Why you should consider using an Electronic Lab Notebook (ELN)

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What is an Electronic Lab Notebook (ELN)?

ELN: digital record of research process and results

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Advantages</th>
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<tbody>
<tr>
<td>Compile various procedures</td>
<td>Enhanced accessibility</td>
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<tr>
<td>Document experiments</td>
<td>Searchable with keywords</td>
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<tr>
<td>Store collected data</td>
<td>Secure and redundant</td>
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<tr>
<td>Collect references</td>
<td>Easier, more flexible organization</td>
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<tr>
<td>Immutable record</td>
<td>Can track and review all changes</td>
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ELNs have many features of a traditional lab notebook, with added benefits.

LabArchives (Penn Partnered ELN)

- LabArchives (LA)
  - Common ELN features
  - Legal/security protection
  - Free for Penn students

LabArchives is available to all Penn students

ELNs are more easily accessible

- Many can be accessed via a browser with Internet access
  - On-campus
  - Off-campus
  - Desktop/Laptop
  - Mobile (phone/tablet)

Many ELNs can be accessed anywhere, anytime and on multiple platforms.
ELNs are more easily searchable

- You can use **keywords** and **phrases** to search entire ELNs

ELNs are **searchable**, so finding things is **easier and faster**

ELNs are secure and redundant

- LA: ELN data are **securely** stored on servers off-site
  - Password protected, requiring PennKey authentication
  - Data is **encrypted** (in transit and on servers)
  - Security measures are routinely **tested** and **upgraded**

- LA: ELN data are stored with **redundancy**
  - Backups of data are stored in more than one location
    - Primary on East Coast, secondary on West Coast
    - Backups stored off-site protects against disasters (fires, flooding, etc)

ELNs ensure that your data is **safe** and readily **available**

ELNs provide easier, more flexible organization

ELNs can be **organized** with **folders/pages and links**

ELNs can also be **organized** with different **entry types and attachments**
ELNs provide easier, more flexible organization

Many ELNs integrate with third-party software packages

Changes to ELNs are tracked and can be reviewed

Summary

• ELNs (including LA) can do more than traditional lab notebooks
  • Accessibility
  • Searchability
  • Security and redundancy
  • Organization
  • Trackable/reviewable changes

Easy to correct mistakes and protect the integrity of your research