Online Learning Platform: Engagement & Performance Analysis

This report presents a data-driven analysis of learner behaviour on online learning platform. I have examined completion rates, engagement time, demographic and regional patterns, and course ratings. From this analysis, we distilled five key insights and developed three concrete recommendations to boost engagement and course performance.

Here are the Top 5 Insights from the analysis

1. Overall and by-course completion rates hover around 50–60%

- The platform's mean completion rate is **54.8%**, indicating that just over half of enrolled learners finish their courses.

- Course-level rates vary modestly from **52.6%** (DM101) up to **56.2%** (UX303), suggesting no single course is dramatically under- or over-performing on completion.

2. Engagement time varies by course, with DM101 leading

- Learners on **DM101** spend the most time on content (≈102 min), while **PY202** sees the least (≈94 min).

- This may reflect either greater depth/complexity in DM101 or more motivational content/design compared to PY202.

3. Mature learners (30–34) combine high engagement with efficiency

- The **30–34** age bracket not only spends the most time (≈111 min) but also completes the highest share of material (≈67%) with solid ratings.

- Younger learners (18–23) engage heavily in time but convert less of it into completion, whereas the 24–29 group is efficient but participates less.

4. Regional engagement differences point to Kolkata as a hotspot

- Users in **Kolkata** register the highest engagement scores, followed by Delhi and Mumbai; Bangalore and Chennai lag behind.

- This suggests geography-tailored marketing or localized content could further boost activity where it's already strong, and targeted interventions might raise engagement in lower-scoring cities.

5. Learner satisfaction (ratings) does not predict completion

- Average course ratings range narrowly (2.8–3.3 stars), yet there is **no statistically significant correlation** between a course's rating and its completion rate.

- This implies that improving perceived quality alone won't automatically drive higher completion—other factors (design, support, incentives) must be addressed.

Data-driven recommendations to improve student engagement and course performance

1. **Optimize Low-Engagement Courses with Proven DM101 Elements**

- What to do: Carry over the most engaging content formats, interactivity features, or instructional design elements from DM101 into PY202 and WD404.

- Why it'll work: DM101 has the highest average time-on-task (102 min) and solid completion. Adapting its successful modules (Eg- video length, quiz frequency, real-world projects) can stimulate deeper learner involvement in underperforming courses.

2. Segmented Intervention by Age Group

- What to do: For **18–23**-year-olds: introduce micro-learning bursts and gamification (badges, leaderboards) to help convert high time spent into higher completion.

For **24–29**-year-olds: add more engaging prompts or community features (peer review, discussion prompts) to increase their participation hours.

- Why it'll work: The 30–34 year olds already excels, younger learners need efficiency aids and mid-career learners need motivation. Tailoring interventions to each segment's behavioural profile leverages their unique strengths and addresses their weaknesses.

3. Local Community-Driven Initiatives in Underperforming Cities

- What to do: Launch city-based study groups or virtual learning hubs in Bangalore and Chennai, perhaps facilitated by local teaching assistants or champions.

Run targeted promotional offers or challenges with small rewards

- Why it'll work: Kolkata's success shows regional culture and community boost engagement. Building local cohorts and healthy competition in lagging cities can replicate that social dynamic, lifting overall activity

Visualisation: Charts and Graphs Supporting Key Findings and More