Just in Time Teaching (JiTT) Infographic Tools

App Development to Support Technologically Assisted Faculty Development

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The largest integrated health system New York State

23 Hospitals
750+ Ambulatory facilities

~2,000 trainees and fellows in 120 programs

**KEY FACTS**

**Five tertiary hospitals**
- Lenox Hill Hospital
- Manhattan Eye, Ear & Throat Hospital
- Long Island Jewish Medical Center
- North Shore University Hospital
- Southside Hospital
- Staten Island University Hospital, North

**Eleven community hospitals**
- Glen Cove Hospital
- Huntington Hospital
- Long Island Jewish Forest Hills
- Long Island Jewish Valley Stream
- The Orthopedic Hospital
- Northern Westchester Hospital
- Mather Hospital
- Peconic Bay Medical Center
- Phelps Hospital
- Plainview Hospital
- Staten Island University Hospital, South
- Syosset Hospital

**Three specialty care hospitals**
- Cohen Children's Medical Center
- South Oak's Medical Hospital
- Zucker Hillside Hospital

**Four Affiliated hospitals**
- Boca Raton Regional Hospital, FL
- Crouse Health, NY
- Maimonides Medical Center, NY
- Nassau University Medical Center, NY

**Strategic alliances**
- CASAColumbia, NY
- Cold Spring Harbor Laboratory, NY
- Epworth HealthCare, Richmond, Australia
- Karolinska Institute
- One Brooklyn Health
- OPKO Health BioReference Laboratories
- Rothman Institute
- University of Notre Dame
- Western Connecticut Health Network
- Yale New Haven Health
In reality, the learning environment is probably made up of many, many micro learning environments. To the learner within it, the environment may exist at his or her individual level, with the smallest microenvironment encompassing just one person, or one person plus his or her interaction with a single patient, peer or teacher.

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doi: 10.1111/medu.12736

Microlearning from Microteaching with Microcontent
• Faculty Developers can Integrate learning concepts from the technology-enhanced learning filed to create new types of learning experiences (micro-learning, micro-credentialing, badging)

• The Learning Loop: Conceptualizing Just-in-Time Faculty Development
  • Yusuf Yilmaz PhD, Dimitrios Papanagnostou MD, MPH, Alice Fornari EdD RDN, Teresa M. Chan MD FRCP MHPE DRCPSC
  • First published: 11 January 2022
  https://doi.org/10.1002/aet2.10722
Just in Time (JiT) CE-PUPP Needs

Just in Time (JiT) Infographic App
Organized tagged microcontent

Faculty engage in "pulling" down content based on data-driven analytics and reporting.

Direct "push" of content to individual learners who do not yet know they need this content.

eg. Learning modules floated to a learner through artificial intelligence–based recommendation system linked to their annual patient-outcomes dashboard.

eg. Targeted infographics emailed to faculty who are taking on new assessment roles (eg, competency-based medical education)

Learners can access and "pull" down the content they need when they detect their own need has not yet been met.

Faculty can subscribe to content in general areas of interest (eg, their specialty) and received customized "pushes" based on emerging trends within that domain.

eg. Searching on a customized search engine for all open access continuing education resources (googleFOAM.com)

eg. Learners can subscribe to a specialty-specific email newsletter that provides recommendations to new and relevant literature.

FIGURE 1. Perceived/unperceived push/pull taxonomy of just-in-time continuing education
# 4 Key Elements of Microlearning Module

<table>
<thead>
<tr>
<th></th>
<th>Microlearning Objectives (MLO)</th>
<th>Microlearning Content (MLC)</th>
<th>Microlearning Delivery (MLD)</th>
<th>Microlearning Evaluation (MLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>With specific titles and micro learning objectives, you can help distracted learners focus in time-compressed workplaces. You can also accurately index microlearning topics for future on-demand training.</td>
<td>Microlearning content (MLC) contains the core training information and activities. Try to focus on one key idea plus three supporting subtopics for each micro unit.</td>
<td>Different content commands different formats of media. Infographics and videos are two of the most popular delivery methods. Infographics in particular can enhance appeal, comprehension and learning retention.</td>
<td>The ultimate goal for a microlearning unit is behavioral change. Activity, context and feedback are key for this purpose.</td>
</tr>
</tbody>
</table>
5 Features of Microlearning

1. Short Duration
   Microlearning modules are designed for learners who cannot spare more than a few minutes at a time for learning and skill development.

2. Focus on a Single Learning Objective
   A single learning objective keeps the micro-modules focused on building specific knowledge transfer.

3. Forms Part of a Whole, Being Independent
   Micro-modules are standalone and can also be used in any course that might have the topic in its curriculum.

4. Interactive Elements
   Interactively allows learners to apply what they've learned, which helps them commit information to their long-term memory.

5. Works on Multiple Devices
   Learners can access microlearning modules from multiple devices, irrespective of their location.
Trainees & faculty spend up to **25% of time teaching** medical students.

Medical students **credit 1/3 of their clinical knowledge** to teaching from trainees & faculty.

Therefore many trainee programs considers teaching skills such as Resident as Teacher (RAT) a core competency.

The ACGME has recently published *New Clinician Educator Milestones* to provide pathways for professional development and framework for assessment.
Though many times trainees feel unprepared
Unsure...
What to teach? And When and How to teach it?
Welcome

The JiTT Infographic App supports clinical teachers & trainees with free open-access medical education (FOAM) resources. All JiTT's are evidence-based & accessible on mobile devices, delivered asynchronously as a FD strategy.

- 24 categories with 200+ JiTTs
- Key word search engine
- Save "favorites" & download JiTTs as PDF
- Continued Education (CE) unit accreditation
- Review questions
- Live analytic data to monitor outcomes

Questions?
- Contact Alice Fornari, afortari@northwell.edu
- Follow on Twitter: @aforitari & @Jitt_Tools

Use this QR code to download the App
Available for FREE download on both iOS and Android

Download on the App Store  GET IT ON Google Play
How to integrate technology in education using the **S.A.M.R. Model**

Technology allows for the creation of new tasks previously inconceivable
Why it matters?

Better Medical Education

Satisfaction with role
Professional identity formation

Improvement of Quality of Care

Medically  Productivity  Social
For use in the following settings...

- Inpatient
- Outpatient
- Ambulatory
- Classroom
- Grand Rounds
How to use the JiTT App.
<table>
<thead>
<tr>
<th>Proposed Title of Graphic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtitle tag line if any</td>
</tr>
<tr>
<td>Content text and subtext</td>
</tr>
<tr>
<td>(Can be broken down into teaching points)</td>
</tr>
<tr>
<td>Indicate if the content is sequential (yes/no)</td>
</tr>
<tr>
<td>Evidence based article citation</td>
</tr>
<tr>
<td>Author Name, credentials, and Institution</td>
</tr>
<tr>
<td>Author Email</td>
</tr>
<tr>
<td>Collaborators Email</td>
</tr>
</tbody>
</table>

JiTT Creation Guide
Submit this form to Melissa Affa, maffa@northwell.edu
*Reminder: A focus on teaching the content NOT how to delivering the actual content
Questions? Please contact Alice Fornari afornari@northwell.edu
JiTT Timeline
From request to the App

Request
Residency or Fellowship program faculty or trainee submits an email request for the creation of a JiTT to the creative designer.

Draft
Based on the content submitted, the creative designer creates a draft of the JiTT infographic.

Review/Revisions
The JiTT requestor will receive the draft of the JiTT infographic and determine if any revisions need to be made.

Final JiTT
If revisions need to be made, the creative designer will make all changes and send back to the requestor for approval.

Content
The JiTT requestor will provide the creative designer with all material to be included in the infographic. This should include the title, section headers, a supporting evidence based article, as well as a review question.

App
The final infographic as well as the corresponding review question is sent to the web developer who updates the App with the new content.
4,909
# of users downloaded the app

3,763 (76.7%)
# of active users
(defined as opening ≥ 1 JiTT)

96
# of countries

5.5 minutes
Average time spent per user reviewing JiTTs per week

6.7
Average # of JiTTs reviewed per user per week

Data was collected between January 1, 2022 – January 1, 2023
Top 5 Most Viewed Categories on the App

by the 3,763 active users from January 1, 2022 until January 1, 2023

- Foundational Clinical Teaching: 1,769
- Classroom Teaching: 1,737
- Clinical Consult: 1,217
- Internal Medicine: 1,205
- Emergency Medicine: 911
Top 10 JiTTs viewed on the App

by the 3,763 active users from January 1, 2022 until January 1, 2023

1. The Five Microskills Teaching with Limited Time: 1330
2. Social Determinants of Health: The 5 Microskills or LANES…: 876
3. Domains of Social Determinants of Health: 837
4. Clinical Reasoning: How to Teach: 648
5. Bedside Teaching: A Directed Observation Technique: 612
6. Feedback and Coaching: SFED: 484
7. Bedside Teaching with the Learner and Patient: 468
8. Commandments for Excellent Consultation: 455
9. Growth Mindset: 366
10. Procedure Teaching Tips Speak View Do: 348
Feedback

- Continuing Education Unit (CEU) Users n= 10

Narrative feedback from survey respondents

- “I really like the infographics etc. Some of these are exactly what we teach but love this type of technology.”

- “Overall, an easy-to-use app, with a wealth of information, presented with admirably clear text and info graphics. I have recommended this to both junior and senior educator colleagues who have found it useful too. Thanks for making this app!”

- “The fact that these are succinct are excellent and makes it digestible and reviewable multiple times to learn simple facts before teaching. Thank you!”

- “JITT is a great idea and user friendly! I plan to use it for brief FD moments during departmental chiefs meetings and other faculty meetings.”

- “I learned about JITT today and am absolutely amazed. Already had 3 friends download the app today and have recommended it to many more. Thank you!”
Next Steps

Whats New?
- 4 Additional Categories
  - Assessment
  - Communications
  - Palliative Care
  - Radiology
- *Internal Search Engine
- Powtoon Videos

Collaborate to add more JITT infographics
Our next update will house 200 JITT infographics!

Improve user comprehension & application with instructional videos

Focus data collection on learner comprehension of JITT content vs. usage data

*46 Active users used the search feature since its implementation on Jan 30, 2023 until March 1, 2023, with users searching an average of 4 times per week.
Domains of Social Determinants of Health

Scenario: There is a patient in the Emergency Room seeking care. They have not seen a doctor and are presenting with flu-like symptoms. Upon talking to the patient, you realize that the learner did not take a comprehensive social history on the patient. Using the Domains of Social Determinants of Health JiTT, you walk the learner through the five domains of Social Determinants of Health.
Thanks!
Any questions?

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- Twitter @AFornari1