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erDiagram
%% ---- 학습/수료 (LRN) ----
ENROLLMENT {
    BIGINT enrollment_id PK "수강신청 ID"
    BIGINT user_id FK "사용자 ID"
    BIGINT batch_id FK "기수 ID"
    VARCHAR status "상태(신청, 학습중, 수료, 미수료) (LRN-REQ-052)"
    INT progress_rate "진도율 (%) (LRN-REQ-063)"
    DECIMAL final_score "최종 점수 (Nullable)"
    TIMESTAMP applied_at "신청일"
    DATE completion_date "수료일 (Nullable, LRN-REQ-026)"
    BIGINT payment_id FK "결제 ID (Nullable)"
}

LEARNING_PROGRESS {
    BIGINT progress_id PK "학습 진도 ID"
    BIGINT enrollment_id FK "수강신청 ID"
    BIGINT content_id FK "콘텐츠 ID"
    VARCHAR status "상태(InProgress, Completed)"
    TIMESTAMP last_access_at "최종 학습일"
}

ATTENDANCE {
    BIGINT attendance_id PK "출결 ID"
    BIGINT enrollment_id FK "수강신청 ID"
    DATE attendance_date "출석 일자"
    VARCHAR status "상태(Present, Absent, Late) (LRN-REQ-023)"
}

EVALUATION {
    BIGINT evaluation_id PK "평가 결과 ID"
    BIGINT enrollment_id FK "수강신청 ID"
    VARCHAR evaluation_type "평가 종류 (Quiz, Assignment)"
    DECIMAL score "점수 (LRN-REQ-024)"
    TIMESTAMP submitted_at "제출일"
}

SURVEY {
    BIGINT survey_id PK "설문지 ID"
    BIGINT batch_id FK "연결 기수 ID (Nullable)"
    VARCHAR title "설문 제목 (LRN-REQ-077)"
    DATE start_date "시작일"
    DATE end_date "종료일"
}

SURVEY_QUESTION {
    BIGINT question_id PK "설문 문항 ID"
    BIGINT survey_id FK "설문지 ID"
    VARCHAR question_text "질문 내용"
    VARCHAR question_type "유형(주관식, 객관식) (LRN-REQ-078)"
    INT sort_order "순서"
}
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SURVEY_RESPONSE {
    BIGINT response_id PK "설문 응답 ID"
    BIGINT survey_id FK "설문지 ID"
    BIGINT user_id FK "응답자 ID"
    BIGINT enrollment_id FK "관련 수강 ID (Nullable)"
    TIMESTAMP submitted_at "제출일 (LRN-REQ-075)"
}

SURVEY_ANSWER {
    BIGINT answer_id PK "설문 답변 ID"
    BIGINT response_id FK "설문 응답 ID"
    BIGINT question_id FK "설문 문항 ID"
    TEXT answer_text "답변 내용"
}

CERTIFICATE {
    BIGINT certificate_id PK "수료증 ID"
    BIGINT enrollment_id FK "수강신청 ID (FK from ENROLLMENT, UK,
Unique)"
    VARCHAR certificate_number UK "증명서 번호"
    DATE issue_date "발급일 (LRN-REQ-069)"
    VARCHAR type "종류(수료증, 이수증)"
}

%% --- 관계 정의 (학습/수료 중심) ---
ENROLLMENT }o--|| USER : "applied by (사용자)"
ENROLLMENT }o--|| COURSE_BATCH : "is for batch (과정)"
ENROLLMENT ||--o{ LEARNING_PROGRESS : "tracks"
ENROLLMENT ||--o{ ATTENDANCE : "records"
ENROLLMENT ||--o{ EVALUATION : "receives"
ENROLLMENT ||--o{ CERTIFICATE : "results in"
ENROLLMENT ||--o{ PAYMENT : "paid by (Nullable, 결제)"
ENROLLMENT ||--o{ SURVEY_RESPONSE : "responds for (Nullable)"

LEARNING_PROGRESS }o--|| CONTENT : "tracks content (과정)"

SURVEY ||--o{ SURVEY_QUESTION : "contains"
SURVEY ||--o{ SURVEY_RESPONSE : "collects"
SURVEY }o--|| COURSE_BATCH : "linked to (Nullable, 과정)"

SURVEY_QUESTION ||--o{ SURVEY_ANSWER : "answered by"
SURVEY_RESPONSE ||--o{ SURVEY_ANSWER : "has"
SURVEY_RESPONSE }o--|| USER : "submitted by (사용자)"

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