TRAINING AND EDUCATION IN THE BLOOD BANK

From Student to New Employee to Seasoned Veteran

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Objectives

At the end of the session, the attendee will be able to:

• Differentiate the goals of a student, a new employee, and a seasoned veteran

• Identify at least two methods to increase cognitive and psychomotor performance in students and new employees

• Integrate onboarding into new employee training

• Create opportunities for continued education at your organization
To Train

Definition:
• the act of teaching a person a particular skill or type of behavior
• be taught through instruction and practice
• entice (someone) by offering pleasure or a reward
Adult Learners

• Materials must be practical and relevant
  • Give specific examples that are important to the learners

• Concepts must be concrete and tangible
  • Illustrate ideas through hands on or observation

• Active involvement
  • Learn by doing

• Self-directed
  • Apply experience
  • Independence
Training in Medicine

See One,
Observation & Explanation

Do One,
Reflection & Practice

Teach One
Mastery & Share
Considerations for See One, Do One, Teach One

• Priority of Teaching/Turn around time?
• How often is the procedure done?
• How critical is accuracy?
• Bad Trainer?
• Patient Safety?
• Environment?
Make a Training Plan

• Who is being trained?
• Who can be a trainer?
• What are the goals of training?
• What are they being trained on?
• What is the training time frame?
• How are we going to do it?
Trainee

• Student
  • Not working the bench – Observer
  • MLS/MLT students, Medical Students, Residents, & Fellows

• New Employee
  • Working the Bench
  • New to this laboratory environment

• Seasoned Veteran
  • Working in **YOUR** laboratory environment for 2 or more years
  • SBB students
Trainer Selection

• Not everyone who is a good tech is a good trainer

• Evaluate their Knowledge and Experience level

• Characteristics of a Good Trainer
  • Enthusiastic
  • Knowledgeable
  • Caring
  • Organized
  • Humorous
  • Adaptable
Goal of the Trainer

• Provide Knowledge and Experience to:
  • Pass Examination/Boards
  • Bridge Knowledge Gaps
  • Improve Productivity of the Team
  • Retention
Goal of the Trainee

• Student
  • Advance Education and Experience to get a job/career
  • Learn Something New
  • Improve Self-confidence

• New Employee
  • Perform functions of their job so they can get paid
  • Improve Self-Confidence
  • Career Enjoyment

• Seasoned Veteran
  • Rewarded/Valued as a Person
  • New Opportunities/Responsibilities
What are they being trained on?

- Objectives:
  - Be specific to the trainee
    - MLS/MLT Student
    - Resident/Fellow (Pathology or other specialty)
    - New Employee
    - New Method, Process or System

- Topics:
  - General Concepts/Overview
  - Facts
  - Perform a test or task and Interpretation
  - Problem Solving/Decision Making
What is the training time frame?

- How much time will the trainee have available?
  - Minutes to Hours
  - Days
  - Weeks
  - Months

- Prioritize training topic & methods based on time available
Domains of Learning

• Cognitive - Knowledge
  • Example: Antigen Frequencies

• Psychomotor - Skills
  • Example: Performing a Type & Screen

• Affective – Feeling
  • Example: Discuss antibody problems with patient care provider and acknowledges their concerns for procurement of blood products.
<table>
<thead>
<tr>
<th>Level of Understanding</th>
<th>Description</th>
<th>Example Verbs</th>
<th>Methods/Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Remembering Learned Material</td>
<td>Define, Describe, Name</td>
<td>Reading, Flash cards, Repetition</td>
</tr>
<tr>
<td>Understanding/Comprehension</td>
<td>Meaning of Material</td>
<td>Explain, Summarize, Give Examples</td>
<td>Interpret Data, Questioning, Rewrite</td>
</tr>
<tr>
<td>Application/Applying</td>
<td>Use Learned Material</td>
<td>Demonstrate, Solve, Show</td>
<td>Calculations, Case Studies</td>
</tr>
<tr>
<td>Analysis/Analyzing</td>
<td>Breakdown into components</td>
<td>Differentiate, Illustrate</td>
<td>Troubleshooting, Case Studies</td>
</tr>
<tr>
<td>Synthesis/Creating</td>
<td>Put together form a new whole</td>
<td>Combine, Generate, Modify</td>
<td>Create Flowchart, Presentation, SOPs</td>
</tr>
<tr>
<td>Evaluation/Evaluating</td>
<td>Judge the value of material</td>
<td>Appraise, Criticize, Justify</td>
<td>Critique of an Article, Method or Decision</td>
</tr>
</tbody>
</table>
Psychomotor

- **Performing a task**
  - Adherence to Procedure
  - Accuracy
  - Speed

- **Methods**
  - Direct Observation
  - Blind Samples

- **Satisfactory/ Unsatisfactory**
Affective

- **Attitude**
  - Work ethic
  - Initiative
  - Patient
  - Receptive
  - Interpersonal Skills
  - Courteous
  - Caring

- **Demonstrate**
  - Punctual
  - Volunteer
  - Good Customer Service
  - Team Work
  - Give & Receive Constructive Criticism
  - Positive Attitude
  - Self Evaluate
  - Motivated
Training Focus based on Learning Domains

• Student
  • Major Focus on Cognitive

• New Employee
  • Major Focus on Psychomotor

• Seasoned Veteran
  • Major Focus on Affective
Learning Preferences

• How the learner receives new information

• Most people have a dominant learning preference

• Present new information that utilizes all the Learning Styles

• Visual, Auditory, and Kinesthetic Learning Styles (VAK)
  • Survey to determine learning style
Visual Learning Style

- Learning through **Seeing**
  - Characteristics:
    - Sit up front
    - Take detailed notes
    - Think in pictures
    - Like to Highlight text
    - Remembers Faces but not names
    - Remember Facial expressions
    - Good Writers & Designers

- Preferences:
  - Observations
  - Written Materials & Instructions
  - Use colors to emphasize importance
  - Videos
  - Graphic Organizers (charts)
  - Written questions
  - Powerpoint & Handouts
  - Diagrams & Flowcharts
Auditory Learning Style

- Learn through Listening
- Characteristics:
  - Record classes
  - Reading aloud
  - Recite information
  - Repeat
  - Remembers Names not Faces
  - Distracted by Noise
  - Remembers Tone of Voice
  - Good Speakers

- Preferences:
  - Verbal Instructions/Explanations
  - Discussions
  - Story Telling
  - Talk about what is important
  - Ask them questions
  - Audible Alarms
  - Study Groups
    - Brainstorming
    - Songs/poems
  - Podcasts/Teleconferences
Kinesthetic Learning Style

• Learn through moving, doing and touching

• Characteristics
  • Can’t sit still
  • Distracted if not doing
  • Take frequent study breaks
  • Stand to Work
  • Touch & Feel
  • Highlight reading
  • Remembers what was done

• Preferences
  • Hands-on Tasks
  • Role Playing
  • Field Trips
  • Simulations
  • Games
  • Case Studies
  • YouTube Clips
Planning for Student Training

• What do they need to know? (Cognitive Methods)
  • Boards/Exams or Objectives relevant to their career path
    • Varied based on MLS/MLT or Resident/Fellow/Medical Student

• Plan activities that utilize multiple learning styles

• Independent Practice in a safe space (Psychomotor Methods)
  • Do not look over their shoulder
  • Space to make mistakes with lack of embarrassment
  • All hands-on testing should not be Test of Record

• Have them answer their own questions
  • Boosts confidence
  • “What do you think the answer to that question is?”
Planning for Resident/Fellow Training Example

- **Schedule**
  - Introductions, Tour, Safety Review
  - Participate in reviewing
    - Transfusion Reactions and Antibody Cases,
    - Blood & Derivative Management, Massive Transfusion Protocols
  - Observation & Explanation of Bench work
  - Written Questions
  - Case Studies → Discussion (multiple times for Pathology)
- Oral Presentation
- QA and Medical Management Meetings
MLT/MLS Student Laboratory Training Example

- Schedule
  - Introductions, Tour, Safety Review
  - Observation & Explanation of Bench work
  - Written Questions
  - Multiple Blind Samples (Student Bench)
  - Case Studies → Discussion
  - Project (Written paper, Poster or Oral Presentation)
    - Student Chooses
Observation & Explanation

- Trainer provides the SOP

- Trainer is performing and verbally explaining the steps of the procedure and principle/reason

- Trainer provides examples of troubleshooting equipment or specimen problem solving

- Trainer asks questions to ensure trainee comprehends the principle and the steps
Written Questions

- Demonstrates what they know
- Allows time for them to think the question through
- Less pressure of having the wrong answer
- If they don’t know, they can find the answer

- Questions should be direct, clear, and specific

- Essay/Short Answer Questions
  - Articulate what they know and explain their thought process
  - If they get a question wrong, explain why
  - Wrong answers may lead to better understanding of the concept, etc.

- Can use as a study tool later
Student Bench (MLS/MLT)

- Routine Testing
  - Type & Screen
  - Segment Confirmation
  - Crossmatching
  - DAT
- Antibody Identification
- ABO/Rh Discrepancies
- Antigen Typing

- Transfusion Reactions
- Rosette Test
- Sickle Typing
- Eluate
- Titer
Case Studies

- Single & Multiple antibodies
  - Surgical patient
  - Sickle Cell patient
  - Oncology patient
  - Obstetric patient

- ABO/Rh Discrepancies
  - Misdrawn Sample
  - Anti-\(A_1\)
  - Anti-M
  - Transfusion/BMT

- Rouleaux

- ABO & D HDFN

- Transfusion Reactions
  - ABO incompatible
    - RBCs & Platelets
  - Delayed hemolytic
  - Allergic/TACO

- TTD WNV

- Autoantibodies
  - Adsorption
Planning for New Employee Training

• What do they need to know?
  • Culture of YOUR Laboratory
  • How to perform the test/task safely, accurately and in a timely manner

• Orientation/Onboarding
  • Scheduling, Workflow, LIS, Safety, Policies, Regulations & Standards, Communication

• Training Checklist (Documentation & Guidance)

• Read Standard Operating Procedures

• Independent Practice in a safe space (Psychomotor)
  • Do not look over their shoulder
  • Space to make mistakes with lack of embarrassment
  • Familiarize them of test procedures
Onboarding

• Goal:
  • Employee Retention

• Focus:
  • Employee success
  • Employee Contributes as part of the Team
  • Employee assimilates into Work Environment

• Scheduled Periodic Meetings
  • First Encounter through the First Year of Employment

• New Employee Issues that are addressed
  • Fitting In
  • Feedback
  • Help
Successful Onboarding

• Ongoing process
• Mentorship Program
  • Select Positive Role Model with Similar Interests
• Planned Meetings at Specific Time Intervals
  • Honest Conversation
• Building a Relationship
• Outcomes:
  • Employee knows what is expected of them
  • Management cares about them and is supportive
  • Employee Recognition
Onboarding Timeline

- **Weekly Meetings**
  - First Month

- **Monthly Meetings**
  - Second to Twelfth Month

- **Semiannual Meetings**
  - After first year
Training Checklists

• Are Required to Document Training

• Concise for ease of use

• Should be detailed enough to highlight the important aspects

• Reference the pertinent SOPs
Training Procedures

- General Outline
- Trainer Requirements
- Allow for Flexibility
  - Trainee requires more time or alternate methods
  - Trainee requires less time
- Define Successful Completion

Appendix A: New Employee Training Schedule

<table>
<thead>
<tr>
<th>Workstation</th>
<th>Days not covering the workstation with trainer prior to training at workstation</th>
<th>Target days with trainer at workstation*</th>
<th>Target days supervised, without trainer</th>
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</thead>
<tbody>
<tr>
<td>Donor Processing</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Testing</td>
<td>1</td>
<td>5</td>
<td>5-10</td>
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<tr>
<td>Phone/Non-Testing Floot</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Issue</td>
<td>0</td>
<td>5 (1/2 day Tissue)</td>
<td>5</td>
</tr>
<tr>
<td>Accessing</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Component Preparation</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Platelets</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hemostase</td>
<td>0</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Instrument</td>
<td>2 (1 day Troubleshooting)</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Reference Laboratory</td>
<td>0</td>
<td>7 (1/2 day with Lead)</td>
<td>5</td>
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</table>
Planning Training & Education for the Seasoned Veteran

• Setting Goals
  • SMART Goals
  • Meet at least every 6 months to assess progress

• Opportunities
  • Continuing Education
  • Networking
  • Projects
  • Be part of Divisional Activities
Goals

- Individualized
- Adjustable
- Challenging
- Reward for Attaining
  - No Negative outcome for not Achieving it

- SMART goals
  - Specific/Significant
  - Measureable/meaningful
  - Attainable/Acceptable
  - Realistic/Rewarding
  - Timely/Trackable
Opportunities

- Individualized
- Rewarding to them
- Possible Career Advancement
- Special Projects
- Meeting New People with common interests
- Community Activities
- Recognition for participation in additional responsibilities
Activities at the Divisional Level

- Meetings
  - QA
  - Medical Management
  - Patient Safety

- Training Students/New Employees

- Projects
  - QA
  - Research
  - Validation
  - Procedures

- Inspection/Assessment Team
Activities within the Hospital

• Children Center Trick or Treat Parade
• Group Walks
• Continuing Education
• Lab Week
• Spirit Week
• Diversity
• Offer Tours
• Green Team
Activities Outside the Hospital

• Book or Food Drives
• Career Day
• Adopt A Class
  • Institutional Program
    • Volunteer Employees go out to local 4\textsuperscript{th} & 6\textsuperscript{th} grade classes
    • 1 hr / month from November – March
    • Career Day in May – come for tour
  • Themes:
    • 4\textsuperscript{th} grade – Goal Setting
    • 6\textsuperscript{th} grade – Be PROUD
Department of Pathology Symposium

- Free Continuing Education event for all Pathology Department Employees & labs sharing our CLIA license
- Attendance is around 450-700 employees
- 35-42 1 hour sessions over 3 days (8:30a - 4:30p)
- On our Main Campus (almost all expenses stayed within the health system)
- PACE accredited
- Webcast select presentations live to hospital in Florida (CEbroker approved)
- Provided a free lunch

- Invite all our Laboratories to participate free (other hospitals)
  - Present
  - Attend
  - Volunteer
  - Network with their peers
Symposium Success

- Employee Satisfaction >90%
  - Maintain Continuing Education requirements
  - Networking
  - Volunteer Opportunities
  - Practice giving presentations (Residents/ Techs)
  - Free food

- Each year attendance increases
- Total Costs Increased Compared to Sending Employees to local meetings
- Cost per Attendee decreased

<table>
<thead>
<tr>
<th></th>
<th>Local Meetings</th>
<th>Pathology Symposium</th>
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</thead>
<tbody>
<tr>
<td>Presenters (R/T)</td>
<td>4/4</td>
<td>5/4</td>
</tr>
<tr>
<td>Total Costs</td>
<td>$31,737</td>
<td>$36,743</td>
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<tr>
<td>Attendance</td>
<td>217</td>
<td>277</td>
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<tr>
<td>Cost/Attendee</td>
<td>$146</td>
<td>$133</td>
</tr>
<tr>
<td>Surveys completed</td>
<td>265</td>
<td>330</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>96%</td>
<td>91%</td>
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## Breakdown of Cost of Symposium

<table>
<thead>
<tr>
<th>Item</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symposium days</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Educational Sessions</td>
<td>35</td>
<td>42</td>
<td>35</td>
<td>41</td>
</tr>
<tr>
<td>Sessions Recorded</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>7</td>
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<tr>
<td>PACE® Provider Fee</td>
<td>$600</td>
<td>$600</td>
<td>$650</td>
<td>$650</td>
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<tr>
<td>AV/Recording</td>
<td>$3,369*</td>
<td>$4,185*</td>
<td>$5,365*</td>
<td>$6,354*</td>
</tr>
<tr>
<td>Food</td>
<td>$9,148*</td>
<td>$22,327*</td>
<td>$20,450*</td>
<td>$22,629*</td>
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<tr>
<td>Printing (Programs/Handouts)</td>
<td>$5,760*</td>
<td>$4,087*</td>
<td>$355*</td>
<td>$426*</td>
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<tr>
<td>Parking</td>
<td>$600*</td>
<td>$530*</td>
<td>$420*</td>
<td>$30*</td>
</tr>
<tr>
<td>Room Rentals</td>
<td>$4,760*</td>
<td>$4,760*</td>
<td>$4,760*</td>
<td>$6,260*</td>
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<tr>
<td>Electronic Attendance</td>
<td>--</td>
<td>$785*</td>
<td>$2,205*</td>
<td>$905*</td>
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<tr>
<td>Miscellaneous Costs</td>
<td>$598</td>
<td>$885</td>
<td>$601</td>
<td>$495</td>
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</tbody>
</table>

*Funds kept within institution
Summary

• Have a General Plan
  • Regulations/Standards or Organizational Requirements
  • Educational Objectives
  • Identify Employer Goals of Education/Training

• Factor in
  • Student/Employee Goals
  • Prior Education & Experience
  • Learning Preferences
  • Interests
References


