Table 5

Learning and Measurable Objectives by Construct Set for the Course Objective *Administer a Secure Database System (Data Control Language)*

Learning Objectives	Set	Example Measures (Quadrant[s] for ECS)
Grant and revoke	MCS	- Grant/revoke schema, table, and sequence access - Update default privileges to allow/deny access to subsequently created objects
User- and role-based access controls	MCS	- Create user and grant/revoke at user level - Create role, grant/revoke at role level, and assign user to role
Commit and rollback	ECS	- Toggle auto-commit (TN/TT) - Manual commit and rollback (TN/TT)
Transaction blocks	ECS	- Use of transaction BEGIN and END/COMMIT commands to wrap multiple statements into a logical transaction (TN/TT) - Identify statements that cannot be executed in multistatement transactions (e.g., vacuum) (TN/TT)
Checkpoints	ECS	- Creating and restoring from checkpoints (TN/TT)
Views	ECS, MCS	- MCS: Describe view use in security - ECS: Create view to restrict data access (TT)

Abbreviations: ECS, extended construct set; MCS, minimum construct set; N, nontechnical; T, technical.
Notes: Quadrants listed for each ECS measure are defined in Table 1 and would be measured by a combination of the student survey and students' progress. The ECS and MCS for the objective in this example are in Tables 9 and 10 of the following source (the previous article in this series).
Source: Hylock, Ray, and Susie T. Harris. "Healthcare Database Management for Health Informatics and Information Management Students: Challenges and Instruction Strategies—Part 1." *Educational Perspectives in Health Informatics and Information Management* (Winter 2016): 1–24.