-back skills checklist. Results demonstrated an improvement in nurse knowledge, with mean scores increasing from 65% to 89% correct on the 15-item questionnaire, which was statistically significant ($t(9) = -13.02, p < .001, \text{Cohen's } d = 4.12$). This educational project promotes positive social change by enhancing patient outcomes and reducing the risk of diabetes-related complications by promoting equitable patient understanding, consistent education in practices, and safer self-management for individuals living with Type 2 diabetes mellitus.

Background

Type 2 diabetes mellitus is a significant national public health concern that requires sustained patient engagement in complex self-management behaviors to prevent disease progression and complications. Effective diabetes management depends not only on pharmacologic treatment and access to care but also on patients' ability to understand and apply health information (Tuobeniere et al., 2023). National guidelines emphasize clear communication and diabetes self-management education as essential components for improving glycemic outcomes and reducing preventable complications and health care utilization (American Diabetes Association [ADA], 2022). When education is ineffective, individuals with Type 2 diabetes are at increased risk for adverse outcomes and reduced quality of life (Butayeva et al., 2023). Since nurses serve as primary providers of diabetes education in outpatient settings, the effectiveness of nurse–patient communication represents a critical nursing practice concern.

In outpatient settings serving adults with Type 2 diabetes mellitus, nurses routinely deliver education related to medication administration, blood glucose monitoring, lifestyle modification, and symptom recognition. Despite this central role, communication practices vary, and patient understanding is frequently assumed rather than verified (Hermis & Muhaibes, 2024). Evidence has indicated that patients may appear to understand instructions yet be unable to accurately explain or perform self-care behaviors, particularly when health literacy barriers are present (Talevski et al., 2020). Teach-back is an evidence-based communication strategy designed to address this issue by requiring patients to restate information in their own words, allowing clinicians to assess comprehension and correct misunderstandings in real time (Farahani et al., 2020).

At the partner outpatient clinical setting, a practice gap was identified related to inconsistent use of structured communication strategies during diabetes education encounters. Although nurses consistently provided education to adult patients with Type 2 diabetes, there was no standardized process for confirming patient understanding, and teach-back was applied inconsistently. This lack of standardization created potential risks for misunderstanding, poor adherence to treatment recommendations, and inequitable outcomes among patients with varying levels of health literacy. Addressing this gap aligned with organizational priorities focused on improving patient comprehension, supporting effective self-management, and enhancing the quality and consistency of nurse-delivered diabetes education. The problem question addressed was as follows: Does educating nurses on the teach back strategy for Type 2 diabetes improve knowledge as evidenced by pre- to post-survey?

Staff Education Project Development

This Doctor of Nursing Practice (DNP) staff education project was developed using a structured, evidence-based approach consistent with Walden University's *DNP Project Process Guide*. Project development was guided by the Johns Hopkins evidence-based practice model to support systematic identification of the practice problem, appraisal of evidence, and translation of findings into nursing practice. The ADDIE instructional design framework was applied to ensure transparent and sequential planning, implementation, and evaluation across the sequential phases. Project planning and development activities were completed in accordance with Walden University requirements, including completion of required academic reviews and approvals prior to implementation. The project proposal, educational materials, and evaluation plan were

reviewed and approved by the faculty advisor and the Walden University's DNP committee. Ethical and procedural requirements applicable to a staff education project were addressed in alignment with Walden University guidance. The following sections describe the activities completed within each phase of the ADDIE framework.

Analysis

The analysis phase focused on defining the practice gap, assessing organizational readiness, and identifying factors contributing to the identified practice gap. The target population consisted of outpatient registered nurses responsible for providing diabetes education to adults with Type 2 diabetes mellitus. Nurses represented varied levels of experience, prior diabetes training, and certification status, highlighting the need for a standardized communication approach applicable across experience levels. A comprehensive literature search was conducted using PubMed/MEDLINE, CINAHL, ProQuest, and the Cochrane Library. A total of 900 articles were identified. After screening for relevance and applicability to outpatient nursing practice, 11 peer-reviewed articles were retained and appraised using the Johns Hopkins evidence-based practice research and nonresearch appraisal tools. The evidence demonstrated that teach-back improves patient comprehension, self-management behaviors, and clinical outcomes and that provider-focused education increases use of health literacy-responsive communication strategies (Değer et al., 2024; Talevski et al., 2020).

Organizational readiness for change was evaluated using the Organizational Readiness Tool, which demonstrated leadership support, alignment with quality improvement priorities, and availability of resources to support staff education. A SWOT analysis identified strengths related to nursing engagement and existing education

infrastructure, while time constraints and inconsistent documentation practices were noted as manageable weaknesses. A stakeholder analysis confirmed engagement and support from nursing leadership and clinical staff. Synthesis of the evidence and all these documents confirmed a meaningful practice gap that could be addressed through targeted staff education. Teach-back emerged as a practical, effective way to verify patient understanding and to strengthen nurses' knowledge, confidence, and use of this communication method.

Design and Development

The design and development phases focused on translating evidence into a structured, measurable staff education intervention. Results from the organizational readiness assessment, SWOT analysis, stakeholder analysis, and synthesis of the evidence guided selection of instructional strategies, learning objectives, and evaluation methods. The key objectives for the intervention development was an improvement in knowledge among participants and demonstration of competence in the application of teach-back during simulation. Development activities resulted in creation of multiple project tools and materials. These included a standardized PowerPoint education module (see Appendix A), teach-back knowledge assessment questionnaire (see Appendix B), content expert evaluation tool (see Appendix C), teach-back skills observation checklist (see Appendix D), a self-efficacy questionnaire (see Appendix E), and structured simulation scenarios. Educational materials and delivery were reviewed by three content experts with clinical and educational expertise in outpatient diabetes care, including an Advanced Practice Registered Nurse (APRN) serving as the project preceptor and two

additional APRNs with 5 to 15 years of experience as a clinical leader and diabetes educator respectively. Feedback from content expert review informed final refinements.

Implementation

The project was approved by the Walden University DNP committee, site preceptor, and faculty advisor with a completed ethics pledge. Participation was voluntary, no patient data were collected, all data were de-identified, and the identity of the partner site was masked in accordance with institutional and organizational policies. Consent was implied through voluntary participation in the education sessions and completion of study instruments. The staff education intervention was delivered through two in-person, 60-minute sessions conducted over 2 consecutive days, with five outpatient registered nurses attending each session. Sessions were held in a designated clinic conference room during the lunch hour within the outpatient clinical setting. The intervention included didactic instruction, facilitated discussion, and simulation-based practice. Didactic content introduced health literacy principles and core teach-back strategies. Facilitated discussion allowed participants to reflect on current practices and perceived barriers to consistent teach-back use. Simulation exercises provided structured opportunities to practice teach-back communication and receive guided feedback. Data collection occurred during the implementation phase and included administration of knowledge and self-efficacy assessments immediately before and after the education sessions, followed by evaluation of teach-back skill demonstration using a standardized observational checklist. All participants completed the intervention and required assessments as planned. Content experts observed delivery of the staff education session

and completed structured evaluations assessing clarity, relevance, feasibility, and evidence alignment.

Evaluation

This final ADDIE phase is evaluation. The evaluation phase focused on determining whether the staff education improved nurses' Teach-back knowledge. pre- and post-intervention scores from the 15-item teach-back knowledge assessment were analyzed using descriptive statistics to calculate mean scores and percent correct. A paired-samples *t* test was then used to compare pre- and post-test scores and determine whether the change in knowledge was statistically significant, as well as to calculate the percentage increase in knowledge.

Results

Content Expert

Content expert evaluation of the educational PowerPoint, pre- and post-intervention knowledge assessment, self-efficacy survey, and skills checklist was completed using structured evaluation tools (see Appendix C) by three content experts. They consistently rated the intervention very highly, assigning mean scores of 5.0 for content accuracy, relevance to practice, teaching strategies, skill reinforcement, and overall quality, and noting that the material reflected current diabetes education guidelines, used realistic outpatient scenarios, and appropriately targeted nursing staff. Content related to evidence alignment, clarity of presentation, instructional design, and feasibility received strong ratings (means 4.7–5.0), highlighting a solid evidence base, logical organization, and the practical integration of teach-back into time-limited clinic visits. The only area identified for refinement was time appropriateness, which received a

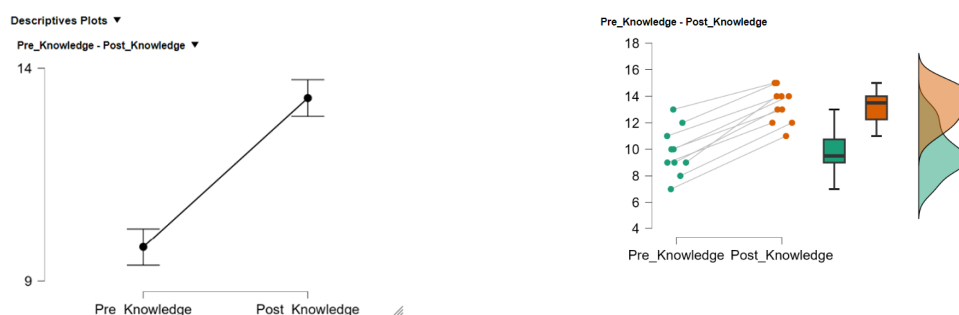
slightly lower but still positive mean rating of 4.3, with reviewers suggesting modest streamlining of discussion to optimize pacing while preserving essential content.

Pre- and Post- Questionnaire Analysis

Pre- and post-intervention survey results showed meaningful improvement in nurse knowledge of teach-back, with mean scores on the 15-item assessment increasing from 9.80 at baseline to 13.30 (65% to 89%) following the education sessions (see Figure 1).

Figure 1

Descriptive and Box Plots of Pre- and Post-Intervention Knowledge Scores



Note. $N = 10$.

Item-level results demonstrated gains across nearly all questions, with the largest improvements on items addressing “chunk and check,” unit-level goals for handouts, strategies to sustain teach-back, documentation practices, and perceived time burden (see Table 1). These concepts were least understood at baseline but highly responsive to education. Questions related to ADA recommendations, outcomes associated with teach-back-based education, and proper integration of teach-back showed smaller, yet meaningful, increases. These findings demonstrate how the strong baseline knowledge was further reinforced. Taken together, these findings suggest that the educational

intervention strengthened nurses' understanding of key teach-back concepts and procedures.

Table 1

Item-Level Pre- and Post-Intervention Knowledge Results

Item no.	Knowledge item description	Presurvey: number correct (n)	Presurvey: percent correct (%)	Postsurvey: number correct (n)	Postsurvey: percent correct (%)	Change in percent correct (post-pre)
1	Primary goal of the teach-back method	7	70.0	10	100.0	+30.0
2	Definition of “chunk and check”	6	60.0	10	100.0	+40.0
3	ADA recommendation	7	70.0	9	90.0	+20.0
4	Hallmark of a shame-free environment	5	50.0	9	90.0	+40.0
5	Question type to avoid with teach-back	6	60.0	9	90.0	+30.0
6	Example of teach-back technique	7	70.0	10	100.0	+30.0
7	Common barrier to nurse use of teach-back	5	50.0	8	80.0	+30.0
8	Outcome associated with teach-back-based education	6	60.0	9	90.0	+30.0
9	Best documentation of teach-back	5	50.0	9	90.0	+40.0
10	Typical added time burden for teach-back during discharge	4	40.0	8	80.0	+40.0
11	Best plain-language adaptation of a handout	6	60.0	9	90.0	+30.0
12	Unit-level goal for handouts	5	50.0	9	90.0	+40.0
13	Best strategy to sustain teach-back	5	50.0	9	90.0	+40.0
14	Appropriate response when patient cannot teach-back correctly	6	60.0	9	90.0	+30.0
15	Proper integration of teach-back in diabetes education	8	80.0	10	100.0	+20.0
<i>M</i>		5.87	58.67	9.13	91.33	+32.67

Note. Each item is scored 1 for correct and 0 for incorrect; “Number correct” represents the count of participants (out of 10) selecting the correct option. Descriptions summarize the correct response option for each item from the 15-item teach-back knowledge test.

Paired-Samples *t* Test

A paired-samples *t* test was used to compare pre- and post-intervention knowledge scores. The change in mean scores was statistically significant, $t(9) = -13.02$, $p < .001$, with a large effect size (Cohen's $d = 4.1$), indicating that nurses scored substantially higher after the intervention than before it (see Table 2). This result provides strong statistical evidence that the staff education project effectively improved nurse knowledge related to teach-back use in outpatient diabetes care.

Table 2

Paired Sample Student's t Test

Measure 1	Measure 2	<i>T</i>		<i>p</i>	Cohen's <i>d</i>	SE
						Cohen's <i>d</i>
Preknowledge	Postknowledge	-13.02	9	< .001	-4.118	0.440

Note. Student's *t* test. For all tests, the alternative hypothesis specifies that preknowledge is less than postknowledge.

Strengths and Limitations

This staff education project has implications for nursing practice, quality improvement, and health equity in outpatient diabetes care. Improvements in nurses' knowledge, confidence, and application of teach-back support standardized, health literacy-responsive communication during diabetes education and contribute to greater consistency in nurse-delivered patient education. Standardized communication practices are relevant in outpatient settings, where time constraints and variability in educational approaches can affect verification of patient understanding. Strengths of the project

include use of an evidence-based communication strategy, implementation of a feasible staff education intervention within existing outpatient workflows, and evaluation using multiple outcome measures to assess knowledge, confidence, and skill demonstration. These characteristics reflect alignment with evidence-based practice and support the practice-focused nature of the project. Several limitations should be considered when interpreting the findings. The project was conducted with a small convenience sample at a single outpatient site, which limits generalizability. Outcomes were measured immediately following the intervention, and longer-term retention and sustained application of teach-back were beyond the scope of this project. Additionally, skills were evaluated using simulation rather than direct observation of live patient encounters, which may not fully reflect real-world practice.

Conclusions

This DNP staff education project addressed an identified practice gap related to inconsistent verification of patient understanding during outpatient diabetes education. By implementing a structured, evidence-based education intervention focused on the teach-back communication method, the project demonstrated significant improvement in nurses' knowledge, confidence, and observed application of teach-back behaviors. The findings reinforce the importance of standardizing communication strategies that actively confirm patient comprehension rather than assuming understanding. Teach-back offers nurses a practical and feasible approach for supporting effective patient education within routine outpatient workflows and aligns with organizational priorities for quality improvement and patient safety. Although conducted in a single outpatient setting, this project supports nursing's role in promoting positive social change by advancing

equitable, health literacy-responsive communication practices that enhance patient understanding and support safer self-management for individuals living with Type 2 diabetes mellitus.

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Appendix A: Staff Education Module Content

**Staff Education Program:
Teach-Back for
Outpatient Diabetes
Education**

Latoya Hodgecurtis



Objectives

1.	≥90% of participants achieve ≥85% on 15-item knowledge test
2.	Within 4 weeks, ≥80% of eligible encounters reported by nurses as using Teach-Back (self-report logs)
3.	Within 4 weeks, ≥90% pass skills checklist during simulation
4.	Within 8 weeks, ≥70% of commonly used handouts meet literacy standards



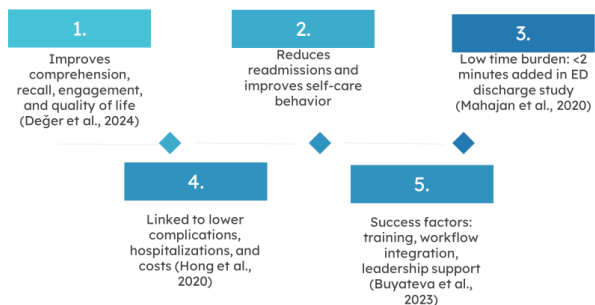
Why This Matters

- Only 38% of adults with type 2 diabetes at our clinic achieve A1C <7% (Hong et al., 2020).
- Low health literacy is common and contributes to poor comprehension.
- Inconsistent use of structured education methods.
- Teach-Back improves comprehension, self-care, HbA1c, and reduces costs (Değer et al., 2024; Farahaninia et al., 2020; Hong et al., 2020).





Evidence Summary

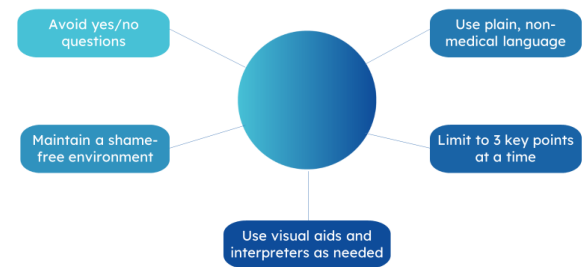


What is Teach-Back

- Definition: Ask the patient to explain back in their own words.
- Aligns with ADA DSMES communication standards (ADA, 2022)



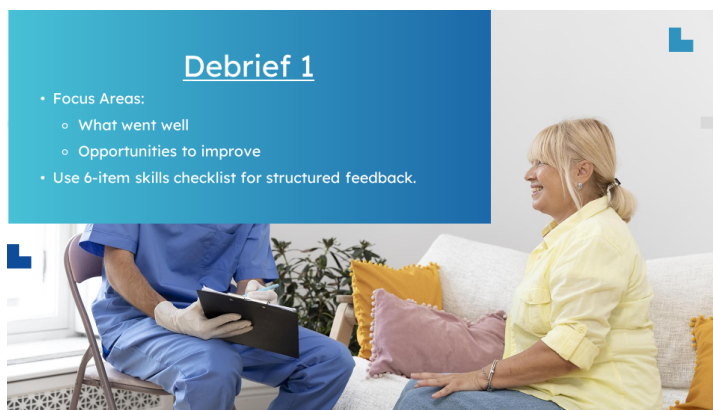
Core Techniques

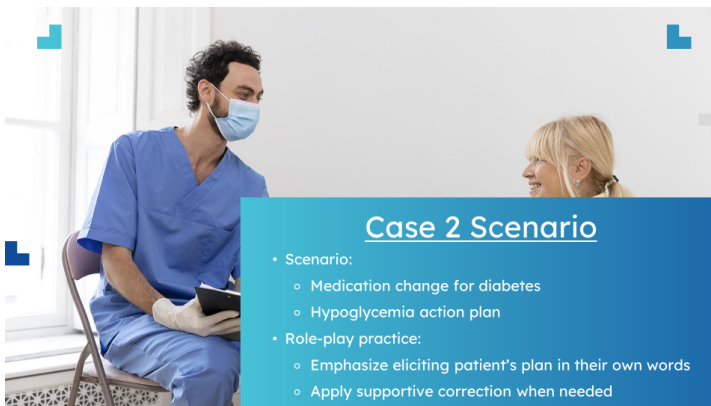




Time Efficiency


- Feasible in busy clinical settings.
- Adds <2 minutes in ED discharge study (Mahajan et al., 2020).
- Reduces downstream time spent addressing misunderstandings.





Case 2 Scenario

- Scenario:
 - Medication change for diabetes
 - Hypoglycemia action plan
- Role-play practice:
 - Emphasize eliciting patient's plan in their own words
 - Apply supportive correction when needed



Debrief 2

- Reflect on eliciting patient action plans.
- Highlight effective feedback and supportive correction.
- Identify common pitfalls (yes/no questions, overwhelming details)

Documentation and Tracking

- Where to record: Quick self-report log after eligible encounters.
- What to record:
 - Date and encounter type
 - Whether Teach-Back was used
 - Any challenges noted
- Eligible encounters: New education, medication change, or self-management gap.
- Purpose: For learning and improvement, not for performance evaluation.



Equity and Language Access

- Use plain-language, ADA-aligned handouts (ADA, 2022).
- Provide bilingual or culturally adapted materials.
- Engage trained interpreters when needed.
- Ensure readability and health-literacy standards are met.



What Success Looks Like

≥90% of participants pass the knowledge test

≥90% pass the skills checklist

≥80% of eligible encounters self-reported as using Teach-Back by week 4

≥70% of commonly used handouts meet literacy standards by week 8

Improved A1C in clinic panel over time



Questions and Barriers

Common Barriers

- Time constraints
- Forgetfulness
- Workflow challenges

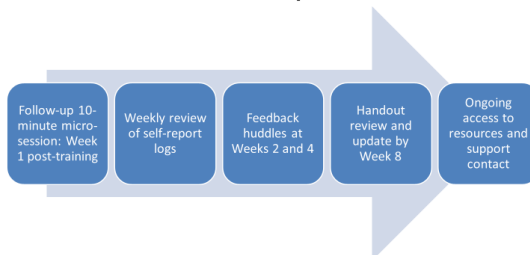
Solutions

- Brief reminders and prompts
- Leadership support





Next Steps



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Appendix B: Teach-Back Knowledge Assessment (Pre/Post Survey)**Knowledge Test (15 items)****Instructions for Participants**

Select the single best answer for each question. Circle or mark your choice.

1. The primary goal of the Teach-Back method is to:
 - a. Test the patient's memory
 - b. Verify patient understanding of instructions
 - c. Replace written instructions
 - d. Reduce nurse workload
2. "Chunk and check" refers to:
 - a. Providing all instructions at once and checking at the end
 - b. Providing small amounts of information and confirming understanding before proceeding
 - c. Giving patients a checklist for home use
 - d. Asking yes/no questions about understanding
3. According to ADA recommendations, a core element of effective diabetes education is:
 - a. Using technical terms for accuracy
 - b. Providing DSMES that incorporates health-literacy practices such as Teach-Back
 - c. Providing all instructions verbally without handouts
 - d. Limiting education to no more than 5 minutes

4. A hallmark of a shame-free environment is:
 - a. Asking if the patient feels ashamed
 - b. Emphasizing that misunderstanding is common and explanations may need to be clearer
 - c. Avoiding comprehension questions
 - d. Having a family member answer instead
5. Questions to avoid when using Teach-Back are:
 - a. Open-ended questions
 - b. Multiple-choice questions
 - c. Yes/no questions
 - d. Patient-generated questions
6. A nurse explains insulin injection and then says, “Please show me how you would give yourself the injection.” This is an example of:
 - a. Chunk and check
 - b. Role-play education
 - c. Teach-Back technique
 - d. E-learning reinforcement
7. A common barrier to nurse use of Teach-Back is:
 - a. Lack of staff time and inconsistent documentation
 - b. High patient interest in participation
 - c. Limited evidence of effectiveness
 - d. Complexity of insulin injection process

8. Teach-Back-based education has been associated with:
 - a. Higher HbA1c levels
 - b. Fewer diabetes-related hospitalizations
 - c. Greater confusion about treatment plans
 - d. No significant change in self-care behaviors
9. When documenting Teach-Back in routine practice or a self-report log, the nurse should:
 - a. Note only that “education provided”
 - b. Indicate that Teach-Back was used and summarize the patient’s explanation or demonstration
 - c. Be left blank if the patient refused
 - d. Record only the time spent
10. The typical added time burden for Teach-Back during discharge education is:
 - a. < 2 minutes
 - b. 5-10 minutes
 - c. 15 minutes
 - d. None
11. Best plain-language adaptation of a handout is:
 - a. “Administer subcutaneous insulin as prescribed”
 - b. “Inject insulin under your skin as your doctor prescribed”
 - c. “Deliver insulin parenterally per physician orders”
 - d. “Perform hypoglycemia self-intervention with the provided protocol”

12. A unit-level improvement goal is to ensure that $\geq 70\%$ of commonly used patient handouts:
 - a. Are reviewed for plain-language and readability standards
 - b. Include complex clinical terminology for accuracy
 - c. Are translated into all local dialects
 - d. Are stored in individual nurse folders
13. To sustain Teach-Back after training, the best practice is:
 - a. Conduct ongoing review and feedback on documentation logs
 - b. Limit use to high-risk patients
 - c. Avoid additional coaching after training
 - d. Reduce leadership involvement
14. If a patient cannot Teach-Back correctly, the nurse should:
 - a. Repeat and simplify the explanation, then re-check
 - b. Move to the next topic to save time
 - c. Refer the patient to a different provider
 - d. Provide only a printed handout
15. Proper integration of Teach-Back in diabetes education means:
 - a. Using it only at discharge
 - b. Using it during routine visits, discharge, and care-plan updates
 - c. Delegating it exclusively to pharmacists
 - d. Limiting it to one-on-one teaching

Appendix C: Content Expert Evaluation Tool: Teach-Back Staff Education

Intervention

Purpose:

To evaluate the clarity, relevance, evidence alignment, and applicability of the Teach-Back staff education intervention delivered to outpatient nurses.

Instructions to Content Experts:

Please rate each item based on your evaluation of the staff education session using the scale below.

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Content Expert Evaluation of Teach-Back Staff Education Intervention

Evaluation Domain	Evaluation Item	Rating (1-5)	Comments Summary
Content Accuracy	Educational content was accurate and consistent with current evidence and diabetes education guidelines.		
Evidence Alignment	Teach-Back principles were clearly supported by the literature presented.		
Relevance to Practice	Content was directly applicable to outpatient diabetes education encounters.		

Evaluation Domain	Evaluation Item	Rating (1-5)	Comments Summary
Content Accuracy	Educational content was accurate and consistent with current evidence and diabetes education guidelines.		
Clarity of Presentation	Concepts were explained clearly and at an appropriate level for nursing staff.		
Instructional Design	Session objectives were clear and aligned with content and evaluation methods.		
Teaching Strategies	Teaching strategies (didactic, discussion, simulation) supported learner engagement.		
Time Appropriateness	Session length was appropriate to meet objectives without unnecessary content.		
Skill Reinforcement	Simulation activities effectively reinforced Teach-Back skill application.		
Feasibility	Teach-Back strategies presented are feasible within routine outpatient workflows.		
Overall Quality	Overall quality of the staff education intervention was high.		

Appendix D: Teach-Back Skills Checklist

Purpose

Assess actual performance in a standardized role-play scenario for Objective 3.

Administration

- Conducted during the training session after didactic instruction.
- Evaluators observe and score during live role-play.

Behaviors (score 1 = done correctly; 0 = not done)

1. Uses plain, non-medical language to explain key points.
2. Limits education to three key points and uses chunk-and-check.
3. Invites the patient to restate or demonstrate understanding.
4. Responds to patient errors with clarification and re-teaching without blame.
5. Maintains a supportive, shame-free environment throughout.
6. Confirms at the end that the patient can apply the information at home.

Appendix E: Self-Efficacy for Using Teach-Back Questionnaire

Self-Efficacy for Using Teach-Back (6 items)

Purpose

Assess nurses' confidence in applying Teach-Back in routine practice. Increased self-efficacy correlates with sustained use.

Administration

- Pre-training and post-training using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).
- Administered immediately before and after the session (10 minutes).

Instructions for Participants

Please indicate how confident you feel about each statement on a scale of 1 to 5.

1. I can explain diabetes instructions using plain language.
2. I can use Teach-Back steps without a script.
3. I can adapt my language for low literacy and language needs.
4. I can efficiently use Teach-Back within a standard visit length.
5. I can document my Teach-Back use accurately in a simple log or record.
6. I can correct misunderstandings without causing shame.