WELCOME

WELCOME TO PEDIATRIC GRAND ROUNDS

Check-In ID

19198

Text ID to UCSD CME Credit:

1-866-858-2208

Please connect with staff for additional information on creating a CloudCME Account

Rady Children's Health

UC San Diego
SCHOOL OF MEDICINE
Department of Pediatrics

UC San Diego
SCHOOL OF MEDICINE

RCHSD Pediatric Grand Rounds

RCHSD Pediatric Grand Rounds - 5/15/2026
Rady Children's Hospital
May 15, 2026 – 8:30 AM

Learning Objectives
Upon completion of this session, learners should be able to:
1 Describe recent advances in pediatric care and their implications for clinical practice through interactive case discussions and expert panel reviews.
2 Apply evidence-based guidelines and best practices in the diagnosis and treatment of pediatric patients, enhancing clinical skills and decision-making.
3 Integrate knowledge from the latest pediatric research and guidelines into daily clinical practice to improve patient outcomes.
4 Apply effective communication skills with patients, families and professional associates.

Target Audience
Specialties – Anesthesiology, Cardiovascular Medicine, Critical Care, Dermatology, Emergency Medicine, Family Medicine-Family Practice, Gastroenterology/Hepatology, Geriatric Medicine, Internal Medicine, Pediatrics
Professions – Physician, Non-Physician, Administrator, Advanced Practice Nurse, Attorney, Audiologist, Behavioral Therapist, Dentist, Dietitian/Nutritionist, Fellow/Resident, Genetic Counselor, Medical Assistant, Medical Student, Nurse Assistant, Nurse, Nursing Home Administrator, Occupational Therapist, Pharmacist, Physical Therapist, Physician Assistant, Psychologist, Quality Improvement Professional, Respiratory Therapist, Scientist / Researcher, Social Worker, Speech Language Therapist, Cardiologists, Educators

Accreditation
The University of California San Diego School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The University of California San Diego School of Medicine designates this live activity for a maximum of 1.00 *AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Physician Assistants: AAPA accepts certificates of participation for educational activities certified for *AMA PRA Category 1 Credit™* from organizations accredited by ACCME or a recognized state medical society.

Nurses: For the purpose of recertification, the American Nurses Credentialing Center accepts *AMA PRA Category 1 Credits™* issued by organizations accredited by the ACCME. For relicensure, the California Board of Registered Nursing accepts *AMA PRA Category 1 Credits™*.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to earn credit toward the CME requirement of the American Board of Surgery's Continuous Certification program. It is the CME activity provider's responsibility to submit learner completion information to ACCME for the purpose of granting ABS credit.

Disclosure Statement
All relevant financial relationships and the nature of those relationships are noted below. All relevant financial relationships have been mitigated.

Name of individual	Individual's role in activity	Nature of Relationship(s) / Name of Ineligible Company(s)
E. Joan Diccianni, MHA	Activity Coordinator	Nothing to disclose - 10/17/2025
Rocio N Duenas, MA, AMFT, PCC	Activity Coordinator	Nothing to disclose - 02/18/2026
Heather M French, MD, Professor of Pediatrics	Faculty	Nothing to disclose - 03/02/2026
Harold Hoffman, MD, Pediatric Allergy Immunology	Course Director	Consulting Fee-Novartis Corporation Pharmaceuticals (Relationship has ended)|Consulting Fee-Sobi|Consulting Fee-Ventyx (Relationship has ended)|Consulting Fee-Aclaris (Relationship has ended)|Grant or research support-Takeda Pharmaceuticals (Any division) (Relationship has ended)|Grant or research support-zomagen (Relationship has ended)|Grant or research support-zydus (Relationship has ended)|Advisor-paratus|Advisor-Inapill|Honoraria-Kinkisa - 03/03/2026
Jeannie Huang, MD, MPH	Planning Committee Member	Grant or research support-AbbVie (Any division)|Grant or research support-Ferring|Grant or research support-Janssen (Any division)|Grant or research support-Gilead Sciences, Inc. (Relationship has ended)|Grant or research support-Takeda Pharmaceuticals (Any division) - 08/28/2025
Elizabeth Ingulli, MD	Planning Committee Member	Nothing to disclose - 02/23/2026
Denisse Larro, Other	Activity Coordinator	Nothing to disclose - 09/04/2025
Maria Perez-Gonzalez	Activity Coordinator	Nothing to disclose - 02/17/2026
Cara Randolph, M.Ed.	Activity Coordinator	Nothing to disclose - 02/26/2026

Acknowledgment of Commercial Support
This session has received no commercial support.

Accreditation Required Information

Regularly Scheduled Series (RSS)

Rady Children's Health

UC San Diego
SCHOOL OF MEDICINE
Department of Pediatrics

VISIT OUR WEBSITE

www.radycme.org

Past recorded Grand Rounds sessions

CME CREDIT POST-SESSION
(2 weeks)

MOC Credit Opportunities

2026 Spector Annual Research Symposium (SARS)

Event Details:

- Friday, May 29 from 8am-5pm
- Rady Children's Hospital – Education and Office Building (EOB)

Poster Competition:

- Abstracts due May 1
- Posters due May 14
- Poster Awards include:
  - Basic Science
  - Clinical Science
  - Community Health Research
  - Resident Research

PEDIATRIC Long-COVID

What the Data Show — and What Families Tell Us

THE HERBERT KIMMONS SUMMER GRAND ROUNDS

July 17, 2026 | 8:30 a.m. - 9:30 a.m.

Education and Office Building (EOB) 1900

Zoom Meeting ID: 970 2193 9198
PW: 542593

Kyung (Kay) Rhee, M.D., MSc, MA
Professor of Clinical Pediatrics
Chief of Child and Community Health
Acting Chief of Adolescent and Young Adult Medicine
Medical Director, Medical Behavioral Unit, Rady Children's Health and
Center for Healthy Eating and Activity Research
University of California, San Diego

Kelan Tantisira, M.D., M.P.H.
Professor of Pediatrics
Chief, Division of Pediatric Respiratory Medicine
University of California, San Diego
Rady Children's Health

Join us for a roundtable discussion led by Dr. Rhee and Dr. Tantisira!

Rady Children's Health | UC San Diego SCHOOL OF MEDICINE Department of Pediatrics

Next Session

May 22, 2026

Bridging the Gap: Enhancing Communication Between Residents and Program Leadership?

Melissa Campbell, M.D. & Brittany Voth, M.D.

Chief Residents
Department of Pediatrics
University of California, San Diego
Rady Children's Health

Rady Children's Health | UC San Diego SCHOOL OF MEDICINE Department of Pediatrics

TODAY'S SPEAKER

Pediatric Grand Rounds
May 15, 2026

Think Big, Teach Bigger: Insights from Transforming Curriculum on a National Stage

Symposium for Innovation in Medical Education

Heather M. French, M.D., MSEd

Professor of Clinical Pediatrics

Program Director, Neonatal-Perinatal Medicine Fellowship

Perelman School of Medicine at the University of Pennsylvania

The Children's Hospital of Philadelphia

Rady Children's Health | UC San Diego SCHOOL OF MEDICINE Department of Pediatrics

THINK BIG, TEACH BIGGER:

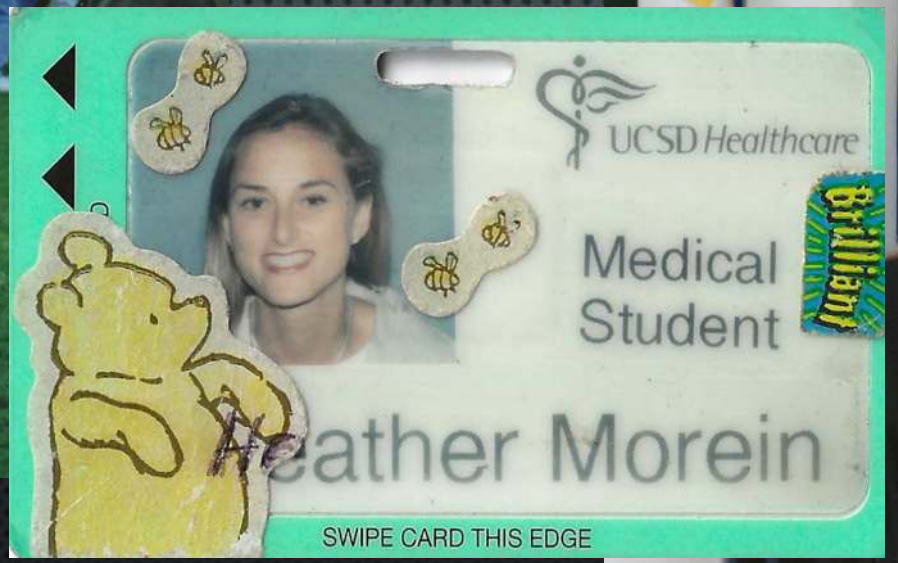
INSIGHTS FROM TRANSFORMING CURRICULUM ON A NATIONAL STAGE

HEATHER FRENCH, MD, MSED

THE CHILDREN'S HOSPITAL OF PHILADELPHIA

PERELMAN SCHOOL OF MEDICINE AT THE UNIVERSITY OF PENNSYLVANIA

September 18, 1998



June 9, 2002

MY EDUCATIONAL JOURNEY

I HAVE NO RELEVANT FINANCIAL DISCLOSURES OR CONFLICTS OF INTEREST

OBJECTIVES:

1. ARTICULATE THE RATIONALE FOR PURSUING NATIONAL-SCALE CURRICULUM DEVELOPMENT AS A STRATEGY FOR ADVANCING BOTH EDUCATIONAL EQUITY AND SCHOLARLY RIGOR IN GME.

2. APPLY A STRUCTURED CURRICULUM DEVELOPMENT FRAMEWORK TO A CURRICULUM INITIATIVE WITHIN ONE'S OWN SPECIALTY, SUBSPECIALTY, OR INSTITUTION.

3. IDENTIFY AT LEAST ONE ACTIONABLE STRATEGY FOR BUILDING A COLLABORATIVE, SCALABLE CURRICULUM INITIATIVE WITHIN ONE'S PROGRAM OR PROFESSIONAL NETWORK.

WHAT DOES IT ACTUALLY TAKE TO CHANGE HOW AN ENTIRE SUBSPECIALTY EDUCATES ITS NEXT GENERATION?

THAT'S WHAT THIS HOUR IS ABOUT.

- Heather French, MD, MSEd, U Penn
- Megan Gray, MD; U Washington
- Liz Bonachea, MD; Nationwide
- Melissa Carbajal, MD; Baylor
- Patty Chess, MD; U Rochester
- Rita Dadiz, DO; U Rochester
- Alison Falck, MD; UCSF
- Maria Krakauer, MD, MEd; Vanderbilt
- Susan Izatt, MD, Med; Duke
- Lindsay Johnston, MD, Med; Yale
- Heidi Karpen, MD; Emory
- Allison Payne, MD, MS; Case Western
- Margarita Vasquez, MD; UTHSCSA

ROADMAP FOR TODAY

I **Why Scale Matters**

The case for thinking big in medical education

II **Needs Assessment**

Knowing what you don't know

III **Curriculum Design**

From vision to blueprint

IV **Implementation**

Where plans meet reality

V **Evaluation**

Closing the loop

VI **Lessons & Principles**

What national scope teaches us all

I

WHY SCALE MATTERS

The case for thinking big in medical education

Penn GSE
GRADUATE SCHOOL OF EDUCATION
UNIVERSITY of PENNSYLVANIA

96 NPM FELLOWSHIP PROGRAMS

VARIABLE EDUCATIONAL RESOURCES

ZERO SHARED CURRICULA

WHERE YOU TRAIN DETERMINES WHAT YOU LEARN.

THAT IS A CURRICULUM FAILURE. AND AN EQUITY PROBLEM.

NNC MISSION

1

Improve the quality, consistency, and efficiency of neonatology education by creating freely accessible, peer-reviewed ABP-content focused educational materials for the adult learner.

2

Create a collaborative of academic educators who will advance the science of teaching and learning to improve the quality of neonatal care.

3

Mentor fellows interested in educational scholarship and careers in health professions education.

THE STATUS QUO: VARIABILITY ACROSS NEONATOLOGY TRAINING

The Educational Landscape Before The National Neonatology Curriculum

Each of the 96 NPM fellowship programs built its own local curriculum independently – despite shared ABP content requirements.

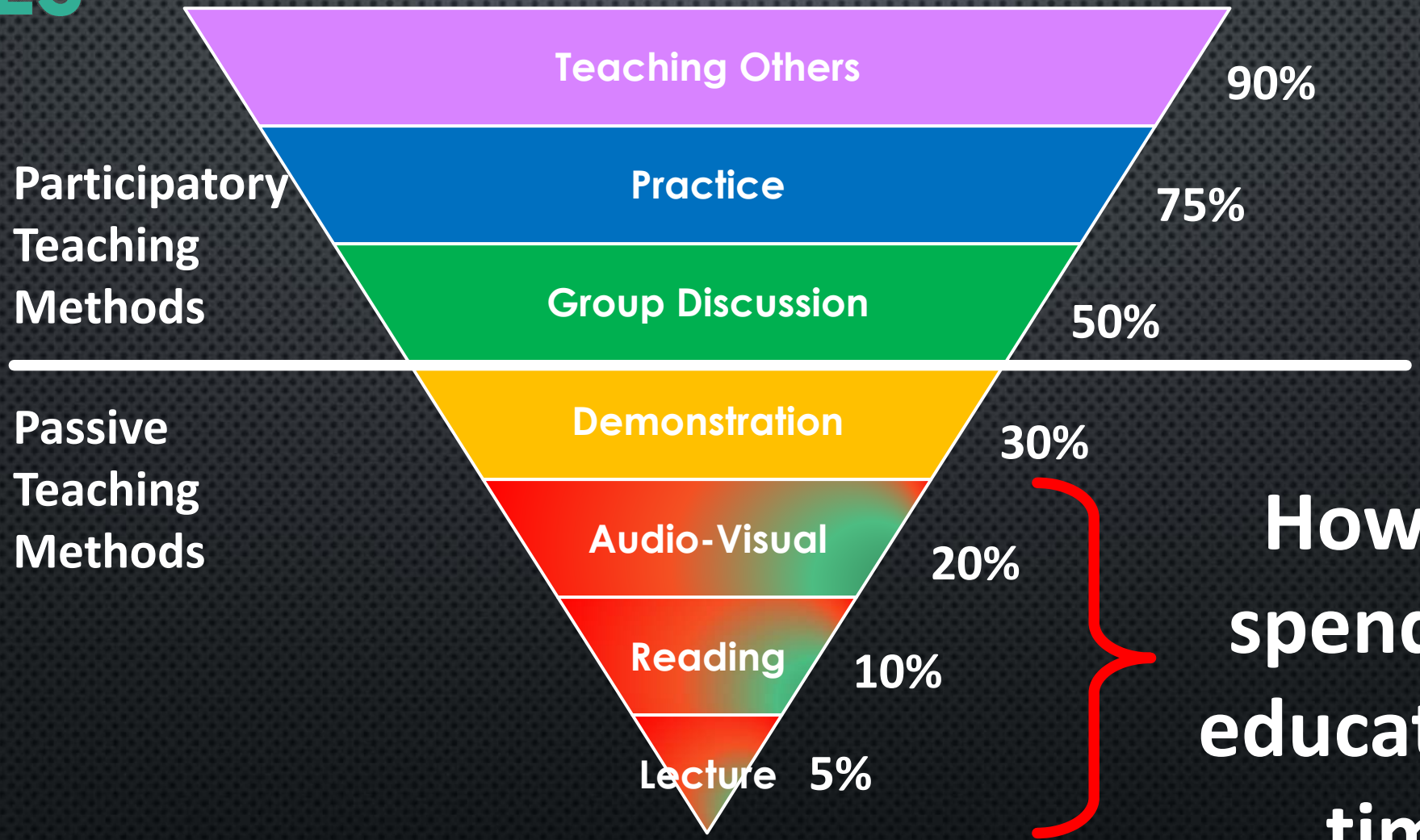
The result: Significant variability in educational quality, depth, and learner experience.

The Core Problem

Passive, lecture-based teaching dominated. Passive teaching methods yield on 5-30% knowledge retention vs 50-90% for participatory approaches.

Key Insight: ***A trainee's educational experience in neonatology depended more on where they trained than what they needed to know.***

KNOWLEDGE RETENTION RATES



Adapted from National Training Laboratories, Bethel, ME

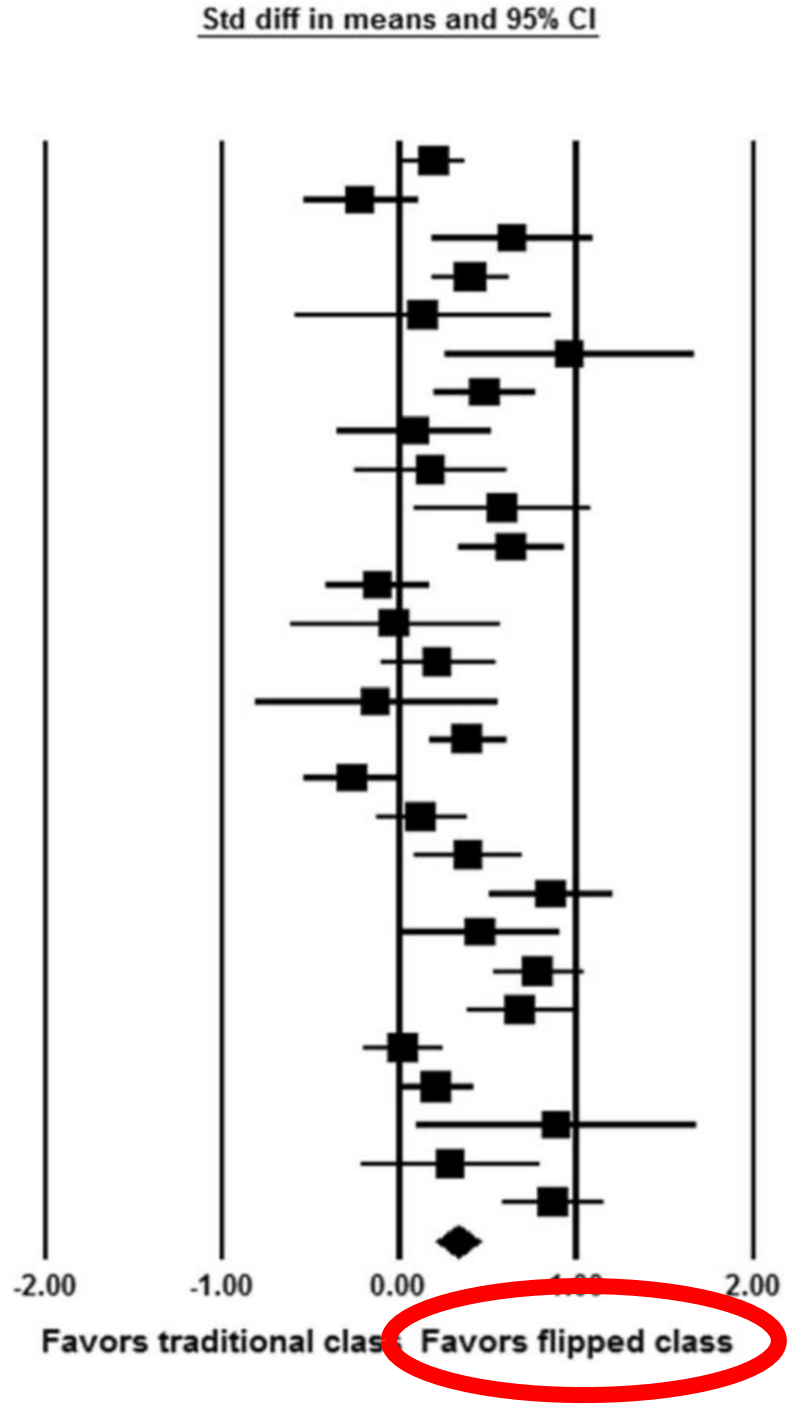
Flipped classroom improves student learning in health professions education: a meta-analysis

Khe Foon HEW* and Chung Kwan LO

BMC Medical Education
2018; 18(38)

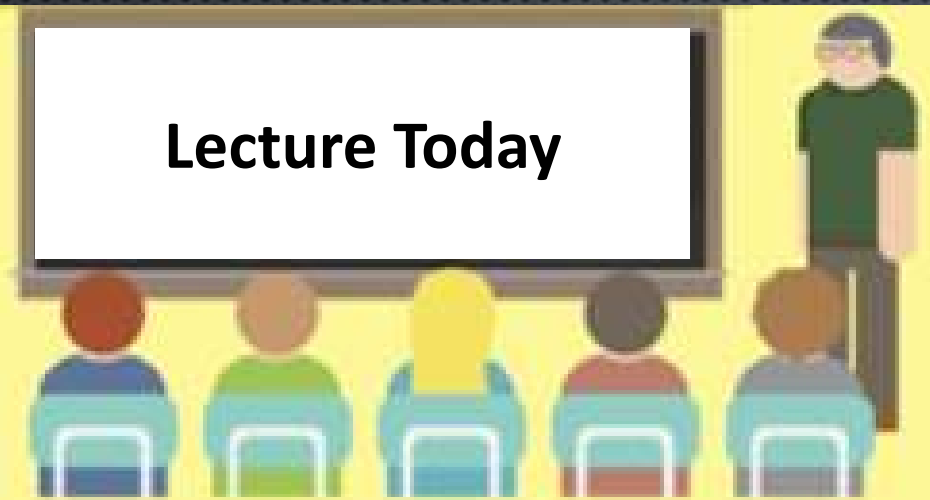
Meta-analysis of 28 studies
involving 4715 students
FC: N = 2295
TD: N = 2420

Overall significant effect in favor of FC



TRADITIONAL CLASSROOM VS FLIPPED CLASSROOM

1. **Lecture Today**



2. Homework = exercises, problems

1. Homework = knowledge acquisition

2. **Activity Today**

https://www.knewton.com/infographics/flipped-classroom/

NATIONAL NEONATOLOGY CURRICULUM

“

SCALE IS NOT JUST AMBITION; IT IS EQUITY.

AMBITION IS A DESIGN CHOICE

Standardization → Equity

Every trainee gets access to the same peer-reviewed, ABP-aligned materials – regardless of program size or resources.

Collaboration → Credibility

A national team of PDs brings diverse expertise and multi-institutional buy-in that no single program can replicate.

Scale → Research Power

61 of 96 fellowship programs enrolled in the NNC RCT – the largest RCT in subspecialty pediatrics education published to date.

Mission-Driven Scope

Improve quality, consistency, and efficiency of neonatology education. Mentor future educators. Advance the science of teaching.

II

NEEDS ASSESSMENT

KNOWING WHAT YOU DON'T KNOW

KNOW THE GAP BEFORE YOU BUILD THE BRIDGE

THE PRINCIPLE

THREE LENSES OF NEED:

1. LEARNER – WHAT GAPS EXIST IN KSA?
2. SYSTEM – WHAT DOES THE TRAINING INFRASTRUCTURE REQUIRE?
3. SOCIETAL / PATIENT – WHAT OUTCOMES MUST GRADUATES ACHIEVE TO PROVIDE HIGH QUALITY CARE?

THE NNC EVIDENCE

96+ NPM PROGRAMS. NO SHARED CURRICULUM.

PASSIVE TEACHING DOMINATED (5-30% RETENTION RATES)

STRONG PD INTEREST IN SHARED MATERIALS.

ABP FRAMEWORK DEFINED KNOWLEDGE DOMAINS.

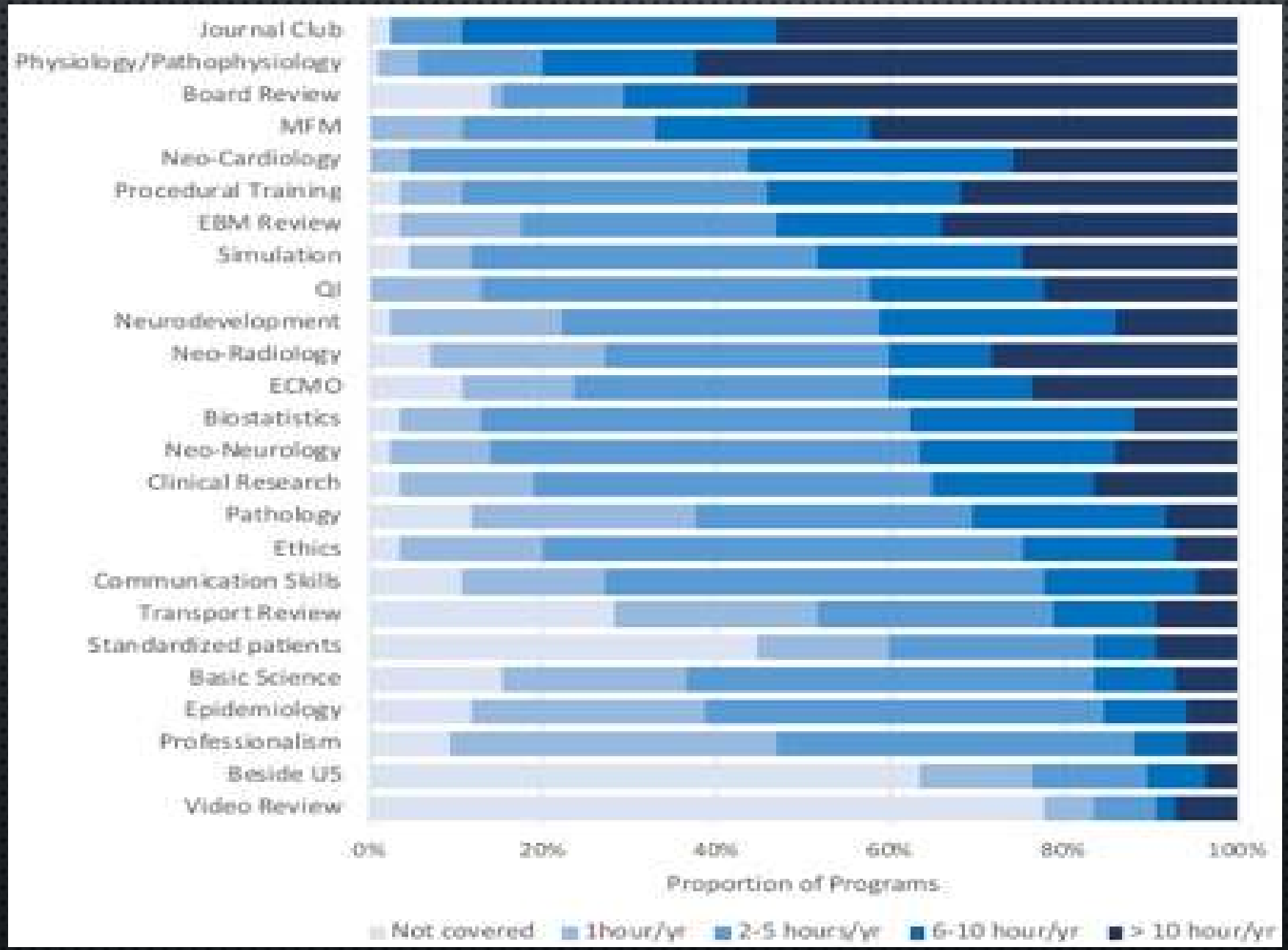
PILOT STUDY VALIDATED THE PROBLEM PRIOR TO SCALING.

Never skip the needs assessment because you think you already know the answer.

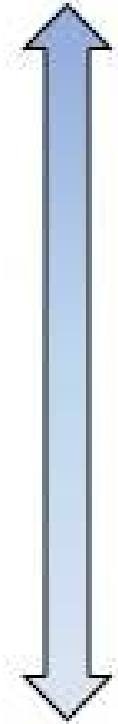
ONTPD NEEDS ASSESSMENT

Project Aims

1. Determine how NPM Fellowship Programs administer sub-specialty core curricular content to their fellows
2. Describe strengths, weaknesses, and variability of educational resources of NPM fellowship programs



- **Small & medium sized programs have fewer hours/month of SCC compared to large programs (p=0.04).**
- **Larger programs dedicate more time to ECMO (p=0.006) and communication skills (p=0.01) training.**



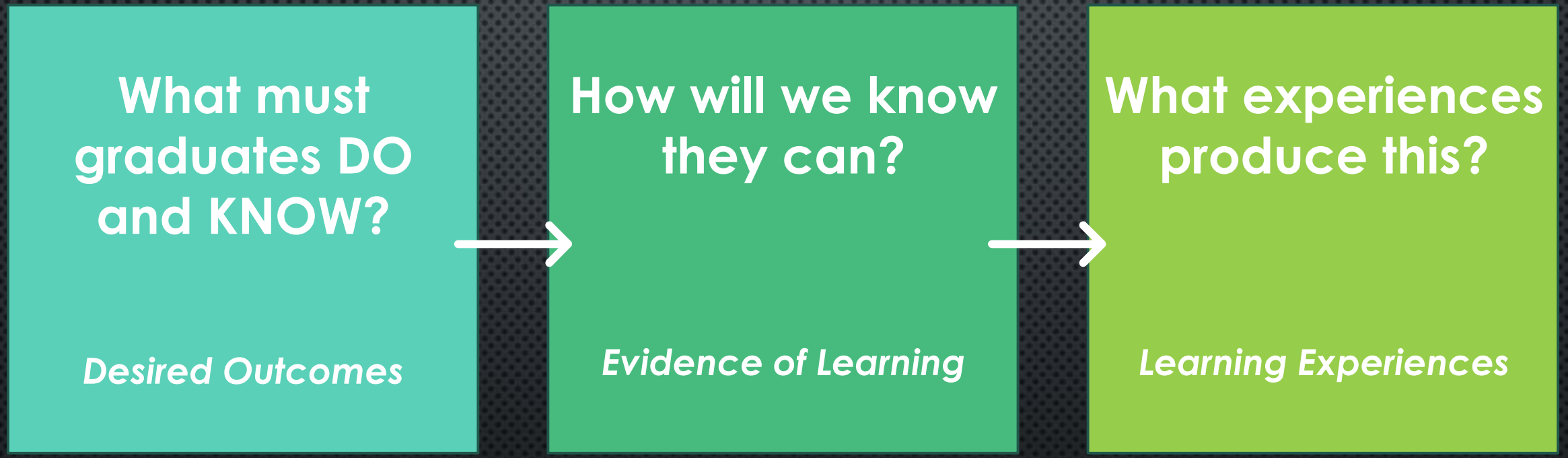
Program Directors Perceptions Of:	
Challenges of Implementing Core Curriculum	**Barriers Affecting Fellow Engagement in Classroom Learning**
Lack of educator time to create and/or update educational materials	NICU patient care duties
Variability of educator effectiveness, teaching ability	Distracted by email/cell phone/laptop
Inability to recruit faculty as educators	Distracted by personal life
Lack of educator expertise on specific topics	Disinterest in topic
Fellow fatigue from clinical duties or other responsibilities	Fatigue
Teaching sessions are not engaging	Scholarly pursuits
Poor quality of available educational materials	Anxiety and/or emotional distress
Lack of fellow engagement	Patient transport needs
Lack of time dedicated to fellow conferences	Administrative duties
NPM Content Outline contains topics that aren't clinically relevant	

III

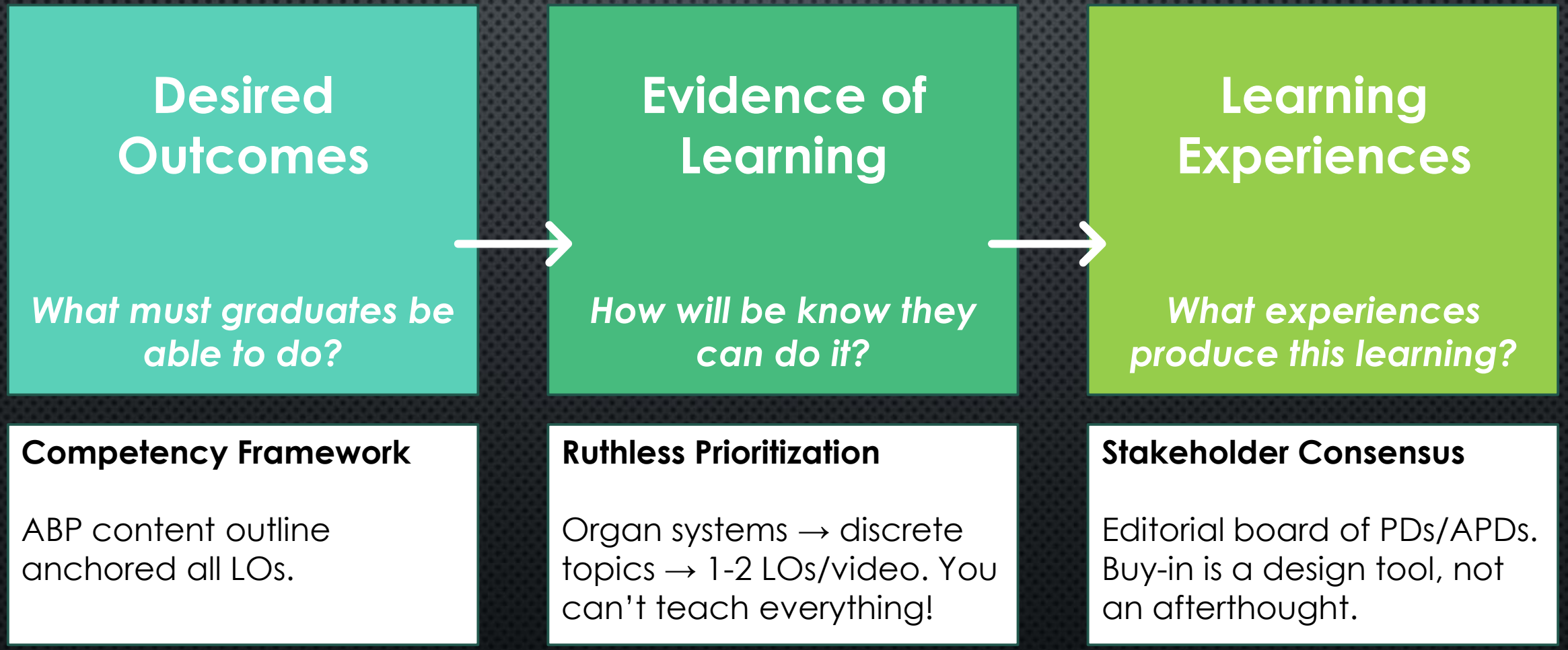
CURRICULUM DESIGN

FROM VISION TO BLUEPRINT

START WITH OUTCOMES. WORK BACKWARDS.

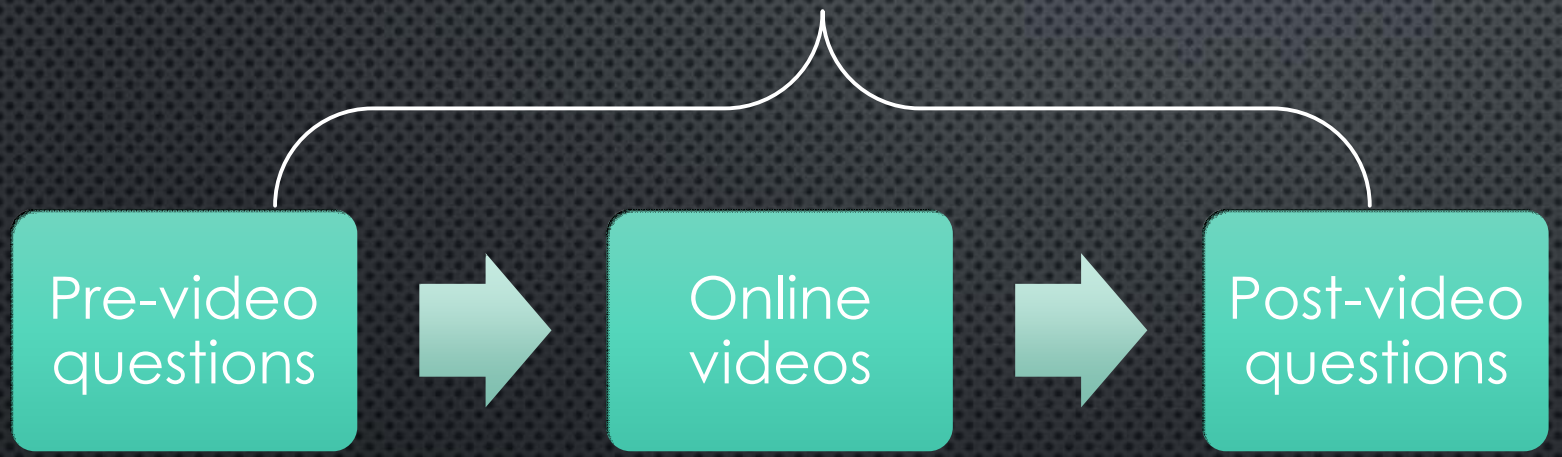


START WITH OUTCOMES, NOT CONTENT.



KNOWLEDGE ACQUISITION

Available on Open Pediatrics



- Pre-existing knowledge self-assessment

- 1-2 learning objectives/video
- 5-7 min in length
- Mobile & computer platforms

- Self-assessment

KNOWLEDGE ACQUISITION

Available on Open Pediatrics

KNOWLEDGE APPLICATION

- Pre-existing knowledge self-assessment

- 1-2 learning objectives/video
- 5-7 min in length
- Mobile & computer platforms

- Self-assessment

- Group discussion of OLM
- Class problem-sets and exercises applied to patient cases
- Tailor management discussion to local institutional practice

EACH NEOFLIP PROGRAM

- VIDEOS
- PRE/POST QUESTIONS
- CLASSROOM GUIDES
- SUGGESTED READINGS

Program Overview

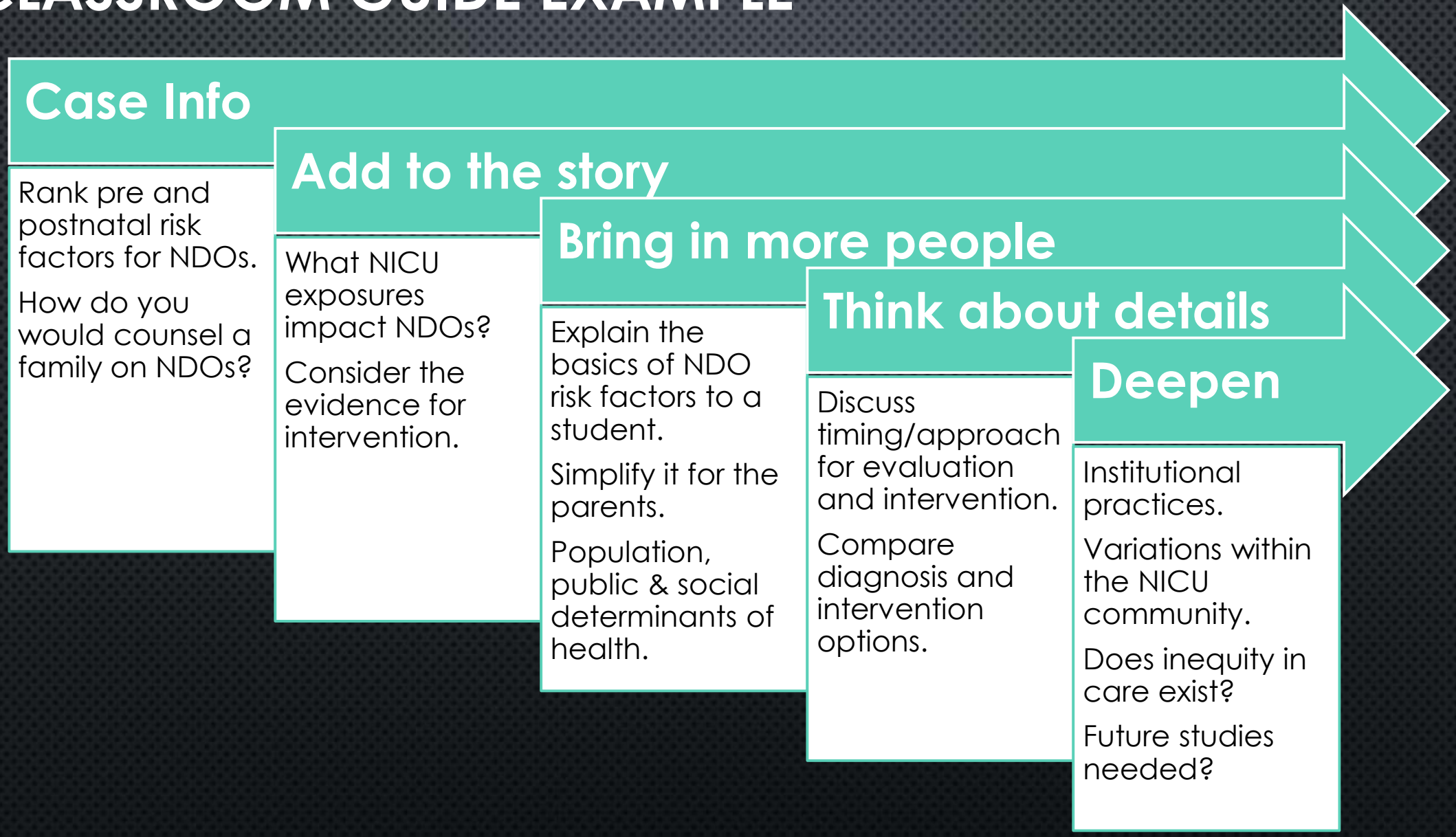
This activity has been designed to meet the educational needs of physicians, advanced practice providers and nurses in critical care, respiratory therapists, and other members of the clinical team involved in the care of neonates. This program discusses neurodevelopment in preterm infants, including risk factors for neurodevelopmental impairment.

Episodes in this Program | Program Information | Document Downloads

Neurodevelopmental Outcomes in Preterm Infants	10:59
Neurodevelopmental Outcomes in Late and Moderately Preterm Infants	08:14
Nutrition and Development in Infants	08:49
Environmental Impacts on Neurodevelopmental Outcomes	07:10
NICU Developmental Care	08:26

- ✓ Watch, pause, rewind, review
- ✓ Downloadable

CLASSROOM GUIDE EXAMPLE



THE NNC FLIPPED CLASSROOM: TWO PHASES

Before Class

Knowledge Acquisition

Short videos · 1-2 LOs each · Mobile & desktop · Self-paced · Pre/post knowledge checks

In Class

Knowledge Application

Clinical cases + problem sets · Group discussion · Peer learning community · Educator as coach, not lecturer

Phase 1: Pilot Study of Flipped Classroom

Aim: To determine acceptability, feasibility, and perceived effectiveness of the flipped classroom methodology for neonatology fellows

- 2 flipped classroom sessions taught at 5 institutions
- Surveyed learners and educators
- focus groups of learners and educators
- N=47 learners and educators

Journal of Perinatology

Article | Published: 07 August 2018

Flipping the classroom: a national pilot curriculum for physiology in neonatal–perinatal medicine

Heather French ✉, Megan Gray, Maria Gillam-Krakauer, Elizabeth M. Bonachea, Melissa Carbajal, Allison Payne, Margarita M. Vasquez, Laura Rubinos, Alison Falck, Susan Izatt & Rita Dadiz

Journal of Perinatology **38**, 1420–1427(2018) | Cite this article

IV

IMPLEMENTATION

Where plans meet reality

IMPLEMENTATION SCIENCE IS NOT OPTIONAL

Adoption Curves

Early adopters lead. Expect resistors. Identify champions in each program who own local rollout.

Faculty Development First

You can't hand educators someone else's slides and expect success. Train people how to teach it – not just what to teach.

Standardization ←→ Adaptation

Core content is standardized; local discussion can be tailored to institutional practices and patient populations.

Communication Strategy

Webinars, AAP partnerships, open-access platform – meeting educators where they are.

Infrastructure Matters

Learning management system (Open Pediatrics), downloadable guides, clear onboarding. Reduce friction to zero.

Build Coalitions First

Relationships precede curriculum. A motivated network of PDs and educators was the precondition for everything!

PHASE 2: STUDY OF LEARNERS

AIM: TO DETERMINE VALUES, STRENGTHS, AND CHALLENGES OF E-LEARNING MODULES PAIRED WITH THE FLIPPED CLASSROOM FOR GME

- 14 TOPICS MADE FREELY AVAILABLE ONLINE
- ADVERTISED TO ALL US NPM PROGRAMS
- SURVEYS OF FELLOW & FACULTY USERS OF ONLINE PLATFORM
- N=172 FELLOWS AND FACULTY

Value, Strengths, and Challenges of e-Learning Modules Paired with the Flipped Classroom for Graduate Medical Education: A Survey from the National Neonatology Curriculum

Megan M. Gray, MD[1] Rita Dadiz, DO[2] Susan Izatt, MD, MEd[3] Maria Gillam-Krakauer, MD, MEd[4] Melissa M. Carbajal, MD[5] Alison J. Falck, MD[6] Elizabeth M. Bonachea, MD[7] Lindsay C. Johnston, MD, MEd[8] Heidi Karpen, MD[9] Margarita M. Vasquez, MD[10] Patricia R. Chess, MD[11] Heather French, MD, MSEd[12]

[1] Department of Pediatrics, University of Washington School of Medicine, Seattle, Washington
[2] Department of Pediatrics, University of Rochester Medical Center, Rochester, New York
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[8] Department of Pediatrics, Yale University School of Medicine, New Haven, Connecticut
[9] Department of Pediatrics, Emory Children's Pediatric Institute, Atlanta, Georgia
[10] Department of Pediatrics, University of Texas Health San Antonio, San Antonio, Texas
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Address for correspondence Megan M. Gray, MD, Department of Pediatrics, University of Washington School of Medicine, M/S FA.2.113 Neonatology, 4800 Sand Point Way NE, Seattle, WA 98105 (e-mail: graym1@uw.edu).

Am J Perinatol

V

EVALUATION

CLOSING THE LOOP

EVALUATION: BEYOND THE REPORT CARD
KIRKPATRICK MODEL

L4: Results – Did patient care improve?

L3: Behavior – Did practice change?

L2: Learning – Did knowledge improve?

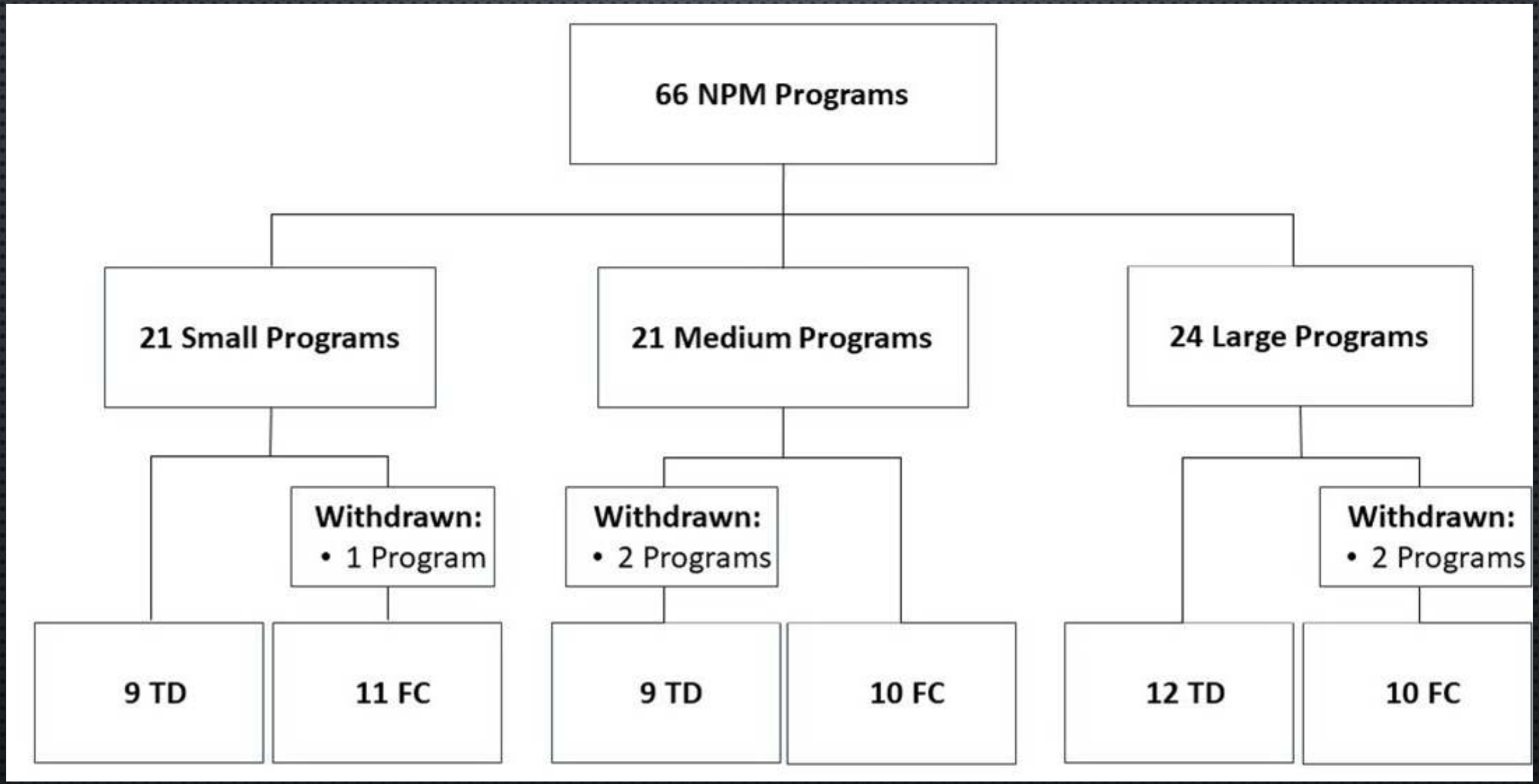
L1: Reaction – Did they like it?

PHASE 3: THE RCT

HYPOTHESIS: NPM FELLOWS TAUGHT VIA THE FC MODALITY WILL HAVE **EQUAL** PHYSIOLOGY KNOWLEDGE ACQUISITION AND RETENTION COMPARED TO THOSE TAUGHT VIA TD

- GOAL OF 20 PROGRAMS, RECRUITED 61!
- CLUSTER RANDOMIZED BY PROGRAM SIZE (SMALL, MED, LARGE)
- ALL EDUCATIONAL MATERIALS PROVIDED
- N=814 FELLOWS, EDUCATORS, PDS

Population	NPM fellows at different ACGME-accredited fellowship programs
Intervention	Who receive gastroenterology and bilirubin education via the **flipped classroom (FC)** educational modality
Comparison	Compared with those who receive **traditional didactics (TD)**
Outcome	Will have comparable knowledge acquisition and retention, as measured by a series of 4 quizzes


66 NPM Programs
21 Small Programs
21 Medium Programs
24 Large Programs
Withdrawn:
• 1 Program
Withdrawn:
• 2 Programs
Withdrawn:
• 2 Programs
9 TD
11 FC
9 TD
10 FC
12 TD
10 FC

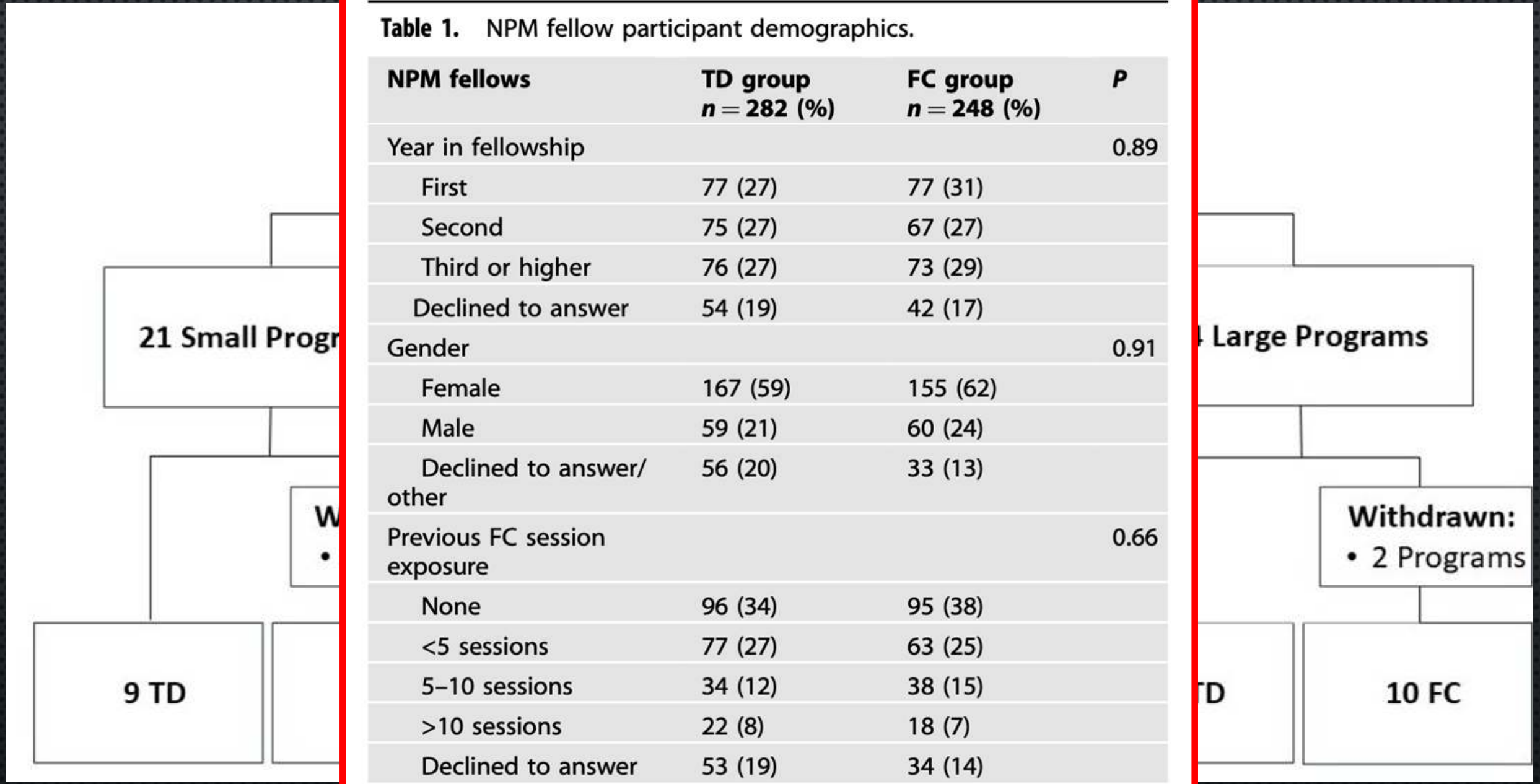
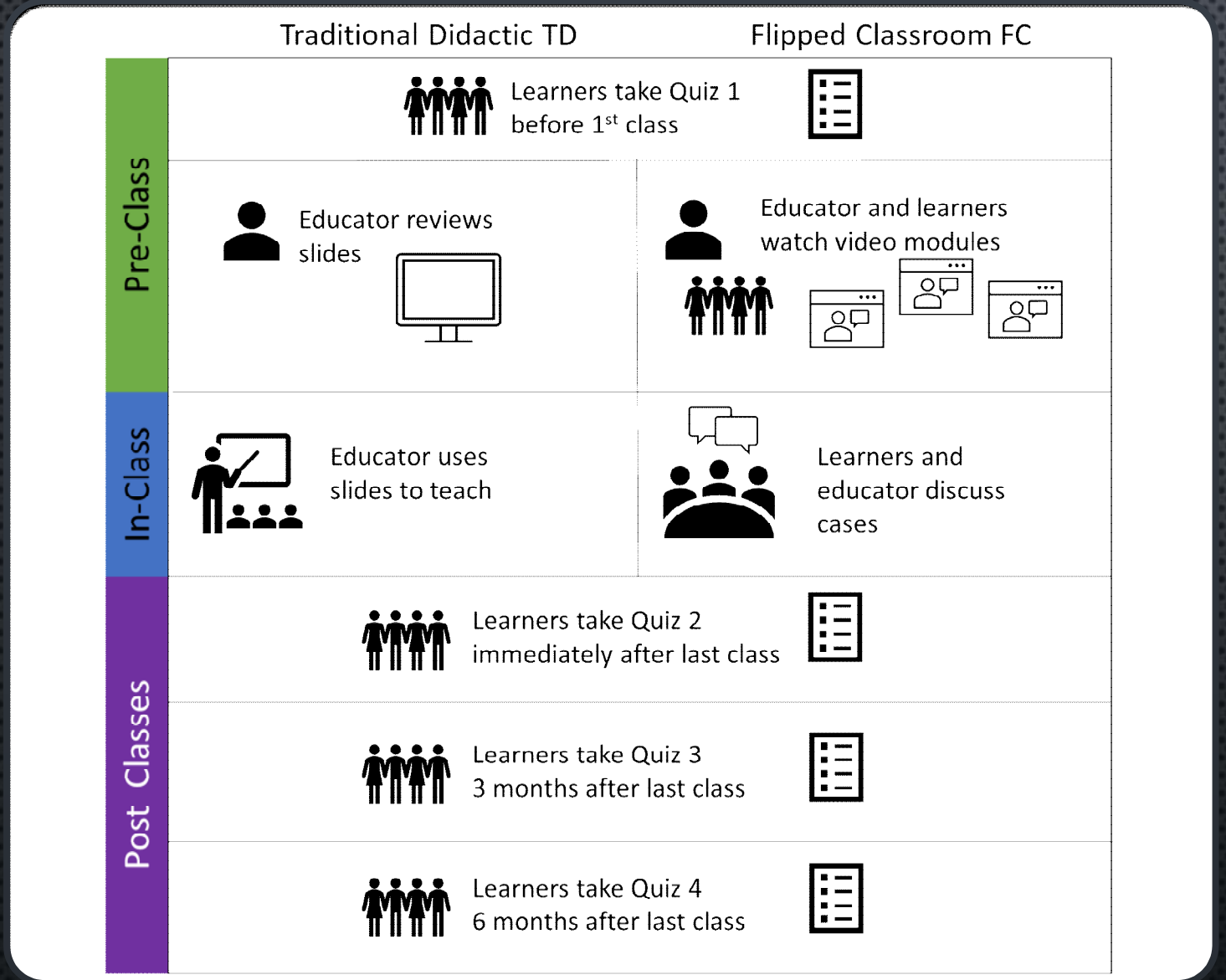


Table 1. NPM fellow participant demographics.

NPM fellows	TD group $n = 282$ (%)	FC group $n = 248$ (%)	*P*
Year in fellowship			0.89
First	77 (27)	77 (31)	
Second	75 (27)	67 (27)	
Third or higher	76 (27)	73 (29)	
Declined to answer	54 (19)	42 (17)	
Gender			0.91
Female	167 (59)	155 (62)	
Male	59 (21)	60 (24)	
Declined to answer/ other	56 (20)	33 (13)	
Previous FC session exposure			0.66
None	96 (34)	95 (38)	
<5 sessions	77 (27)	63 (25)	
5–10 sessions	34 (12)	38 (15)	
>10 sessions	22 (8)	18 (7)	
Declined to answer	53 (19)	34 (14)	

STUDY TIMELINE



Primary Outcome

- Knowledge acquisition

Secondary Outcomes

- Knowledge retention at 3 & 6 months
- Learner preparation time
- Fellow, educator, PD perceptions

WHAT THE EVIDENCE SHOWED: NNC RCT KEY FINDINGS

61/96
NPM programs enrolled in RCT

814
Total participants

91%
FC superior to TD

≈TD
FC non-inferior

Knowledge Acquisition
Quiz scores improved significantly in both groups.

Learner Preference
FC learners rated experience superior to TD in all domains surveyed.

Faculty Efficiency
Educators noted FC required minimal prep time, created more rewarding experience.

Knowledge Retention
FC non-inferior to TD at 3 and 6 months.

Learning Environment
FC learners reported positive perceptions of learning environment and psych safety.

Unexpected Findings
Fellows more enthusiastic than educators.
? familiarity with active learning formats.

A standardized national curriculum

- Is preferred by the majority of learners
- Allows for a rigorous peer review process
- Saves educator time and cost
- Provides a reputation building opportunity for educators

The Flipped Classroom modality

- Aligns well with the adult learners of GME
- Increases learner engagement in preparing for educational sessions
- Is felt to be feasible and superior for physiology education
- Leads to similar gains in knowledge

Journal of Perinatology www.nature.com/jp

ARTICLE

Check for updates

Comparison of knowledge acquisition and retention following traditional didactic vs. flipped classroom education utilizing a standardized national curriculum: a randomized controlled trial

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OBJECTIVE: Measure the effectiveness of and preference for a standardized, national curriculum utilizing flipped classrooms (FC) in neonatal-perinatal medicine (NPM) fellowships.

STUDY DESIGN: Multicentered equivalence, cluster randomized controlled trial of NPM fellowship programs randomized to receive standardized physiology education as in-class lectures (traditional didactic, TD arm) or as pre-class online videos followed by in-class discussions (FC arm). Four multiple-choice question quizzes and three surveys were administered to measure knowledge acquisition, retention, and educational preferences.

RESULTS: 530 fellows from 61 NPM fellowships participated. Quiz performance was comparable between groups at all time points (p = NS, TD vs FC at 4 time points). Post intervention, more fellows in both groups preferred group discussions (pre/post FC 42% vs. 58%, $P = 0.002$; pre/post TD 43% vs. 60%, $P = < 0.001$). FC fellows were more likely to rate classroom effectiveness positively (FC/TD, 70% vs. 36%, $P < 0.001$).

CONCLUSIONS: FCs promote knowledge acquisition and retention equivalent to TD and FC modalities are preferred by fellows.

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Original Article

Cost Comparison of a Traditional Didactic vs. National Flipped Classroom Curriculum

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Objective: We compared the cost of faculty time preparing educational materials for traditional didactic (TD) education provided at local institutions with that of faculty time preparing National Neonatology Curriculum flipped classroom (FC) educational materials shared amongst institutions for fellow education across the United States. Study Design: Using survey data and the national average for faculty educators' salaries, we calculated the cost of developing TD versus FC materials. Wilcoxon rank-sum test and comparison of two Poisson rates were utilized to evaluate the time to create vs. update TD materials and the cost to create new TD vs. FC materials, respectively. Results: FC materials required more time to develop than TD materials (FC, median 17 hrs, IQR 17; TD, median 5 hrs, IQR 5; P<0.001). However, when the size of individual fellowship programs was factored into the cost analysis, FC materials shared nationally amongst programs resulted in a 19 - 72 fold cost savings when compared to the creation of new locally-used TD materials (FC, $2.49 per fellow; TD $32.05 - 576.90 per fellow at very large-to-small fellowship programs; P<0.001). Conclusion: Educational materials developed and disseminated to fellowship programs across the country confer significant savings in faculty educator time and cost per learner. Standardized programs such as the National Neonatology Curriculum may serve as a model to develop shared peer-reviewed educational resources for other specialties.

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LESSONS FROM THE NATIONAL STAGE

Principles every educator can apply

5 PRINCIPLES FOR THINKING – AND EDUCATING - BIGGER

Coalition Before Curriculum

Relationships precede content. Build your team before you build your slides.

Backward by Design

Start with what graduates must do. Content is the means; competency is the end.

Data are Political

Needs assessment findings must be communicated strategically.

Sustainability is a Feature

Build the ecosystem, not just the materials.

Your Curriculum is Never Done

Build a culture of iteration. Evaluation feeds design feeds implementation – a continuous loop.

NNC IMPLEMENTATION: COALITION TO CLASSROOM

2015

Team Assembled
12 PDs & APDs from across the US. Shared vision & enthusiasm.

2017

Pilot Launch
2 FC sessions at 5 institutions. Surveys & focus groups of 47 learners & faculty.

2018

National Rollout
14 respiratory topics freely accessible. AAP webinars. Surveys of 172 users.

2018-19

RCT Launch
Goal ~ 20 programs. Recruited 61 of 96 programs (64%). N=814 participants.

2020+

Expansion
Junior NNC Council. Mega Flips via Zoom. Facilitation best practices.

WHAT I WOULD DO DIFFERENTLY: HONEST REFLECTIONS

Start Faculty Development Early

The switch from lecturer to facilitator is hard. Train early, train often.

Embed Evaluation from Day 1

Our evaluation plan evolved as we scaled. Build assessment tools early.

Formalize the Team Structure Early

The NNC ran on motivation and relationships. A formal governance structure early is helpful.

Plan for Sustainability from Day 1

The switch from lecturer to facilitator is hard. Train early, train often.

96 PROGRAMS.
ZERO SHARED CURRICULUM.

NOW THERE IS ONE.

WHAT IS THE PROBLEM IN YOUR SPECIALTY YOU ARE UNIQUELY POSITIONED TO SOLVE?

THIS IS YOUR INVITATION TO THINK BIGGER

THE PEOPLE WHO MADE THIS POSSIBLE

- Megan Gray, MD – University of Washington
- Elizabeth Bonachea, MD – Nationwide children's
- Melissa Carbajal, MD – Baylor
- Patricia Chess, MD – University of Rochester
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- Allison Payne, MD, MS – Case Western Reserve
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THANK YOU

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