

Pay it forward- Improving Radiology Trainee Orientation through Feedback Driven Change

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Purpose

- Success in Radiology residency depends on mastering Picture Archive and Communication System (PACS) and dictation/advanced viewing applications
- Residents are expected to rapidly gain expertise in these systems shortly upon beginning Radiology Residency
- We attempted to identify issues with existing technical training during new resident orientation...
 - ...and restructure the information technology (IT) portion to address perceived learning barriers and create a more meaningful experience

Initial Application Orientation Session – Component 1

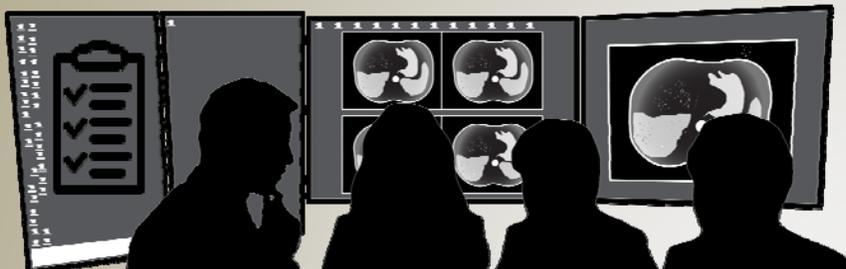
Non-interactive didactic presentations on PACS, Dictation Software, Electronic Medical Record (EMR), and ancillary applications



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Initial Application Orientation Session – Component 2

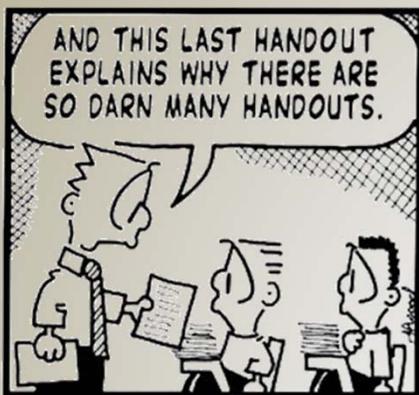
Focused hands-on orientation with a 'Superuser' (technologist, resident, or attending) for all applications based on task oriented checklists



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Initial Application Orientation Session – Component 3

Multiple paper handouts trainees could keep and reference as needed



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Quality Improvement Project

Leveraged the classic PDSA (Plan, Do, Study, Act) cycle

Plan – Convening a group to assess the problem and survey residents on possible changes

Do – Survey residents (next slide)

Study – Analyze survey results

Act – Make modifications based of survey results

...and repeat

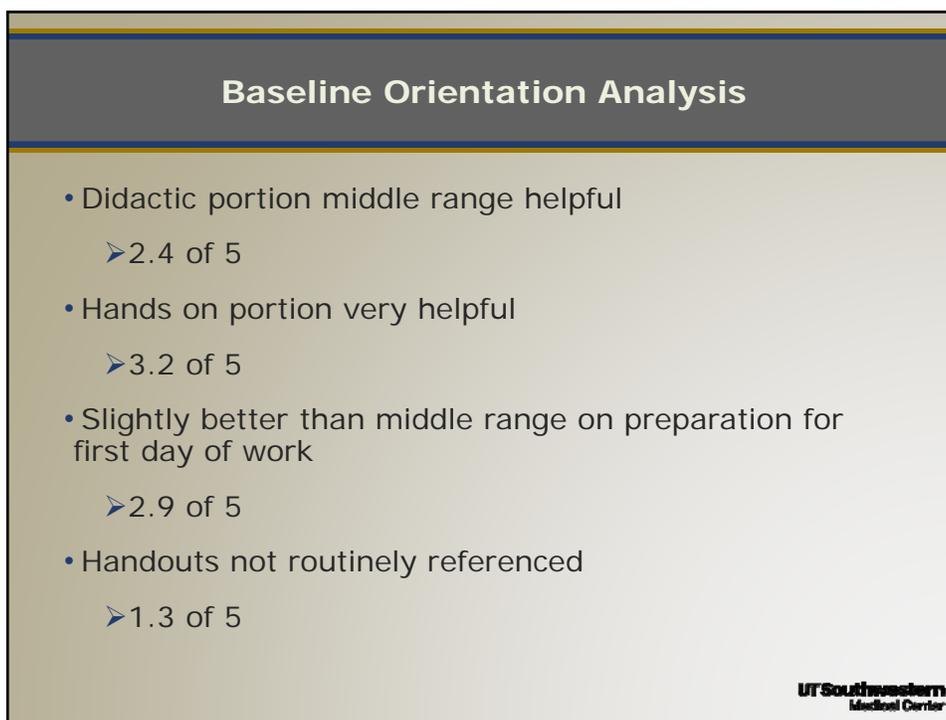
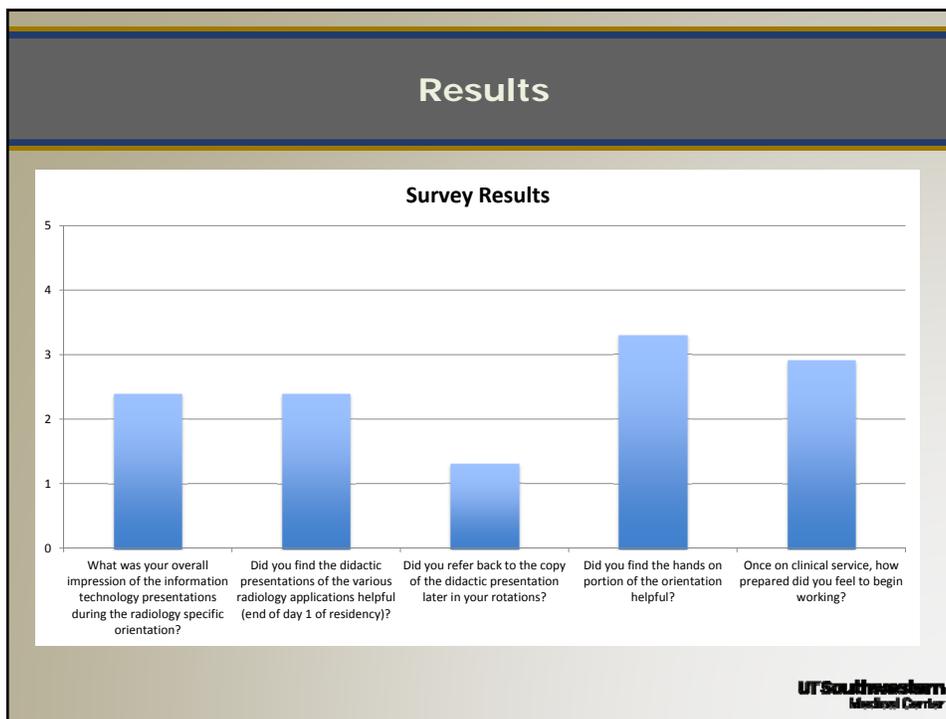
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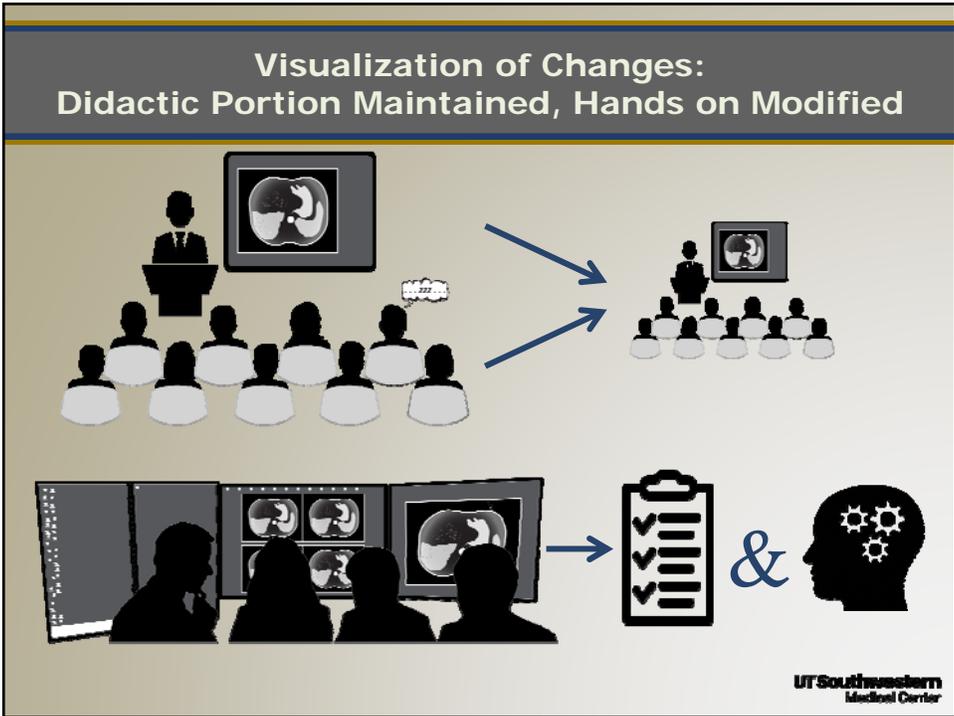
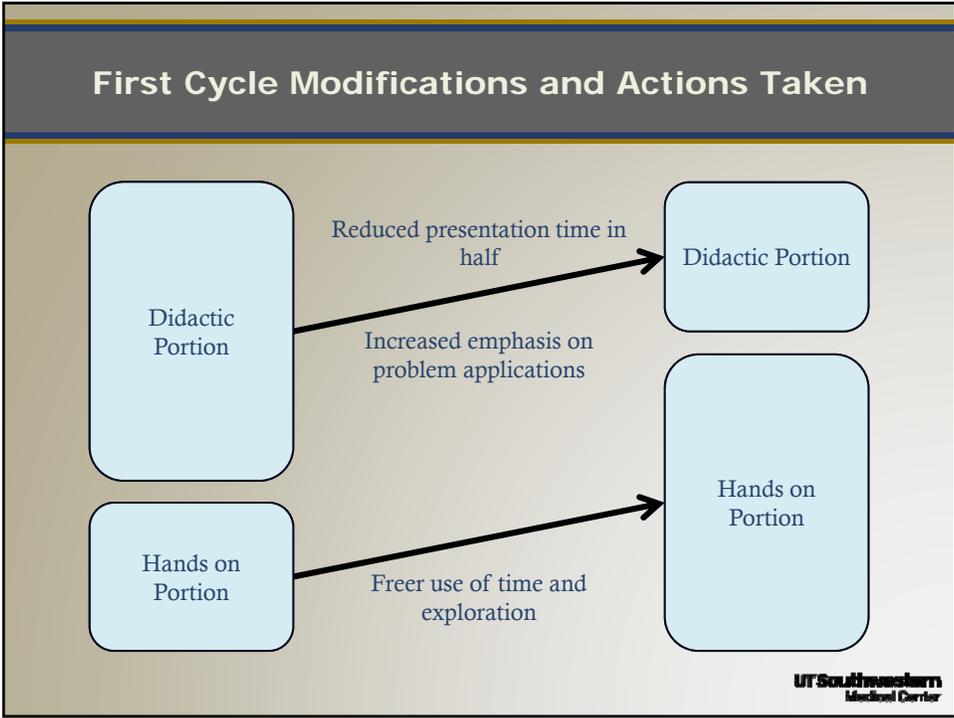
Assessment Survey

- Residents trained in the original orientation format were surveyed
 - Survey performed 1-2 months post orientation
 - 13 Residents total (12 responses)
 - Utilized a Likert scale from 1-5 and single answer multiple choice questions

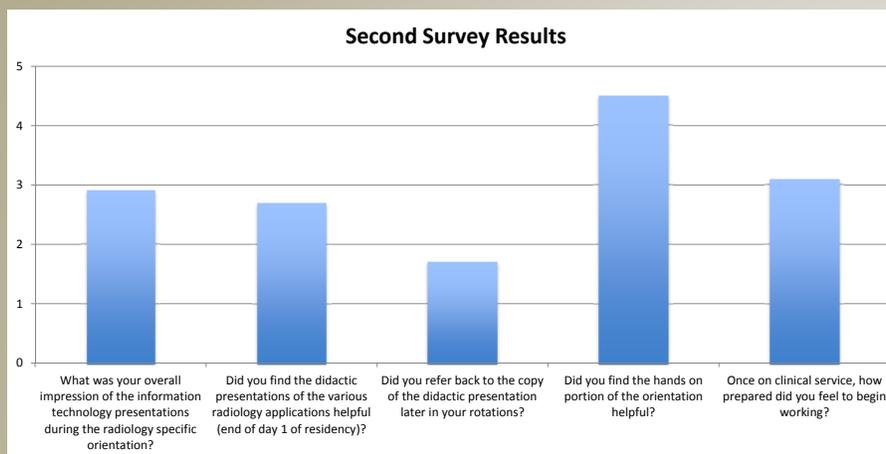
Baseline Survey Questions

1. What was your overall impression of the presentations during the orientation? *Likert scale*
 - Not Beneficial (1) to Very Beneficial (5)
2. Did you find the presentations helpful in learning the information technology associated with radiology? *Likert scale*
 - Not Helpful (1) to Extremely Helpful (5)
3. Did you find yourself referring back to the presentations once you started your rotations? *Likert scale*
 - Never (1) to Occasionally (3) to All the Time (5)
4. Was the timing of the orientation presentation ideal for using the information? *Multiple choice*
 - Ideal
 - Prefer a few Days on Rotation
 - Time would not have had an impact





Second Survey Results



13 residents total, 11 responses

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First Cycle – Analysis

- Improvement in didactic presentations
 - 2.4 → 2.9 of 5
- Hands on portion of the orientation was better received
 - 3.2 → 4.5 of 5
- A little better prepared for first day of residency
 - 2.9 → 3.1 of 5
- Handouts still not routinely referenced
 - 1.3 → 1.7 of 5
- Bonus: Suggestion made for a refresher course 1 month post orientation

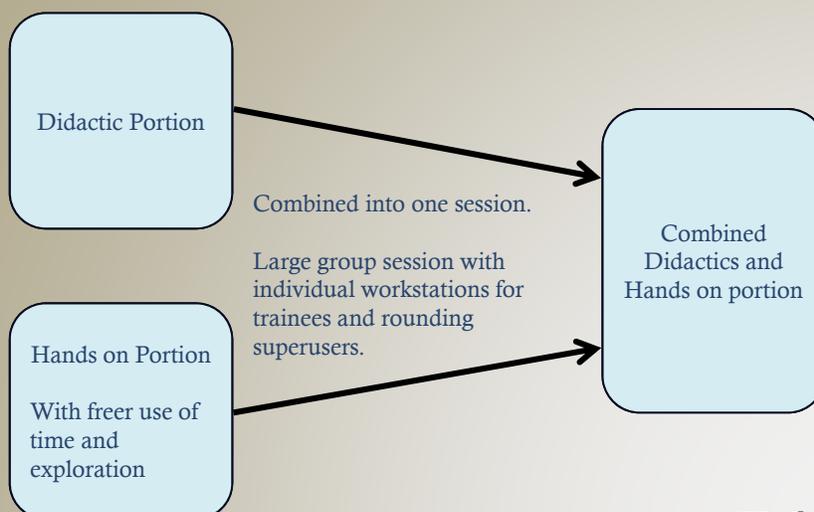
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Second Cycle Changes

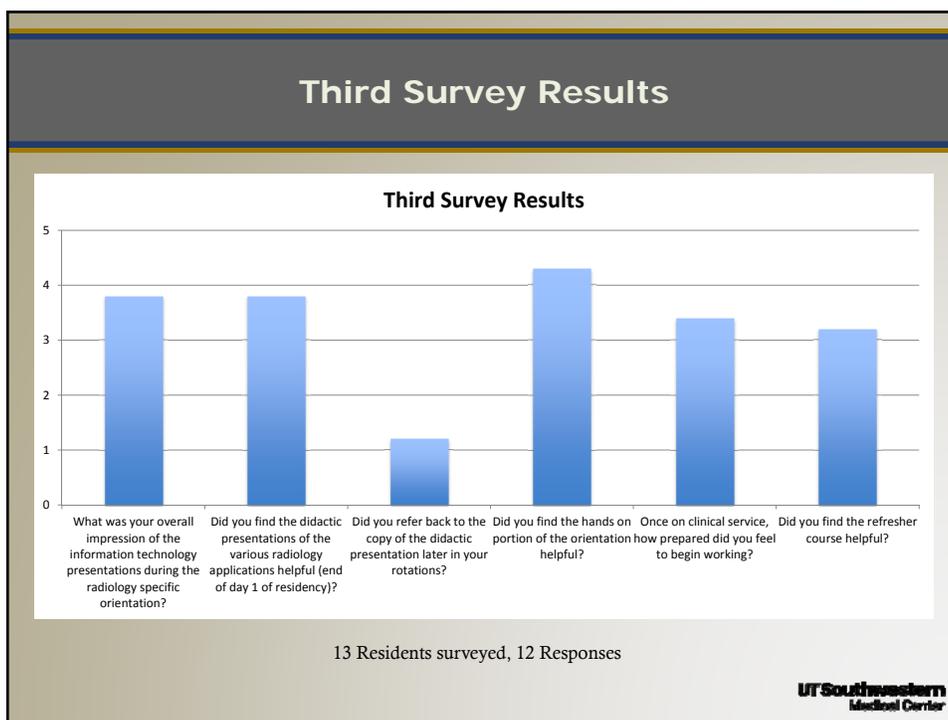
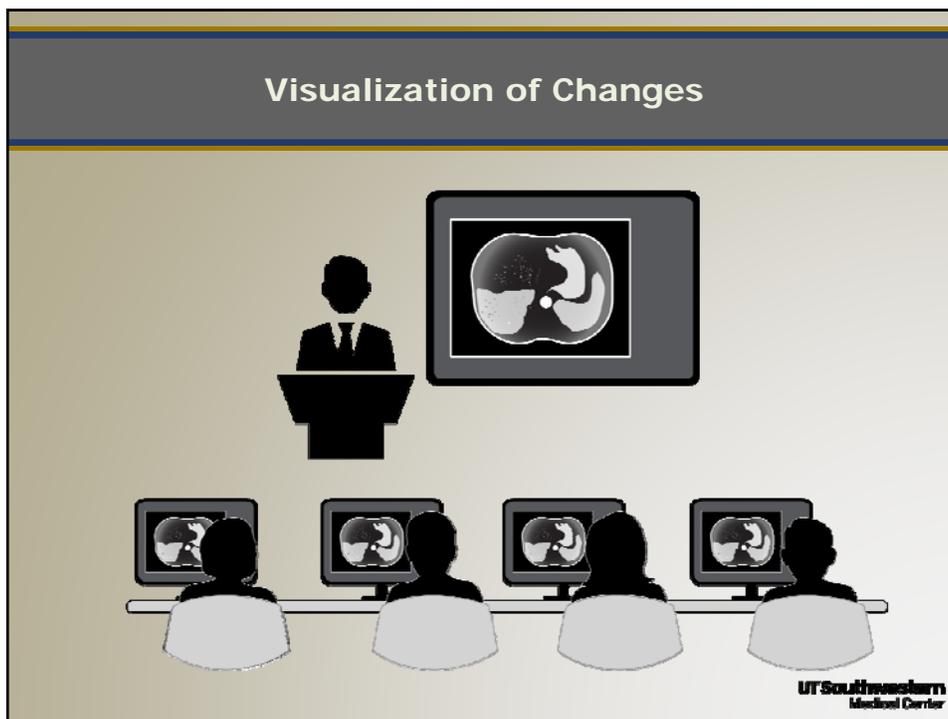
- Combined Hands on Session and Didactic Session
 - Changed to a room with individual computers where trainees could follow presenter and perform same task together
 - Superusers would be around to assist as needed
- Didactic Session shortened even further
- Refresher course added 1 month post training
 - Mix of presentation and open forum Q&A session
- Created an electronic frequently asked questions (FAQ) site with screen shots
 - Hard copy handouts no longer provided

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Second Cycle of Changes



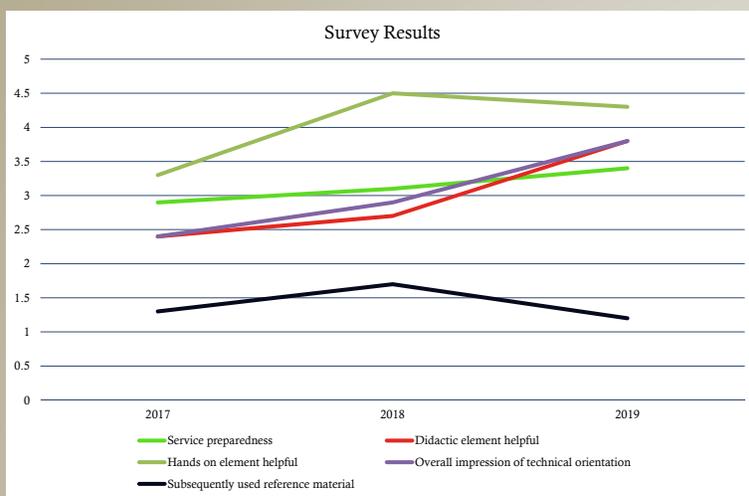
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Second Cycle Analysis

- Didactics are beneficial
 - 2.4 → 2.9 → 3.8 of 5
- Hands on format still valued over didactics
 - 3.2 → 4.5 → 4.3 of 5
 - Consider improving hands on with more engaging scenarios
- Continuing improvement in sense of preparedness
 - 2.9 → 3.1 → 3.4 of 5
- Reference material still not heavily used
 - 1.3 → 1.7 → 1.2 of 5 (at least trees were saved)
- One month refresher well received, but room for improvement
 - 3.2

Trend chart over 3 years of modifications



Future Targets for Next Cycle Improvement

- Better example scenarios
 - Recognized real life encounters early in training
- Incorporating more residents in IT orientation
 - More insight into training needs
- Focus on hands-on over didactics
- Iterate on one month refresher
 - Enhance based on feedback comments
- Try to make electronic FAQs more meaningful
 - Or easier to use
- Continue resident survey to track improvements

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Overall Conclusions

- Traditional didactic and check list orientation was not identified as valuable for new trainee early success
- Continuous improvement from user input can provide a more engaging and useful orientation for trainees
- Hands on use without or during didactics more highly valued than passive recipient didactic presentation
- Reference material (hard copy and electronic) is not heavily utilized
- Refresher courses may be helpful in reinforcing concepts if successfully implemented

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Thank You

- Ankaj Khosla, MD Ankaj.Khosla@phhs.org
 - Chief Resident, Radiology
- Jason Wachsmann, MD
 - Assistant Professor, Nuclear Medicine
- Viswanathan Venkataraman, MS
 - Faculty Associate, Radiology Informatics
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