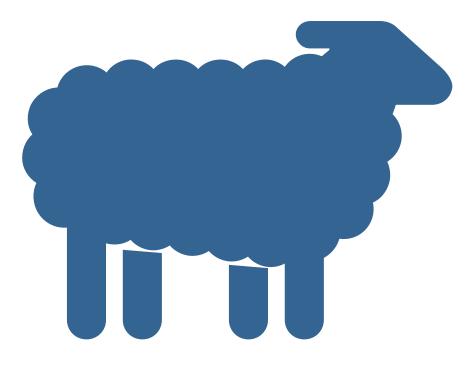
A TAILORED APPROACH TO PRECEPTING: OUR WORK WOOL NEVER BE DONE

JOSH ILENIN, PHARMD, MS ERIN MEILTON, PHARMD, BCPS 12/17/2020



DISCLOSURES

- JOSH ILENIN HAS NO FINANCIAL RELATIONSHIPS TO DISCLOSE
- ERIN MEILTON HAS NO FINANCIAL RELATIONSHIPS TO DISCLOSE

COURSE LEARNING OBJECTIVES

- 1. DESCRIBE COMMON LEARNING STYLES THAT MAY BE ENCOUNTERED IN PRACTICE
- 2. EXPLAIN THE FOUR RIGHTS OF THE PHARMACY EDUCATIONAL CONSUMER
- 3. IDENTIFY ADJUSTMENTS TO ROTATION EXPERIENCE IN RESPONSE TO A CHALLENGING LEARNER

LEARNING STYLES

"HOW LEARNERS GATHER...INTERPRET, ORGANIZE, COME TO CONCLUSIONS ABOUT, AND 'STORE'
INFORMATION FOR FURTHER USE" – VANDERBILT UNIVERSITY CENTER FOR TEACHING

- SUBJECT OF EXTENSIVE RESEARCH OVER PAST 50+ YEARS
- INDIVIDUALS HAVE A PREFERRED METHOD OF RECEIVING AND PROCESSING INFORMATION
- TEACHING STYLE OFTEN REFLECTS OWN PERSONAL LEARNING STYLE
- UNDERSTANDING AND ADAPTING TO VARIOUS STYLES MAY IMPACT PRECEPTOR-STUDENT RELATIONSHIP

FAMILIES OF LEARNING STYLES

Learning styles and preferences are largely constitutionally based including the four modalities: VAKT².

Learning styles reflect deep-seated features of the **cognitive structure**, including 'patterns of ability'. Learning styles are one component of a relatively **stable personality type**.

Learning styles are flexibly stable learning preferences.

Move on from learning styles to learning approaches, strategies, orientations and conceptions of learning.

Dunn and Dunn³

Gregorc

Bartlett Betts

Gordon

Marks

Paivio

Richardson

Sheehan

Torrance

Guilford Holzman and Klein Hudson

Riding

Cooper

Broverman

Gardner et al.

Hunt

Kagan

Kogan

Messick

Pettigrew Witkin

Jackson Myers-Briggs

Apter

Epstein and Meier Harrison-Branson Miller

Allinson and Hayes Herrmann Honey and Mumford

Kolb

McCarthy

Felder and Silverman Hermanussen, Wierstra, de Jong and Thijssen Kaufmann Kirton

Entwistle Sternberg

Vermunt

Riggs

Conti and Kolody

Grasha-Riechmann

Hill

Marton and Säliö

McKenney and Keen

Dool

Pintrich, Smith,

Garcia and McCeachie

Schmeck

Weinstein,

Zimmerman and Palmer

Whetton and Cameron

LEARNING STYLES

- OVER 70 DIFFERENT LEARNING STYLES HAVE BEEN DESCRIBED IN THE LITERATURE
- POPULAR, WELL-STUDIED EXAMPLES THAT HAVE BEEN APPLIED IN PHARMACY EDUCATION INCLUDE:
 - KOLB'S LEARNING STYLE INVENTORY (LSI)
 - PHARMACIST INVENTORY OF LEARNING STYLES (PILS)
 - HONEY AND MUMFORD'S LEARNING STYLES QUESTIONNAIRE (LSQ)
 - FLEMING'S VAK/VARK MODEL (VARK)

LEARNING STYLES INVENTORY (LSI)

- ORIGINALLY DEVELOPED BY DAVID KOLB IN 1971
- EXPERIENTIAL LEARNING IS COMPOSED OF A FOUR-STEP CYCLE
- INDIVIDUALS MAY NATURALLY GRAVITATE TOWARD ONE OR TWO STEPS IN THE CYCLE
 - EFFECTIVE LEARNERS CAN FLEX BETWEEN ALL FOUR
- 10-15-MINUTE SURVEY MOST RECENTLY UPDATED IN 2011 (VERSION 4.0)
- FOUR DISTINCT LEARNING STYLES BASED ON SURVEY RESPONSES

LEARNING STYLE INVENTORY (LSI)



Concrete Experience



1

Abstract Conceptualization

Reflective Observation

4 Involved	44-17	dia antonina dia a	
1 involved	tentative	discriminating	practical
2 receptive	impartial	analytical	relevant
feeling	watching	thinking	doing
4 accepting	aware	evaluating	risk-taker
5 intuitive	questioning	logical	productive
6 concrete	observing	abstract	active
7 present-orien	ted reflecting	future-oriented	practical
8 open to new experiences	perceptive	intelligent	competent
9 experience	observation	conceptualization	experimentation
10 intense	reserve	rational	responsible
(for scoring			

(AE)

 Rank order each set of four works (going across) in the 10 items listed below. Assign a 4 to the word which best characterizes your learning style, a 3 to the next best, a 2 to the next, and a 1 to the least characteristic word. Assign a different number to each of the four words. Do not make ties.

LEARNING STYLES INVENTORY (LSI)

- ACCOMMODATIVE = CONCRETE EXPERIENCE + ACTIVE EXPERIMENTATION
 - UTILIZE CASE STUDIES, SIMULATIONS, ROLE PLAYING, HANDS-ON PRACTICE
- DIVERGENT = CONCRETE EXPERIENCE + REFLECTIVE OBSERVATION
 - UTILIZE TOPIC DISCUSSIONS, GROUP PROJECTS, AUDIO/VISUAL RESOURCES

LEARNING STYLES INVENTORY (LSI)

- ASSIMILATIVE = REFLECTIVE OBSERVATION + ABSTRACT CONCEPTUALIZATION
 - UTILIZE LECTURES, PRESENTATIONS, GUIDELINES, JOURNAL ARTICLES, QUIZZES
- CONVERGENT = ACTIVE EXPERIMENTATION + ABSTRACT CONCEPTUALIZATION
 - UTILIZE INDIVIDUAL PROJECTS OR ASSIGNMENTS, DRUG INFORMATION QUESTIONS

LEARNING STYLES INVENTORY 4.0 (LSI)

Concrete Experience Initiating Experiencing **Imagining** Active Experimentation Reflective Observation Acting Balancing Deciding Thinking Analyzing

Abstract Conceptualization

- ORIGINALLY PUBLISHED IN 2003
- PHARMACY-SPECIFIC VERSION OF LEARNING STYLES INVENTORY
 - DEVELOPED AND ADAPTED WITH QUESTIONS PHRASED IN CONTEXT OF PHARMACY PRACTICE
- SUBSEQUENT ANALYSIS OF PHARMACIST PREFERRED LEARNING STYLES (PILS AND LSI)
 - 176 PHARMACISTS COMPLETED A LEARNING STYLES WORKSHOP AND ASSESSMENT
 - GOAL = DETERMINE TRENDS IN LEARNING STYLE BY PRACTICE SETTING AND EXPERIENCE LEVEL

When I am trying to learn something new	Usually	Sometimes	Rarely	Hardly
I like to watch others before trying it for myself.	В	D	С	A
2. I like to consult a manual, textbook, or instruction guide first.	В	C	D	A
3. I like to work by myself, rather than with other people.	A	C	В	D
4. I like to take notes, or write things down as I am going along.	В	C	D	A
5. I am critical of myself if things do not work out as I hoped.	В	C	D	A
6. I usually compare myself to other people just so I know I am keeping up.	В	D	C	A
7. I like to examine things closely instead of jumping right in.	В	D	C	A
8. I rise to the occasion if I am under pressure.	C	A	В	D
9. I like to have plenty of time to think about something new before trying it.	D	В	C	A
10. I pay a lot of attention to the details.	В	C	A	D
11. I concentrate on improving the things I did wrong in the past.	C	A	D	В
12. I focus on reinforcing the things I got right in the past.	В	D	A	C
13. I like to please the person teaching me.	D	В	A	C
14. I trust my hunches.	D	C	A	В
15. In a group, I am usually the first one to finish whatever we are doing.	A	C	D	В
16. I like to take charge of a situation.	C	A	В	D
17. I am well-organized.	В	A	C	D

TABLE II Predominant (current) site of practice as a pharmacist

	Assimilator	Accommodator	Converger	Diverger	Total
Community pharmacy	32	7	19	12	70
Teaching hospital	10	5	10	6	31
Community hospital	9	5	10	5	29
Pharmaceutical industry	5	4	11	4	24
Others	0	0	4	8	12
Total	56	21	54	35	166

TABLE III Predominant (current) role in practice as a pharmacist

	Assimilator	Accommodator	Converger	Diverger	Total
Dispensing/supervision	26	8	10	1	45
Patient care/counseling	19	4	16	16	55
Management Administration	6	5	18	7	36
Medical information/research	3	0	3	1	7
Others	2	4	7	10	23
Total	56	21	54	35	166

TABLE IV Most preferred teaching modality					
	Assimilator	Accommodator	Converger	Diverger	Total
Expert lecturers	25	0	2	0	27
Laboratory exercises	0	11	8	0	19
One to one teaching	3	6	20	13	42
Reading texts or journals	28	1	0	2	31
Role playing	0	1	7	7	15
Small group discussions	0	2	17	13	32
Total	56	21	54	35	166

TABLE V Least preferred teaching modality

	Assimilator	Accommodator	Converger	Diverger	Total
Expert lecturers	0	6	22	10	38
Laboratory exercises	13	0	3	3	19
One to one teaching	0	0	0	0	0
Reading texts or journals	1	10	28	18	57
Role playing	32	1	1	4	38
Small group discussions	10	4	0	0	14
Total	56	21	54	35	166

LEARNING STYLES QUESTIONNAIRE (LSQ)

- ADAPTED FROM KOLB'S LEARNING STYLES INVENTORY IN 2000
- GREATER FOCUS ON MANAGERIAL AND LEADERSHIP EXPERIENCES
- ASKS LESS DIRECT QUESTIONS ABOUT LEARNING STYLE MORE GENERAL BEHAVIORAL QUESTIONS
- INDIVIDUALS HAVE A PREFERENTIAL, BUT FLEXIBLE LEARNING STYLE
 - MAY ADJUST BASED ON SITUATION, LEVEL OF EXPERIENCE, SELF-CONFIDENCE
- SURVEY CONSISTS OF 40 OR 80 QUESTIONS

LEARNING STYLES QUESTIONNAIRE (LSQ)





Have an experience



Draw conclusions from experience



Reflect on the

experience

Activist

- Learn by doing
- Ok with trial and error
- Open to new ideas

Reflector

- Observe first, then act
- Gather lots of information
- Time to process and refine

Pragmatist

- Need to see value in learning
 - Practical applications
 - Look for role models

Theorist

- Systematic thinkers
- **Need to understand process**
- Question/probe for more info

LEARNING STYLES QUESTIONNAIRE (LSQ)

Activist

Group Discussion

Role Play

Quizzes or competition

Reflector

Guideline Reviews

Journal Clubs

1-on-1 topic discussion

A STATE OF THE STA

Pragmatist

Case Studies

Drug Information Questions

Group topic discussions

Theorist

Background disease state reviews

Guideline reviews

Statistical analysis

VAK/VARK MODEL (VARK)

- DEVELOPED BY NEIL FLEMING IN 1987
- LEARNING STYLES INFLUENCED BY PREFERRED SENSORY EXPERIENCE
- INTRODUCED CONCEPT OF A MULTIMODAL LEARNING STYLE
 - NO CLEAR PREFERENCE FOR ONE STYLE; EQUAL COMFORT WITH MULTIPLE STYLES
- VARK TYPE 1 CAN USE ONE OF MULTIPLE STYLES IN A CONTEXT-SPECIFIC MANNER
- VARK TYPE 2 PREFER TO PROCESS SITUATIONS USING MULTIPLE STYLES SIMULTANEOUSLY

VAK/VARK MODEL (VARK)

VISUAL LEARNER (V)

- PROCESS INFORMATION BEST THROUGH VISUAL RELATIONSHIPS
 - TABLES, CHARTS, GRAPHS, DIAGRAMS HELP WITH INFORMATION RETENTION
 - DOES NOT INCLUDE POWERPOINT SLIDES OR VIDEOS
 - WHITE BOARD' LEARNERS

AUDITORY LEARNER (A)

- PROCESS INFORMATION BEST THROUGH HEARING THE INFORMATION
 - LECTURES, TOPIC DISCUSSIONS, PODCASTS ARE USEFUL TOOLS
 - MAY RESTATE EARLIER DISCUSSION POINTS
 - ASK QUESTIONS THAT HAVE ALREADY BEEN ANSWERED

VAK/VARK MODEL (VARK)

READ/WRITE LEARNER (R)

- PREFER TO CONSUME INFORMATION EXPRESSED THROUGH WORDS
 - EXCEL AT REVIEWING GUIDELINES OR POWERPOINT SLIDES, READING JOURNAL ARTICLES
 - DRUG INFORMATION QUESTIONS, QUIZZES, OR
 - PREDOMINANT FORMAT FOR MANY PHARMACY
 SCHOOL CURRICULUMS

KINESTHETIC LEARNER (K)

- PREFER TO CONSUME INFORMATION EXPRESSED THROUGH EXPERIENCES
 - THRIVE WHEN OBSERVING DEMONSTRATIONS, SIMULATIONS. OR REAL-LIFE EXPERIENCE
 - ACTIVE PARTICIPATION IS PREFERRED BY THESE LEARNERS
 - CASE STUDIES CAN BE USEFUL WITH THIS GROUP

VARK Learning Preferences Results from the VARK Questionnaire (v8.01) on the vark-learn.com website mild V_ strong Vvery strong V very strong A strong A strong R mild A _very strong R VARK Type Two mild K strong K **VARK Transition** K Type One very strong I VAR

VAK/VARK MODEL (VARK)

- SINGLE PREFERENCE = 34%
- MULTIMODAL PREFERENCE = 66%
 - BI-MODAL PREFERENCE = 20%
 - TRI-MODAL PREFERENCE = 15%
 - QUATRA-MODAL PREFERENCE = 31%

DO LEARNING STYLES REALLY MATTER?

Personality and Individual Differences

Volume 116, 1 October 2017, Pages 410-416



Enough with the "*



Computers & Education

Volume 106, March 2017, Pages 166-171



Alrea The Learning Styles Myth is Thriving urroundir in Higher Education

Philip M. Newton*

Swansea University Medical School, Swansea, UK

Stop propagating the learning styles myth

Maybe They're Born With It, or Maybe It's Experience: Toward a Deeper Understanding of the Learning Style Myth

Shaylene E. Nancekivell, Priti Shah, and Susan A. Gelman

Paul A. Kirschner a, b ⊠

TEACHERS AND TEACHING

VOL. 20, NO. 3

nstructions According to Learning Styles: Are We

itton?

OLGA KHAZAN APRIL 11, 2018

The Stubborn Myth of "Learning

Another Nail in the Coffin for Learning Style Styles" among Undergraduate Anatomy Students'

Class Performance, and Reported VARK Le State teacher-license prep materials peddle a debunked theory

Pollv R. Husmann ⁽¹⁾, Valerie Dean O'Loughlin ⁽¹⁾ Medical Sciences Program, Indiana University School of Medicine, Bloomington, Indiana Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Malaysia

DO LEARNING STYLES REALLY MATTER?

- EXTENSIVE RESEARCHED IN ACADEMIC AND PRACTICAL SETTINGS
- EVIDENCE SUGGESTS LEARNERS OPERATE ON A CONTINUUM, NOT AN ABSOLUTE STYLE
- MANY LEARNING/STUDY HABITS FORM DURING EARLY DEVELOPMENT
- NO DIRECT CORRELATION BETWEEN LEARNING STYLE UTILIZATION AND IMPROVED PERFORMANCE
- ACCOMMODATING LEARNING STYLE MAY BE A DISSERVICE TO LEARNER
- MAY BE MORE OF A LEARNING "PREFERNCE"

WHERE DO WE GO FROM HERE?

- LEARNING STYLE ASSESSMENT OF STUDENT MAY BE A USEFUL FOR PRECEPTORS
 - CREATE A CONVERSATION ABOUT LEARNING
 - DON'T GET CAUGHT UP IN LEARNING STYLE LABELS
- CONSIDER DEVELOPING A BROADER LEARNING TOOLBOX
 - CONTENT AVAILABLE IN MULTIPLE FORMS AS NEEDED
 - UTILIZE STUDENTS AS A RESOURCE TO DEVELOP THIS CONTENT
- POOR STUDENT PERFORMANCE LIKELY NOT DUE TO MISMATCH WITH LEARNING STYLE
- PRECEPTORS SHOULD STILL BE PREPARED TO HANDLE INDIVIDUAL STUDENT NEEDS

EXPECTATIONS OF THE PRECEPTOR

- ACCREDITATION COUNCIL FOR PHARMACY EDUCATION (ACPE) 2016 STANDARDS
 - DEMONSTRATE CREATIVE THINKING
 - FOSTER PROBLEM SOLVING
 - FACILITATE LEARNING
 - DESIRE TO EDUCATE
- AMERICAN SOCIETY OF HEALTH-SYSTEM PHARMACISTS RESIDENCY STANDARDS
 - CONTRIBUTE TO RESIDENT SUCCESS
 - PROVIDE LEARNING EXPERIENCES IN ACCORDANCE WITH STANDARDS
 - DEMONSTRATE PRACTICE EXPERTISE AND PRECEPTING SKILLS (INSTRUCTING, MODELING, COACHING, FACILITATING)

FOUR RIGHTS OF THE EDUCATIONAL CONSUMER

- OPPORTUNITY TO LEARN
- COMMITMENT TO TEACHING VIA BEST PRACTICES
- CURRICULUM DESIGNED TO PREPARE THE LEARNER FOR THE PROFESSION
- RESOURCES NECESSARY TO SUCCEED

BEST PRACTICES FOR LEARNER SUCCESS

- ORIENTATION ON DAY 1
 - POLICIES, PROCEDURES
 - CALENDAR WITH PLANNED ACTIVITIES/PROJECTS & COMPLETION DATE(S)
 - COMPUTER ACCESS
- LEARNER EXPECTATIONS
 - GRADING
 - FREQUENCY OF FEEDBACK
 - PROFESSIONAL CONDUCT

TYPES OF CHALLENGING LEARNERS

- LACKING CLINICAL KNOWLEDGE/SKILLS
- ENTITLED
- APATHETIC
- HIGH ACHIEVING

TIPS FOR THE LEARNER LACKING KNOWLEDGE/SKILLS

- ASSESS KNOWLEDGE BASE
 - OBSERVATION
 - QUIZ/PRE-TEST
 - INTERFACE WITH EXPERIENTIAL DIRECTOR OR PROGRAM DIRECTOR
- MODEL / COACH
- INVOLVE THE LEARNER
 - ACTION PLAN WITH SMART GOALS
- DOCUMENT!!!

PRACTICAL CASE & DISCUSSION

 APPE STUDENT ON WEEK 1 OF CARDIOLOGY ROTATION UNABLE TO MAKE ASSESSMENT OF PATIENTS AND RECOMMEND EVIDENCE-BASED MEDICATION THERAPY ADJUSTMENTS WHEN PRE-ROUNDING WITH PRECEPTOR IN THE MORNING

- HOW DO YOU DETERMINE IF THIS IS A KNOWLEDGE-RELATED ISSUE OR A SKILLS-RELATED ISSUE?
- HOW COULD YOU APPROACH THE SITUATION IF KNOWLEDGE IS LACKING?
- HOW COULD YOU APPROACH THE SITUATION IF PRESENTATION SKILLS ARE LACKING?

TIPS FOR THE ENTITLED LEARNER

 LEARNER TREATING EXPERIENTIAL EDUCATION AS SOMETHING 'OWED' TO THEM RATHER THAN AN OPPORTUNITY FOR LEARNING

- SET EXPECTATIONS UP FRONT & INVOLVE LEARNER IN DEVELOPING EXPERIENCE
- MODEL EXPECTED BEHAVIOR
- HOLD LEARNER ACCOUNTABLE TO EXPECTATIONS
- CREATE LIFE-LONG LEARNING HABITS

TIPS FOR THE APATHETIC LEARNER

- WORK TO DEVELOP A RELATIONSHIP
 - PROVIDE YOUR BACKGROUND & ASK ABOUT THE LEARNER'S BACKGROUND
 - IDENTIFY LEARNER'S CAREER GOALS & WORK TO INCORPORATE INTO LEARNING EXPERIENCE
- REQUIRE THE LEARNER TO IDENTIFY WHAT THEY WANT TO LEARN/ACHIEVE ON THIS ROTATION
 - RETURN TO THESE OFTEN & WHEN FEEDBACK IS PROVIDED
 - INCORPORATE A SELF-ASSESSMENT PIECE INTO FEEDBACK SESSIONS
- DEFINE THE EXPECTED ROLE OF THE PHARMACIST, ROLE OF THE LEARNER
 - MODEL THIS BEHAVIOR

SUBSTANCE USE OR MENTAL HEALTH CONCERNS

- ACUTE CHANGE IN BEHAVIOR OR APPEARANCE
- IF COMFORTABLE, ASK DIRECT QUESTIONS
- IMMEDIATELY INVOLVE HUB SITE COORDINATOR OR RPD
 - LINK TO RESOURCES AVAILABLE THROUGH COLLEGE OR HR
 - REFERRAL TO EMERGENCY SERVICES IF NEEDED

PRACTICE CASE & DISCUSSION

RESIDENT MATCHES INTO PROGRAM AND BEGINS ROTATIONS WITH IM EXPERIENCE. PROVIDED WITH A
CALENDAR INCLUDING TOPIC DISCUSSIONS, CASE PRESENTATIONS, AND INVOLVEMENT IN PROCESS
IMPROVEMENT INITIATIVE. ARRIVES TO FIRST TOPIC DISCUSSION AND HASN'T DONE THE READING AND
ISN'T PARTICIPATING

- HOW DO YOU PROVIDE FEEDBACK?
- HOW DO YOU SET OR RESET EXPECTATIONS FOR THIS LEARNER?
- HOW CAN YOU APPROACH THE REMAINING PORTION OF THE ROTATION?

TIPS FOR THE HIGH ACHIEVER

- IN SOME WAYS THE HARDEST LEARNER; SIGNIFICANT TIME/PRESSURE ON PRECEPTOR
- IDENTIFY THEIR PREFERRED ROUTE OF EXTERNAL MOTIVATION/PRAISE
- EMPOWER THEM TO FIND AND APPLY KNOWLEDGE
- INCREASE LEVEL OF INDEPENDENCE AND AUTONOMY QUICKLY
- TAP INTO INTEREST TO EDUCATE/PRECEPT OTHERS (MULTIDISCIPLINARY OR LAYERED LEARNING)
- EXPLORE ATYPICAL OPPORTUNITIES (MUE/RESEARCH, COMMITTEES, PROCESS IMPROVEMENT, ETC)

PRACTICE CASE & DISCUSSION

 APPE LEARNER IN LATTER HALF OF ROTATION EXPERIENCE DOING A GREAT JOB. FOLLOWING A FULL PATIENT LOAD, COMPLETING CONSULTS, AND YOU TRUST THEIR INTERACTIONS WITH NURSES AND PROVIDERS.

- HOW TO YOU KEEP THIS LEARNER ENGAGED?
- WHAT OPPORTUNITIES COULD YOU IDENTIFY TO INCREASE THEIR INDEPENDENCE?
- HOW DO YOU ENGAGE TO IDENTIFY EXTRINSIC MOTIVATORS AND TAILOR THE EXPERIENCE?

WHEN TRADITIONAL ADVICE FAILS

- DID THE LEARNER MEET <u>MINIMUM</u> ROTATION GOALS/OBJECTIVES
- PRECEPTOR'S DON'T FAIL LEARNERS, LEARNERS FAIL
 TO EARN A PASSING GRADE/CERTIFICATE
- DOCUMENT AT MINIMUM A MIDPOINT, AND IDEALLY DOCUMENT ADDITIONAL CONVERSATIONS
- ENGAGE YOUR RPD, APPE COORDINATOR, OR EXPERIENTIAL CONTACT(S)

- OSU = JULIE LEGG, KATIE MARKS
- ONU = PAT PARTELENO, LAUREN KREPPS
- FINDLAY = TONYA DAUTERMAN, LORI COLCHAGOFF
- CEDARVILLE = THAD FRANZ, HEATHER BELLMAN
- NEOMED = LUKAS EVERLY, KATHERINE BROWN
- TOLEDO = MEGAN KAUN, KRISTIN KAMCZA

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