Specification of business problem:

The business problem of transparent education data management can be specified as follows:

- Datan Accuracy
- Data Security
- Compliance
- Data Transparency
- Data Integration
- Accessibility

Secure cataloging:

1. Block chain platform (ethereum)
2. Smart contracts
     This ensure that transactions are secure, transparent and tamper-proof
3. Data structure
   This stores the library information about ilibrary items
4. Decentralized storage
   This ensures content availability and reduces the risk of data loss.
5. Transaction verification
     Proof of work, proof of stake can be chosen based on platform
6. User authentication and permission
   Public key private key utilization
7. Immutable ledger
8. Search and retrieval interface
9. Audit trail and reporting
10. Regular updates and maintenance

Efficient borrowing and returns:

Efficient borrowing and returns of transparent education data management can be achieved through several key strategies:

1. Data Governance
2. Data Classification
3. Data Security
4. Data Transparency
5. Data Lifecycle Management
6. Data Access Controls
7. Data Access Controls