QuizChat Testing Guide

Chat Memory Fixes & Bloom's Taxonomy Improvements

🎉 **QuizChat is now running successfully on http://localhost:3001**

🚀 Quick Start Testing

1. Access the Application

- Open your browser and go to: **http://localhost:3001**
- You should see the EduChat landing page with "Transform Education with AI-Powered Learning"

2. Create a Teaching Session

1. Click **"Start Teaching"** button
2. Fill in the session details:
   - Session Name: "Test Session"
   - Subject: "Mathematics" (or any subject you prefer)
   - Grade Level: Select appropriate level
   - Duration: 30 minutes
3. Click **"Create Session"**
4. Note the **6-digit session code** that appears

3. Join as a Student (Test Chat Memory Features)

1. Open a new browser tab/window (or incognito mode)
2. Go to **http://localhost:3001**
3. Click **"Join as Student"**
4. Enter the session code and your name (e.g., "TestStudent")
5. Click **"Join Session"**

🧪 Feature Testing Checklist

✅ Feature 1: Chat Memory (AI Context Awareness)

What to test: AI remembers previous conversation context

Steps:
1. Start a conversation: "Hi, I want to learn about fractions"
2. Wait for AI response
3. Ask a follow-up: "Can you give me an example with pizza?"
4. Ask another: "What if I have 3 pizzas instead?"
5. **Expected**: AI should reference previous pizza examples and build on the conversation

✅ Feature 2: Chat History Loading (Session Resume)

What to test: Students see previous messages when rejoining

Steps:
1. Have a conversation with 5-6 messages

2. Close the browser tab/window
3. Rejoin the same session with the same student name
4. **Expected**: All previous messages should be loaded and visible

✅ Feature 3: Bloom's Taxonomy Progression

What to test: Questions progress from basic to advanced levels

Steps:
1. Start learning about any topic
2. Answer questions as they come
3. Notice the progression:
- **Level 1-2**: "What is...?", "Define...", "Explain..."
- **Level 3-4**: "Apply this to...", "Compare...", "Analyze..."
- **Level 5-6**: "Evaluate...", "Create...", "Design..."
4. **Expected**: No repeated questions, clear difficulty progression

✅ Feature 4: Context Window Management

What to test: AI maintains context for recent messages (10-20 messages)

Steps:
1. Have a long conversation (20+ messages)
2. Reference something from 5 messages ago
3. Reference something from 15+ messages ago
4. **Expected**: AI remembers recent context but may not recall very old messages

🔧 Technical Verification

Database Connection

- ✅ PostgreSQL database is connected and working
- ✅ Prisma client is generated and up-to-date
- ✅ Schema is synchronized

API Endpoints

- ✅ Main application loads on localhost:3001
- ✅ Session creation/joining works
- ✅ Chat API processes messages (requires valid session)
- ✅ Chat history API retrieves previous conversations

Environment Setup

- ✅ All dependencies installed
- ✅ Environment variables configured
- ✅ Development server running

🎯 Key Improvements Implemented

1. **Chat Memory**: AI now receives conversation context with each message
2. **Session Resume**: Students can leave and return without losing conversation
3. **Bloom's Taxonomy**: Educational progression from basic to advanced questions
4. **Context Management**: Efficient handling of long conversations (20 message window)

5. **Error Handling**: Graceful fallbacks for all scenarios

🚨 Troubleshooting

If the application doesn't load:

```
cd /home/ubuntu/github_repos/QuizChat/app
ps aux | grep next  # Check if server is running
```

If you need to restart the server:

```
# Kill existing processes
pkill -f "next dev"

# Restart server
cd /home/ubuntu/github_repos/QuizChat/app
npm run dev -- --port 3001 &
```

If database issues occur:

```
cd /home/ubuntu/github_repos/QuizChat/app
npx prisma db push
npx prisma generate
```

📝 Notes for Testing

- The ABACUSAI_API_KEY is configured in the .env file
- Database is hosted and persistent
- All changes are on the `feat/chat-history-bloom-taxonomy` branch
- Server logs can be checked if needed for debugging

🎉 Success Criteria

✅ Students can resume conversations seamlessly
✅ AI maintains context throughout conversations
✅ Questions follow educational progression (Bloom's Taxonomy)
✅ No repeated or circular questions
✅ System handles long conversations efficiently
✅ All existing functionality preserved

Ready for comprehensive testing! 🚀