Solving Our Curriculum Documentation Challenge

An Intelligent Solution for Better Tutoring Outcomes

Math Concept Secondary Academy

Executive Presentation - September 2025

The Problem We Face

Current State

- 📊 **Curriculum tracking**: Separate Google Sheets (often forgotten)
- ⏰ **Recording rate**: ~30% completion due to high friction
- 🤔 **Daily impact**: Tutors lack context when preparing lessons

The Hidden Cost

- **9 tutors × 30 minutes each** weekly = **4.5 hours/week**
- **$225/week** in lost productivity
- **$11,700/year** in hidden costs

Current vs. Ideal Workflow

Before (Current)

1. ❌ Finish teaching session
2. ❌ Try to remember details
3. ❌ Open separate spreadsheet
4. ❌ Find correct tab
5. ❌ Type topic (if remembered)

After (Our Solution)

1. ✅ Mark attendance in CSM Pro
2. ✅ See last year's curriculum
3. ✅ Tap "Confirm" (3 seconds)
4. ✅ Done!

From 5 friction points to 1 simple tap

Our Solution: Curriculum Intelligence Assistant

Core Innovation

- 🎯 **Zero-Click Intelligence**: Historical data shows automatically
- ☝️ **One-Tap Updates**: Confirm current curriculum instantly
- 🤝 **Collective Wisdom**: Build consensus from all tutor input
- 📱 **Seamless Integration**: Works within existing CSM Pro

Key Behavioral Design

- **Show value first** before asking for input
- **Make confirmation effortless** (one tap vs. typing)
- **Immediate benefit** to the person entering data
- **No separate apps** or workflow changes

User Experience: Session Flow

What Tutors Will See

```
📚  Curriculum Reference

School: PCMS F2C
Last Year: 有理數加減運算
This Year: ✅ 有理數乘除 (3 confirmed)
[👍 Confirm] [✏️ Edit] [📊 View]
```

The Psychology

- **Historical context** provides immediate value
- **Social proof** builds confidence
- **Visual status** shows system working

Smart Features: Historical Intelligence

Pattern Recognition

- 📈 **School Patterns**: "PCMS F2C Week 6 is usually Chapter 6"
- 🎯 **Smart Suggestions**: Auto-fill based on 3 years of data
- ⚡ **Instant Context**: Reference what was taught last year

Example Intelligence

- "SRL-C typically runs 1 week behind PCMS"
- "After holidays, schools usually do review sessions"
- "If Week 5 is fractions, Week 6 is 85% likely decimals"

Smart Features: Collaborative Consensus

Team Intelligence

- 🤝 **Multiple Tutor Input**: Build accurate picture together
- ✅ **Confidence Scoring**: Trust levels based on confirmations
- 🔄 **Real-time Sync**: Updates reflected across all tutors

Quality Assurance

- **High confidence** (3+ tutors confirmed)
- **Medium confidence** (2 tutors confirmed)
- **Low confidence** (1 tutor confirmed)
- **Dispute resolution** when tutors disagree

Implementation Plan: 3 Weeks

Week 1: Foundation

- Import historical data (2024-2025)
- Launch read-only reference in CSM Pro

Week 2: Interaction

- Add one-tap confirmation system
- Soft launch with 3 volunteer tutors

Week 3: Full Deployment

- Launch to all 9 tutors with training
- Achieve 50% session coverage target

Investment & Return Analysis

Total Investment

- **Development**: $0 (internal resources)

- **Infrastructure**: $0-10/month (Google Cloud free tier)

- **Annual Cost**: <$120/year

Annual Returns

- **Time Saved**: 4.5 hours/week = **$11,700/year**

- **Quality Improvement**: Better lesson preparation

- **Knowledge Retention**: Build institutional memory

ROI: 9,750% annually
Risk Level: Minimal

Success Metrics: 30-Day Targets

- 📊 **Usage Rate**: 50% of sessions include curriculum data

- ⚡ **Efficiency**: <3 seconds average confirmation time

- 🎯 **Coverage**: 80% of school/grade combinations documented

- 👥 **Adoption**: 100% tutor participation

Leading Indicators (First Week)

- Daily curriculum reference views

- Confirmation rate vs. manual edits

- Time spent on curriculum updates

- User satisfaction feedback

Why This Solution Wins

vs. Current Manual Process

- ✅ **Integrated** vs. ❌ Separate spreadsheet
- ✅ **Instant context** vs. ❌ Search and remember
- ✅ **Mobile friendly** vs. ❌ Desktop dependent

vs. Other Solutions

- ✅ **Behavior-first design** vs. ❌ Feature-first tools
- ✅ **Zero learning curve** vs. ❌ Complex systems
- ✅ **Immediate value** vs. ❌ "Investment" tools

Built for human psychology, not just data collection

Technical Architecture: Simple & Reliable

```
CSM Pro (AppSheet) ← Central Hub
     ↓
Curriculum Web Service ← Intelligence Layer
     ↓
MySQL Database ← Existing Infrastructure
     ↓
Google Sheets ← Preserve Collaboration
```

Key Benefits

- **Reliability**: Google Cloud infrastructure

- **Security**: Existing authentication

- **Performance**: <2 second response time

- **Maintenance**: Self-managing services

Implementation Timeline: Next Steps

If Approved Today

Week 1: Database setup and historical data import

Week 2: Web service development and integration

Week 3: Testing with volunteers

Week 4: Full deployment and training

Immediate Actions Required

1. ✅ **Approval**: Go/no-go decision

2. ⚙️ **Technical Setup**: Google Cloud configuration

3. 👥 **Change Management**: Brief tutors

4. 📊 **Success Tracking**: Measurement dashboard

Questions & Discussion

Key Decision Points

1. **Timeline**: Proceed with 3-week implementation?

2. **Scope**: Start with MVP or full features?

3. **Resources**: Additional support needed?

4. **Success Criteria**: How to measure impact?

Addressing Concerns

- **"Will tutors use it?"** → Historical data provides immediate value

- **"What if it fails?"** → AppSheet continues working independently

- **"Too complex?"** → One-tap confirmation, minimal workflow change

Recommendation: Approve Implementation

This Is a Strategic No-Brainer

☑ High Impact: **Solves daily pain point for all 9 tutors**
☑ Low Risk: **Minimal investment, graceful degradation**
☑ Quick Results: **Visible improvements within 2 weeks**
☑ Scalable Foundation: **Platform for future intelligence**

What We're Really Building

- **Short-term**: Reduce documentation friction

- **Medium-term**: Build knowledge database

- **Long-term**: Intelligent preparation assistant

Recommendation: Approve immediate implementation

Technical Implementation Details

Infrastructure Requirements

- **Hosting**: Google Cloud Run (free tier sufficient)

- **Database**: Existing MySQL (no additional cost)

- **Domain**: curriculum.mathconceptsecondary.academy

- **Authentication**: Integrated with CSM Pro

Development Stack

- **Backend**: Node.js + Express

- **Frontend**: React (mobile-first)

- **Database**: MySQL + Redis cache

- **Integration**: RESTful APIs + webhooks

Monitoring & Maintenance

System Reliability

- **Uptime**: Google Cloud (99.9%+)

- **Performance**: Built-in monitoring

- **Updates**: Automated deployment

- **Support**: Self-diagnosing system

Cost Control

- **Expected**: $0-2/month (within free tiers)

- **Monitoring**: Billing alerts at $10/month

- **Optimization**: Auto-scaling, minimal resources

Success Tracking

- **Usage metrics**: Daily/weekly reports