



American
Occupational Therapy
Association

Making the Case: Functional Cognition as a Top Priority in OT Education, Practice, and Research

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October 2, 2024

Functional Cognition Working Group



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Everyday Activities are Complex

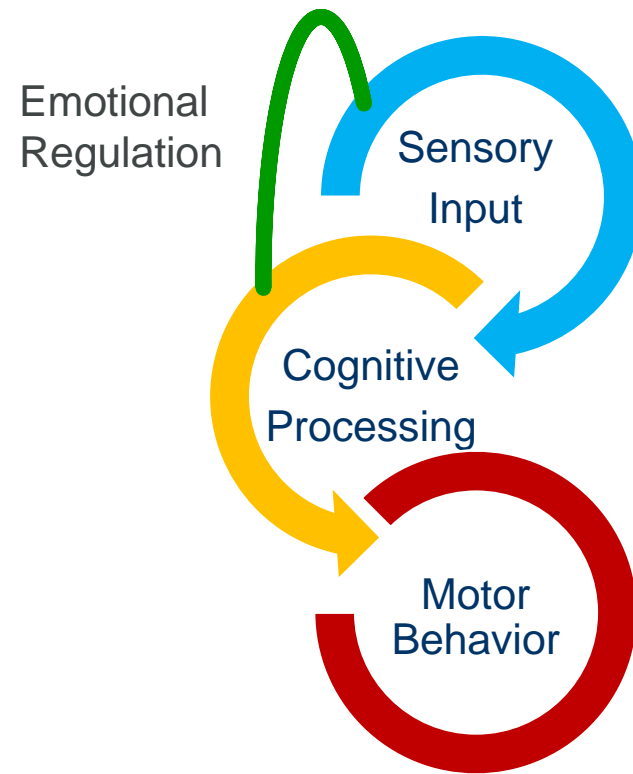


Occupational performance requires a variety of skills for successful completion.

Human beings perform complex activities in various contexts under a variety of conditions.

Bringing Functional Cognition to the Forefront

To successfully complete desired occupations, people need to bring to bear a variety of abilities at the right moment in time



So, What is Functional Cognition?

Based on the Functional Cognition Working Group discussions, literature review, and the result of the AOTF 2023 conference, our group emphasized important parameters of functional cognition:

Functional cognition focuses on bringing cognitive skills to bear on the performance of activities in a dynamic context. Functional cognition reflects the dynamic interplay among client factors, activity demands, environment, and contextual factors. Functional cognition is a construct that is applicable across most settings and populations with whom occupational therapy practitioners' work.

People with Functional Cognitive Problems Experience Occupational Disruption

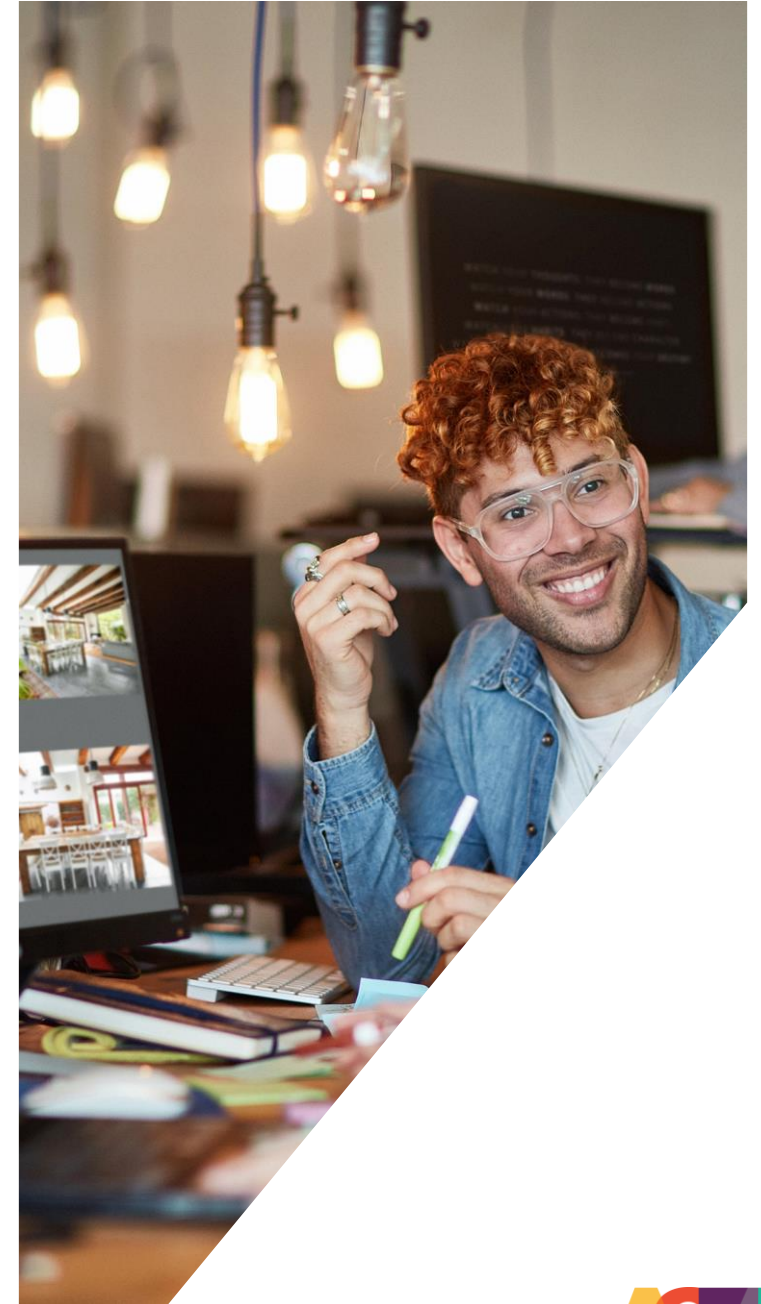
They have difficulty with:

- Suppressing irrelevant information
- Holding information and manipulating it
- Thinking and planning strategically
- Monitoring the success of a strategy
- Correcting errors
- Performing complex or novel tasks
- Do anything that requires a sequence to perform
- Living safely in the community
- Sustaining relationships

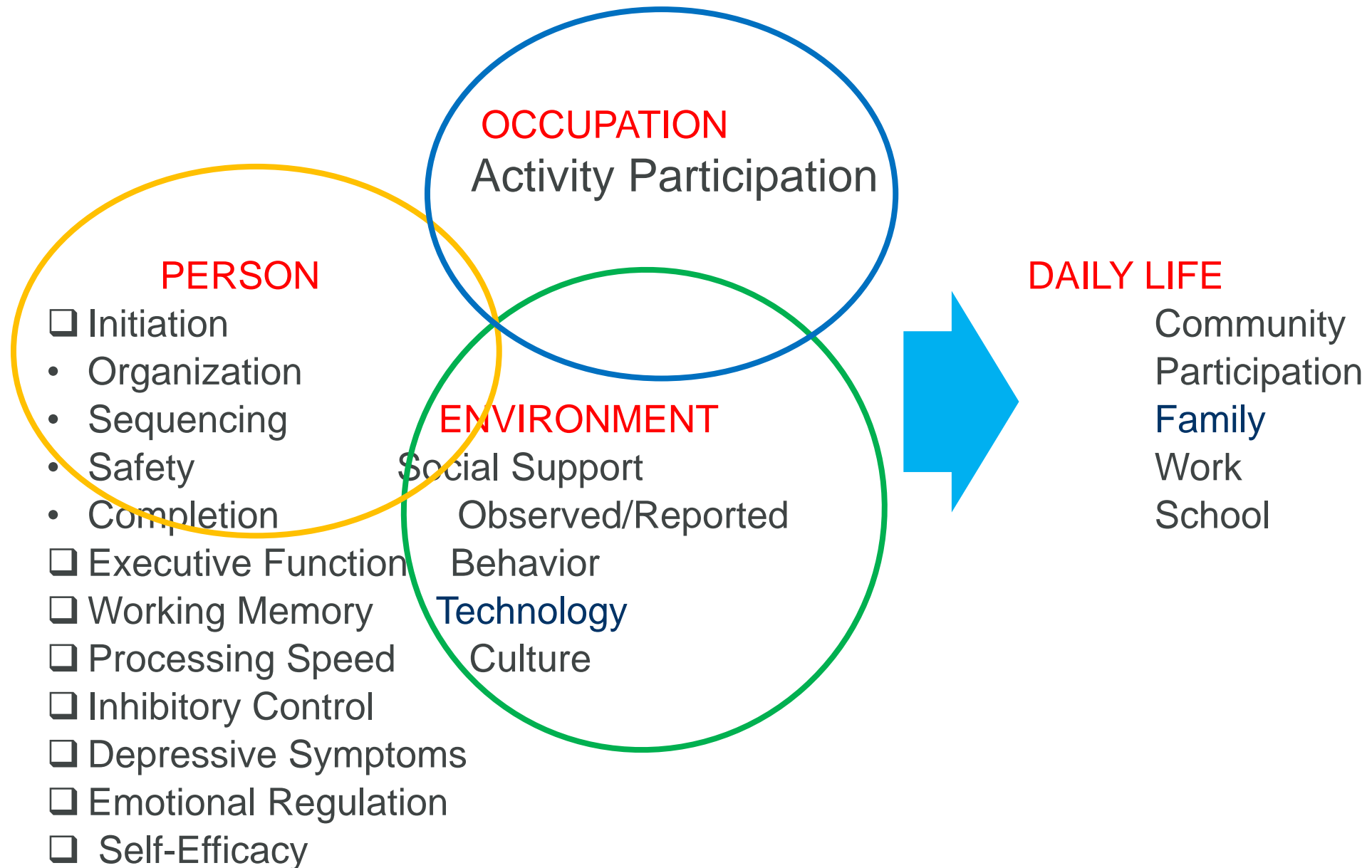


What happens to people with cognitive challenges?

- Poor Performance
- Loss of Job
- Poor Communication with Family
- Loss of or inability to form Relationships
- Poor Health Management
- Impaired Driving
- Poor Community Participation
- Social Isolation



COGNITIVE ASSESSMENT NEEDED TO UNDERSTAND FUNCTION IN DAILY LIFE



The First Step: Understanding what client needs and wants to do

Do they Do

- Occupational Questionnaire
- Canadian Occupational Performance Measure
- Activity Card Sort
- Pediatric Activity Card (US)
- Paediatric Cart Sort (Ca)
- Life Habits Questionnaire
- PROMIS



**What are the
Problems Doing ?**

Much Work Has Been Done by Occupational Therapists Especially in the Development of Measures

Assessment: Different Methods but... also Different Questions & Purposes



What do you need to know?)?

Is there a potential problem or deficit ?

What is the nature of the problem? How severe is the deficit? What skills are strengths versus weaknesses

Is the individual at risk for functional errors, reduced activity level or participation?

What are the functional limitations? How much and what type of support or assistance is needed?

What is the nature of the performance errors or patterns?. Where does the breakdown in performance occur?



Why do you need to know it?

Determine need for follow-up assessment, monitoring or intervention

Quantify severity of the problem

Baseline for monitoring or measuring change across time

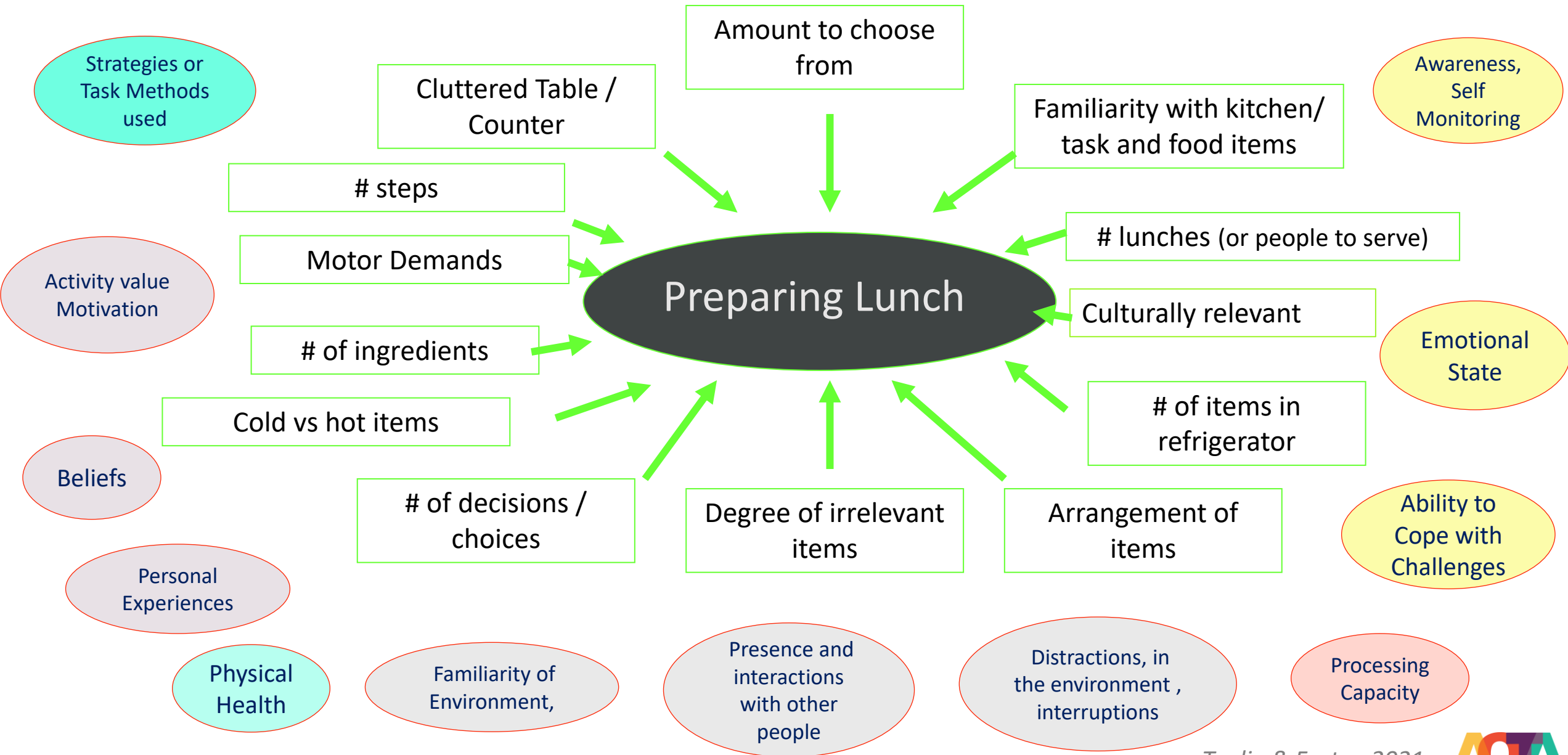
DC planning

Recommendations for community living, driving, return to work

Treatment planning

Outcome of intervention

Dynamic Interactional Model: Performance varies with Activity Demands, Context, Environment & Person/ Internal Variables



Performance-Based OT Measures Go Beyond Accuracy

Focus on analysis of Functional Cognitive Performance



- Activities are relevant to the person
- Assistance the person needs? Type, How much
- Strategy Use
- Efficiency, quality of performance
- Ability to manage interruptions, unpredictable situations, cope with challenges
- Multi-tasking and integration of skills
- Online awareness of performance
- Strengths and use of resources
- Influence of context and task conditions

Toglia & Foster, 2021

OT Developed Functional Cognitive Assessments

- **Executive Function Performance Test**
Baum & Edwards, 1993; Baum, Connor, Morrison, Hahn, Dromerick & Edwards (2008)
- **Weekly Calendar Planning Activity**
Toglia, Lahav, Ben Ari & Kizony (2017); Toglia, Askin, Gerber, Taub, Mastrogiovanni & O'Dell (2017)
- **Menu Task**
Edwards, Wolf, Marks, Alter et al. (2019); Al-Heizan, Giles, Wolf & Edwards (2020)
- **Allen Cognitive Level Screen**
David & Riley (1990); Cusick & Harai (1992)
- **Actual Reality Test**
Goverover, O'Brien, Moore & DeLuca (2010); Goverover, Salter, DeLuca (2023)
- **Complex Task Performance Assessment**
Davis, Wolf & Foster (2019)

Informed by Lee, Randolph, Kim, Foster, Kersey, Baum & Connor (under review)



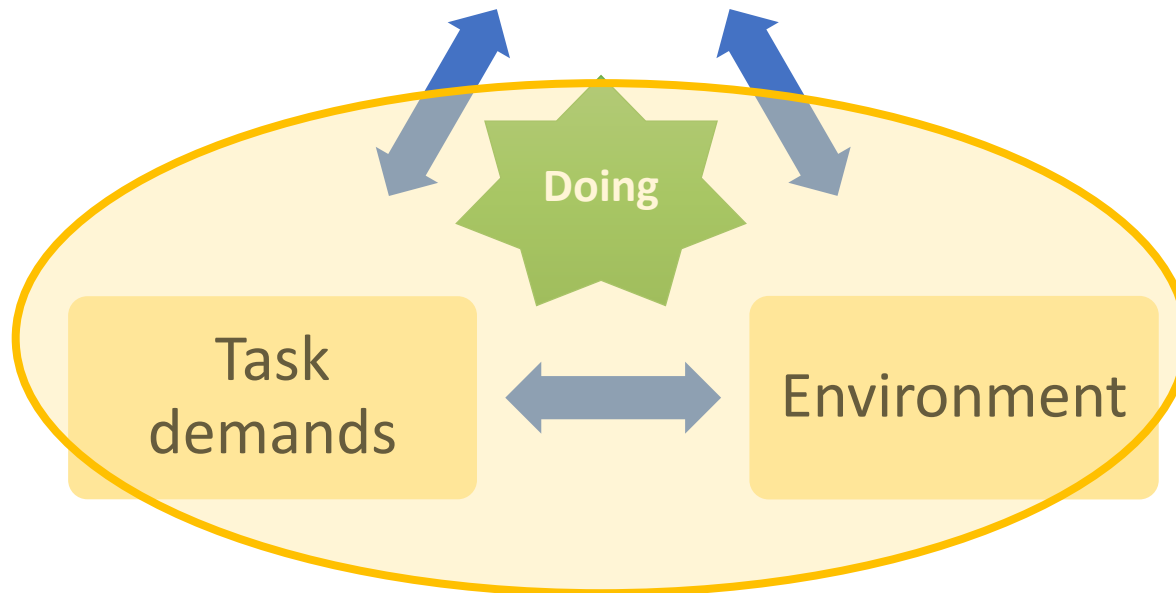
So now that you know someone has a functional cognitive problem that disrupts occupational performance, what do you do about it?



Functional Task-based Approach

Person's cognitive abilities

(including awareness, motivation, self-efficacy, etc.)



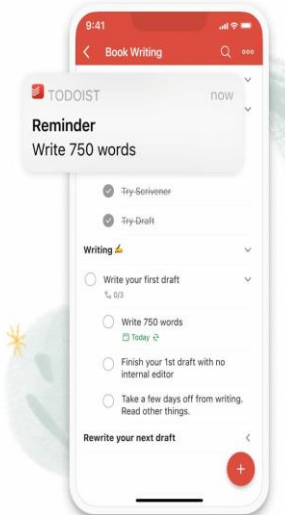
Examples:

- Neurofunctional Approach
- Cognitive Disabilities Model
- Caregiver training

e.g., functional training, task adaptation, task specific training, environmental modification, etc.

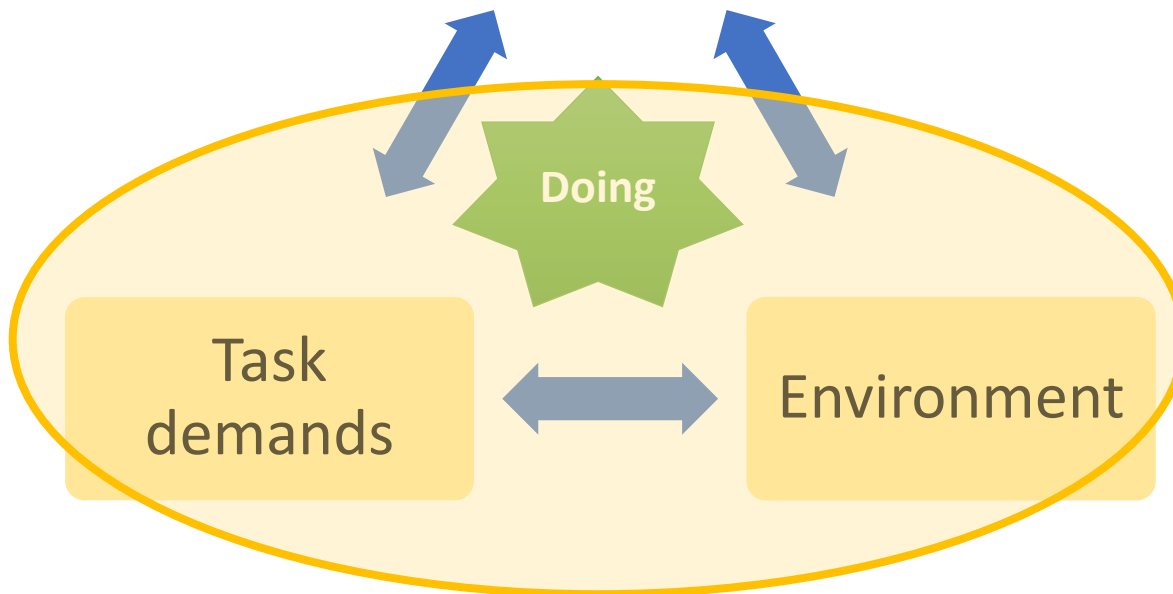
Functional Task-based Approach

- Emphasis on changing task performance and/or environment demands rather than underlying cognitive skills
- Minimizes or reduces demands/reliance on impaired skills
- Increase or decrease the saliency of environmental stimuli or cues
- Capitalize on procedural learning
- Use internal or external strategies to bypass impairments



Functional Task-based Approaches

Person's cognitive abilities
(including awareness, motivation, self-efficacy, etc.)

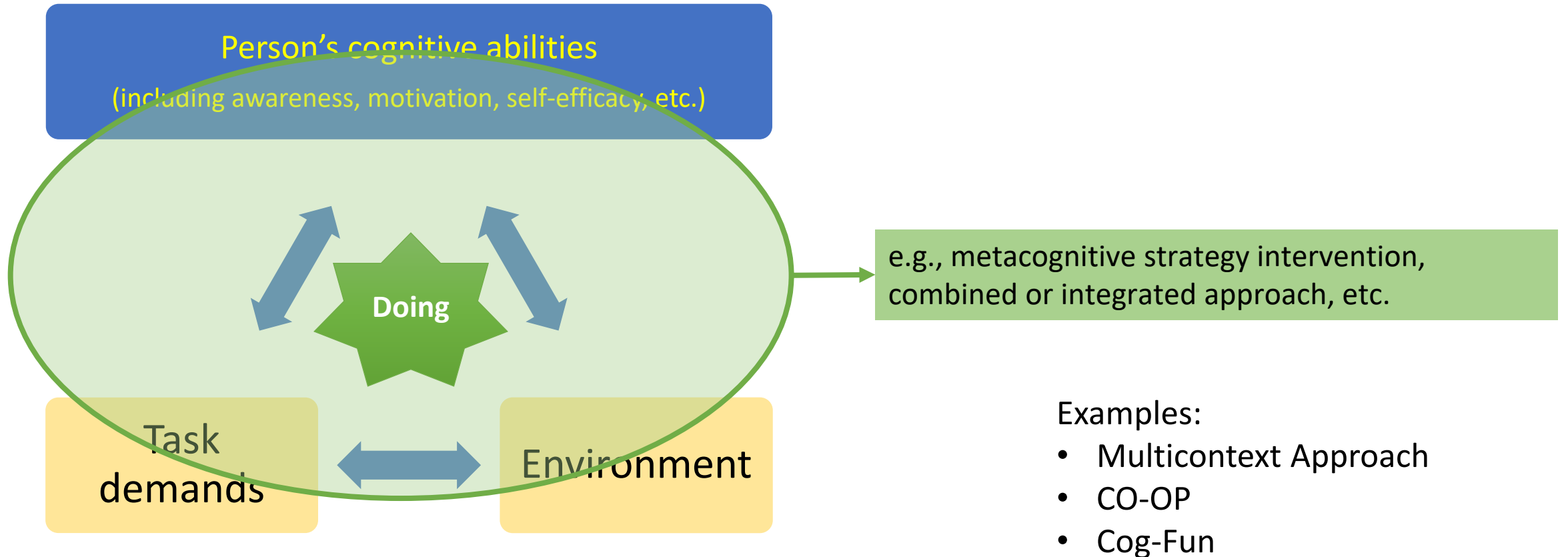


Examples:

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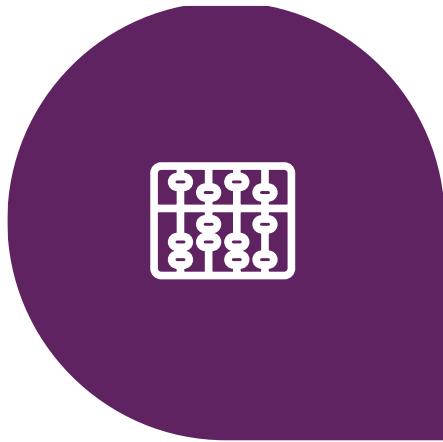
e.g., functional training, task adaptation, task specific training, environmental modification, etc.

Metacognitive Strategy Approaches



Metacognitive Strategy Approach

- Designed to help clients think about what strategy or methods they will be using to complete a designated task
- Includes self-management and self-instructional strategies
- Many focus on increasing ability to...
 - anticipate, monitor and verify the quality or accuracy of performance
 - flexibly apply strategies and metacognitive skills to a variety of situations
- Transfer/generalization of learning is emphasized during treatment



Think

Occupational performance requires functional cognitive skills



Understand

OT practitioners need understand, assess, and treat functional cognition to support occupational performance



Educate

OT educators can bridge this practice gap by teaching functional cognition in our curricula just

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Expert Panel Members



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Panel AOTA ALC Meeting 2024

Teaching Functional Cognition: Practice Model, Sample Curriculum, Experiential Learning

Peggy P. Barco, OTD, MS, OTR/L, FAOTA

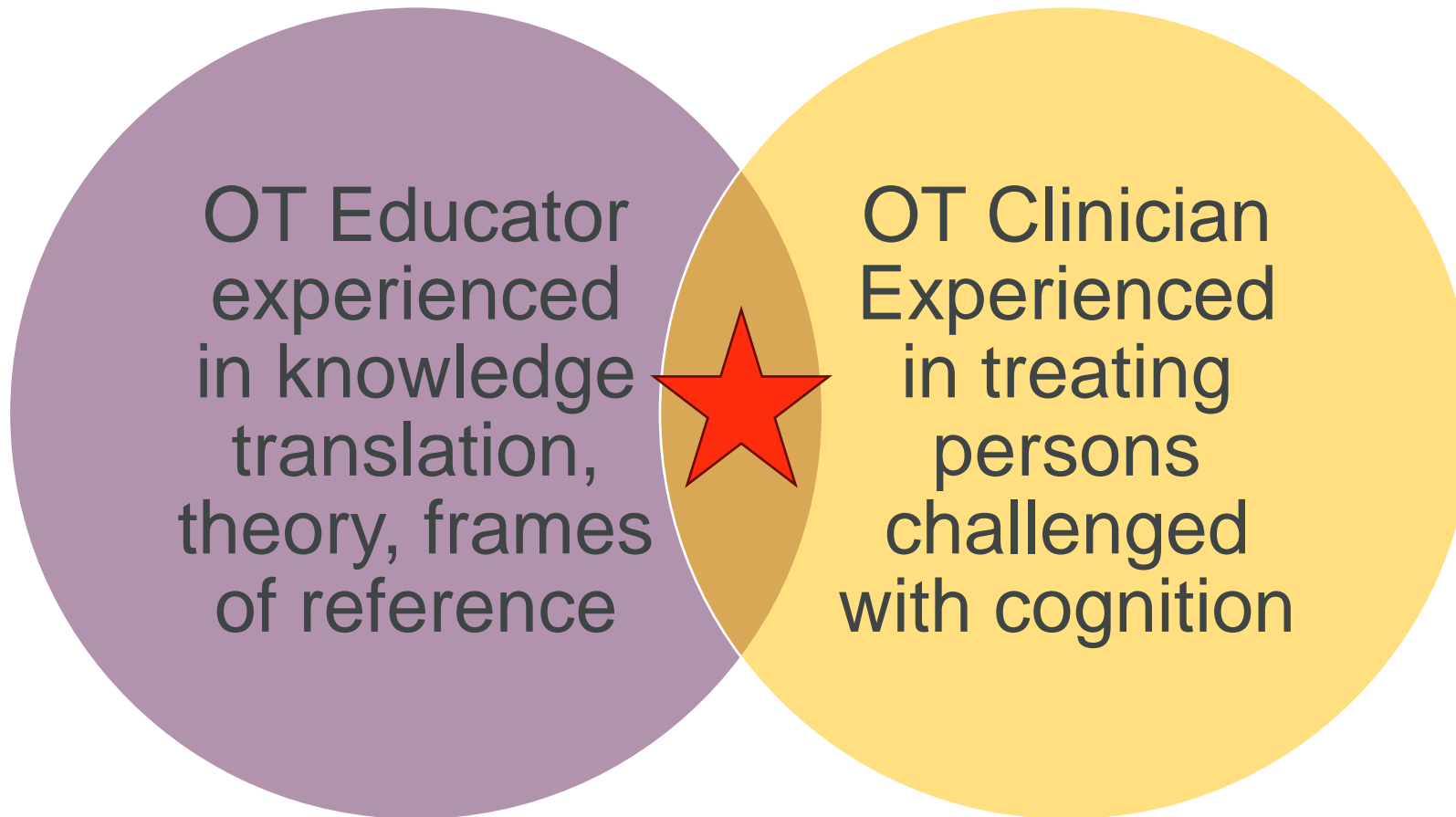
Washington University School of Medicine Program In Occupational Therapy

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Considerations when Integrating Functional Cognition in an OT Curriculum

- Who should teach it?
- Where should it be placed?
- What Content should be included?
- How is it best taught (Pedagogy)
- How is it integrated in the curriculum and community?

Consideration: Who Should Teach Functional Cognition?



Consideration: Where should it be placed in curriculum

At WU OT, we include this at the beginning of the second year partly due to the following:

- Functional cognition content builds on foundational content related to communication skills, neuroscience, assessment, and theory.
- Functional cognition course includes:
 - Strengthening communication and clinical observation skills
 - Enhancing clinical/professional reasoning skills
 - Application of assessment and intervention knowledge and skills

Consideration: What Content Should be Included?

Content of a functional cognitive course provides supports to many of the other assessment and intervention courses in our curriculum

Interpersonal communication skills, clinical reasoning skills, how to select intervention approaches, best practice when teaching/educating clients/care partners

Prepares students to work with real clients – who present with a diverse set of needs and challenges

Course Content – WU OT

Functional Cognitive Assessment

Key Content:

Cognitive Constructs

Visual Perception

Language

Clinical Observations

Cognitive Screens

Performance Based Assessments

Documentation

Competency

Course Content – WU OT

Functional Cognitive Intervention

Key Content: Evidenced Based

Learn about the Theory/Frames of References (FOR)

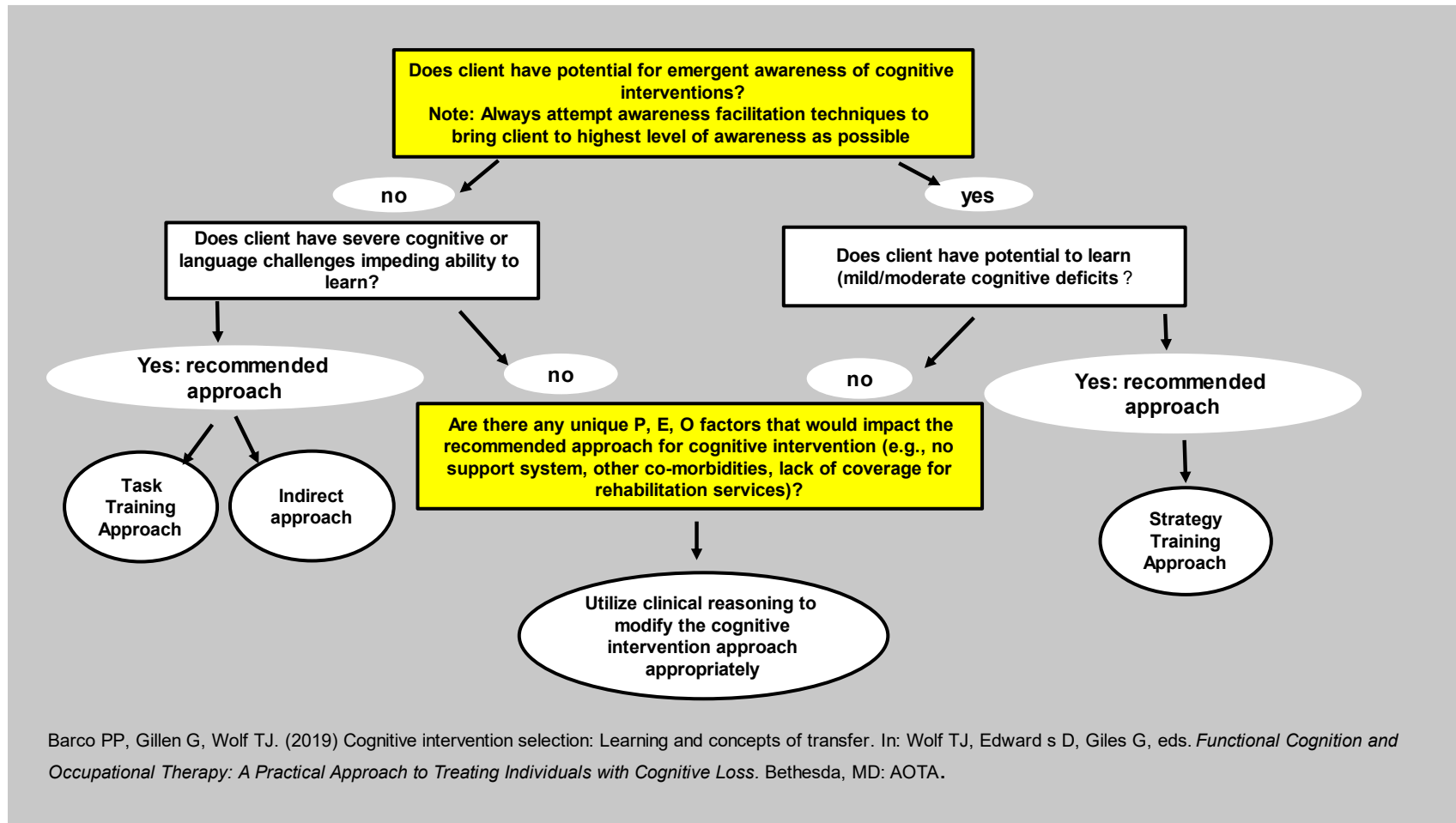
Why is this important?

Application Labs

- Important to have the clinical experience to best demonstrate how the various FOR are used in practice.
- Important to have the clinical expertise to know what is important for an entry level clinician

Course Content: Know your content and resources

How to Select a Functional Cognitive Intervention Approach



Barco PP, Gillen G, Wolf TJ. (2019) Cognitive intervention selection: Learning and concepts of transfer. In: Wolf TJ, Edwards D, Giles G, eds. *Functional Cognition and Occupational Therapy: A Practical Approach to Treating Individuals with Cognitive Loss*. Bethesda, MD: AOTA.

Course Content – Experiential real-world application

OT Process

Key Content:

Interview - client/care-partner

Selecting an Assessment

Screen/Assessment

Interpret/Document Assessment

Selecting a Functional Cognitive Intervention

Cognitive Functional Intervention

Document Intervention

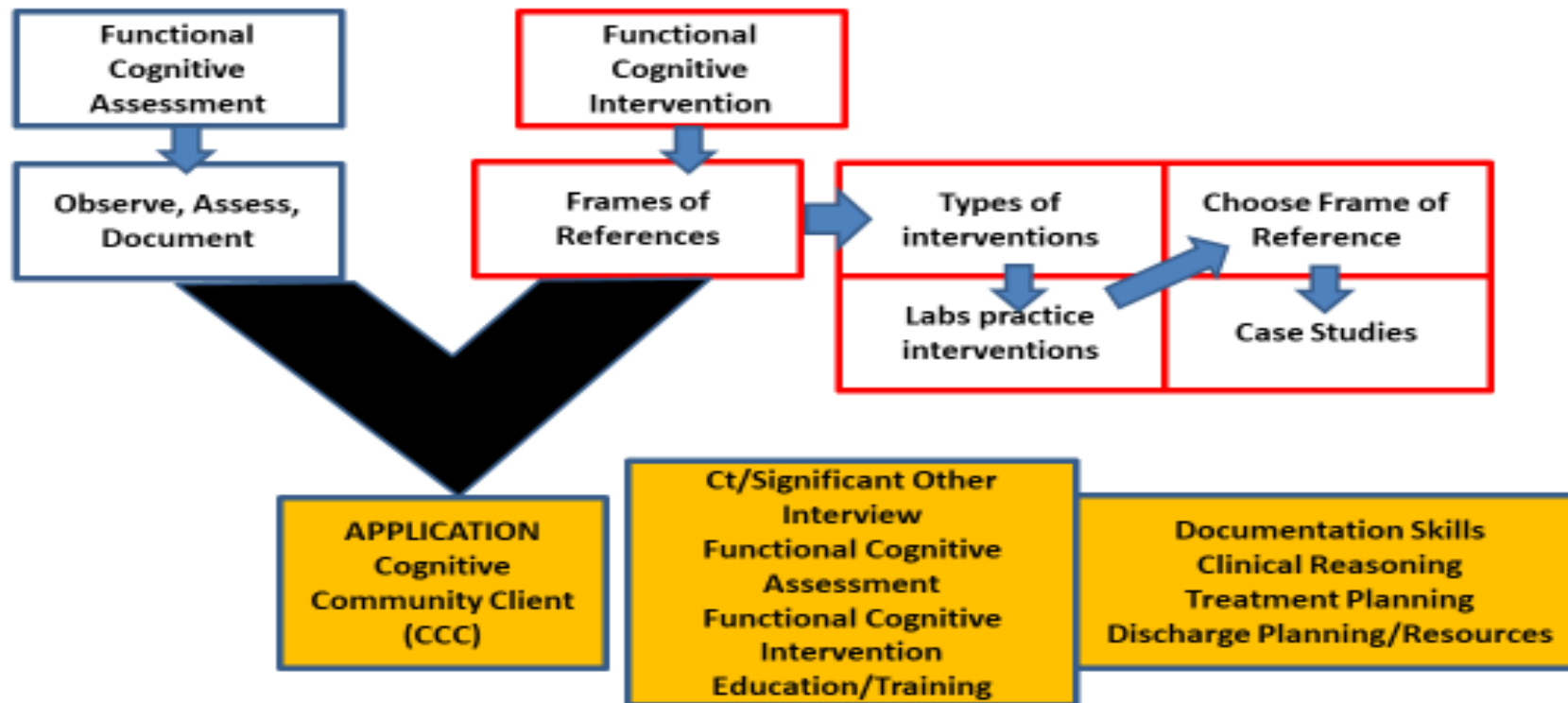
Client/Family Education

And more!

Course Model/ How

© Barco, 2018

Functional Cognitive Assessment and Intervention: Course Model Barco 2018



Consideration: Challenge of Integrating of Functional Cognition

In your OT curriculum

Does the rest of your faculty have a working knowledge of Ots role in working with functional cognition?

How can you best inform/educate your faculty in this very important area to OT?

In the “community” at large

How are Ots practicing assessment and intervention with functional cognitive challenges in your community/fieldwork sites?

How can you best inform/educate your “community” in this important area?

Thank you for your time

Please reach out to me if I can be assistance in anyway. Our goal is encouraging other programs to build Functional Cognition into their educational models.

Peggy P. Barco
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Cognitive Evaluation and Intervention

Rationale and Architecture of the course at
NYU

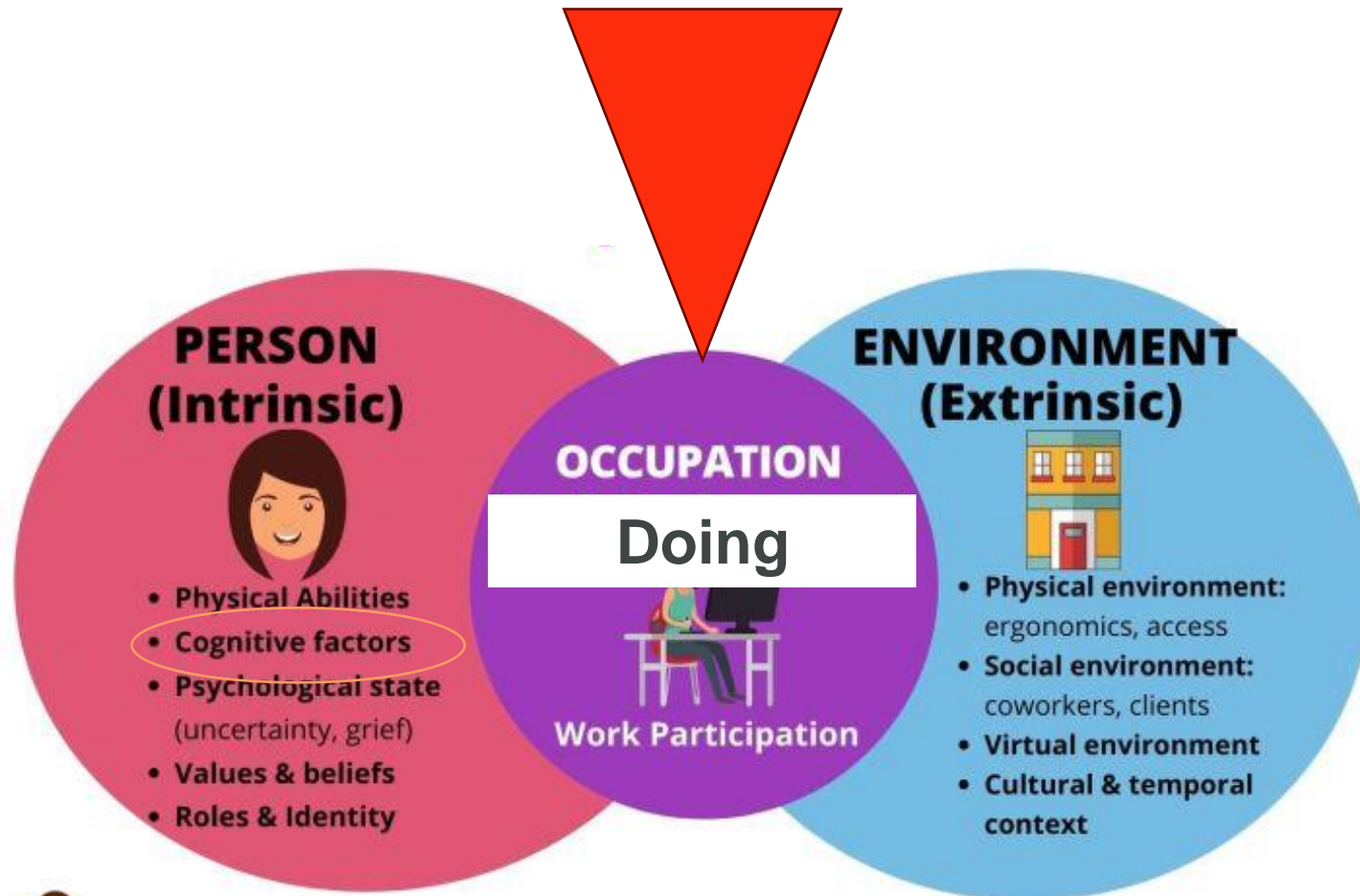
Yael Goverover

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10/2/2024

PART 01

Rationale



PEO model (Person - Environment - Occupation) Model, developed by Mary Law
 Slide by Cheryl Crow, Occupational Therapist at Arthritis Life, 2021

Cognition is Vital for Human Behavior

The course is taught (in both MS and OTD-EL) in
the 2nd year, Second semester

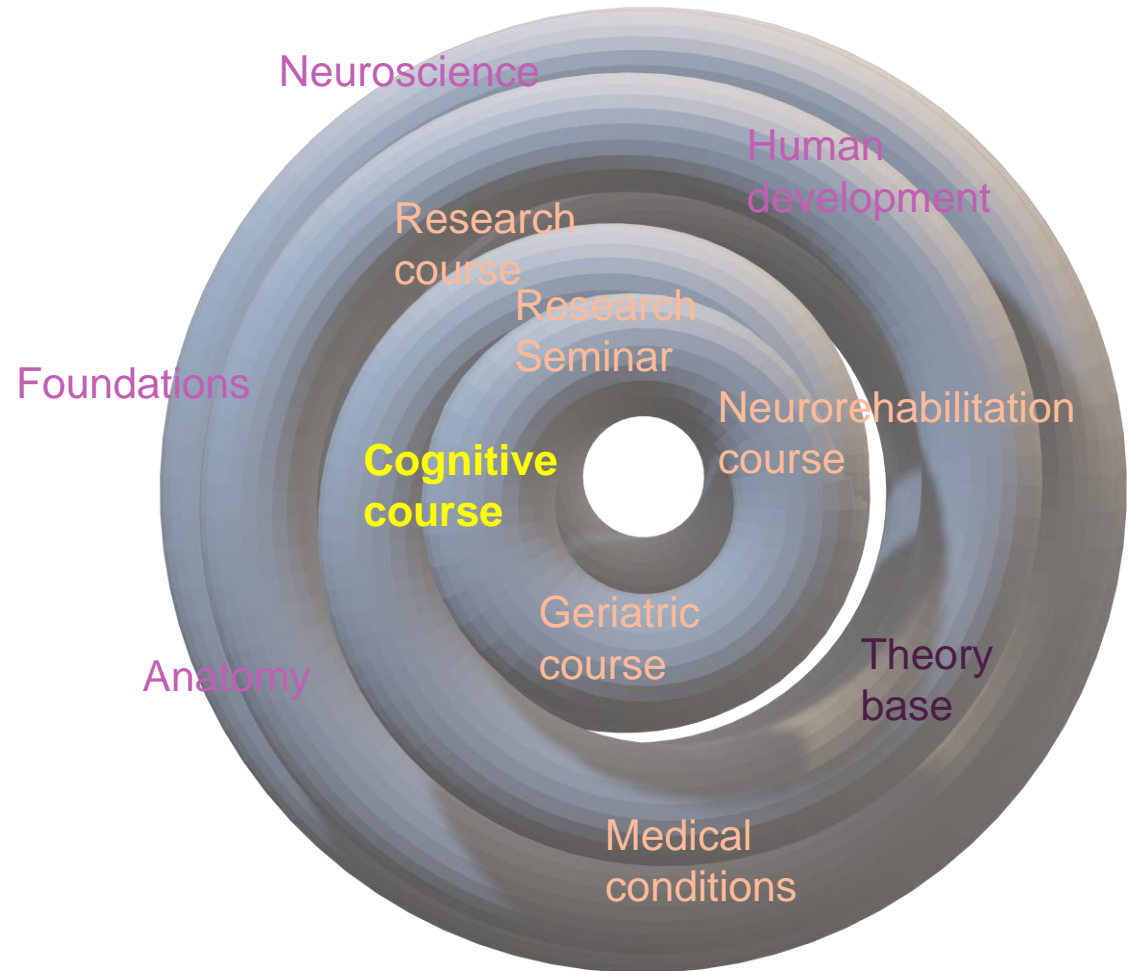
As students progress, we introduce more advanced concepts in treatment and evaluation strategies.

The heart of everything we teach is the “doing” activity and occupation—these are the core components driving our profession.

They form the basis of what it means to be an occupational therapist, whether in practice or theory.

Spiral

Example of curriculum: A spiral



The thread of cognition

- In every field of occupational therapy—whether we're talking about pediatrics, motor recovery, or mental health—**cognition plays a vital role.**
- We train our students to recognize and integrate cognitive factors into their treatment plans.

The link between the cognitive course and the curriculum design

Cognitive impairments are documented to be associated with life, activity, and community participation.

The concepts and emphases addressed include

- (1) Problem identification: observation, interviewing, and selection of appropriate assessment tools.
- (2) Intervention: establishment of goals and treatment planning.
- (3) Evidence-based practice: identification of effective interventions and their bases in theory.



**COGNITIVE
CLASS**

Part 2: The course architecture

About the course:

- Through the NYU OT curriculum, we emphasize key concepts such as the foundational models and theories of the field.
- Students understand not only the "what" but also the "why" behind occupational therapy practices.
- Therefore the “cognitive” course builds upon the foundation courses, introductory knowledge of basic skills and purposeful activities, and students’ life experiences.
- The course intends to prepare students to recognize and use theoretical and interventional approaches to evaluate and treat cognitive impairments and capitalize on cognitive abilities.

Topics covered

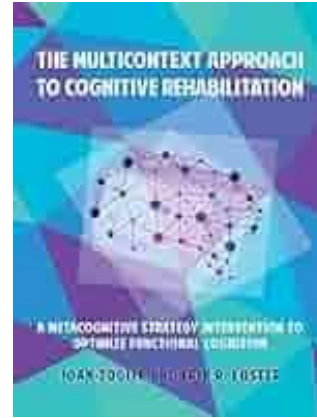
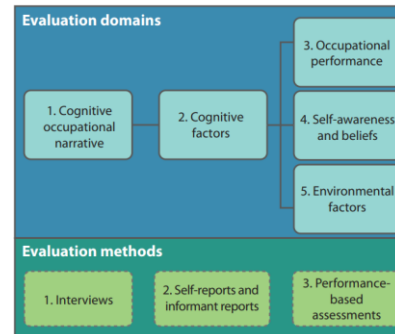


FIGURE 4.1. The Cognitive-Functional Evaluation Framework.



01.

Approaches for cognitive rehabilitation

02.

The evaluation process

03.

Domain of cognition: assessment and intervention



Continue: topics covered



04.

Application to various populations and context



05.

OT is part of a multidisciplinary team

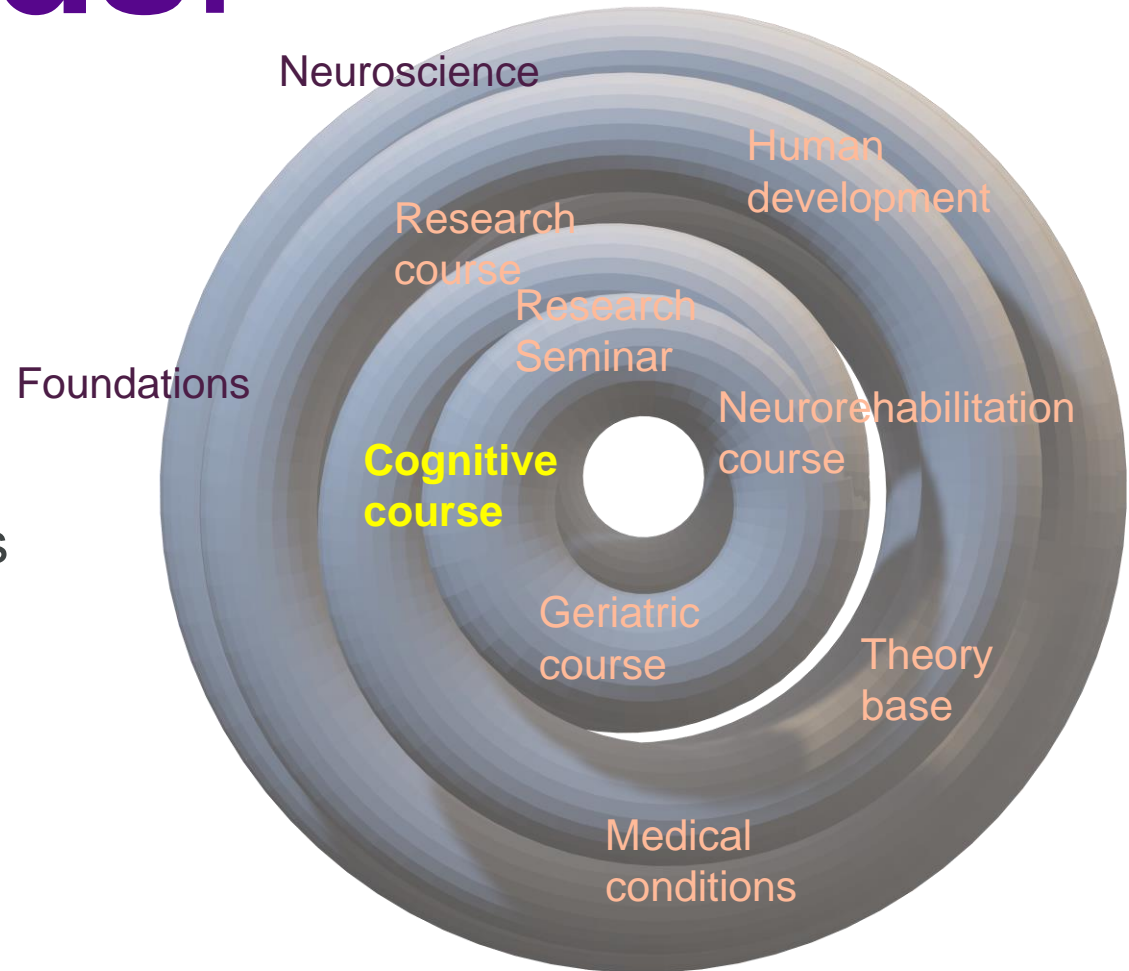
Course architecture

- The course design progresses from foundational concepts (such as cognitive rehabilitation approaches and theoretical models) to practical applications (assessment tools, treatment planning, and evidence-based practice).
- This aligns well with the curriculum design philosophy, moving from theory to practice.

Course Threads:

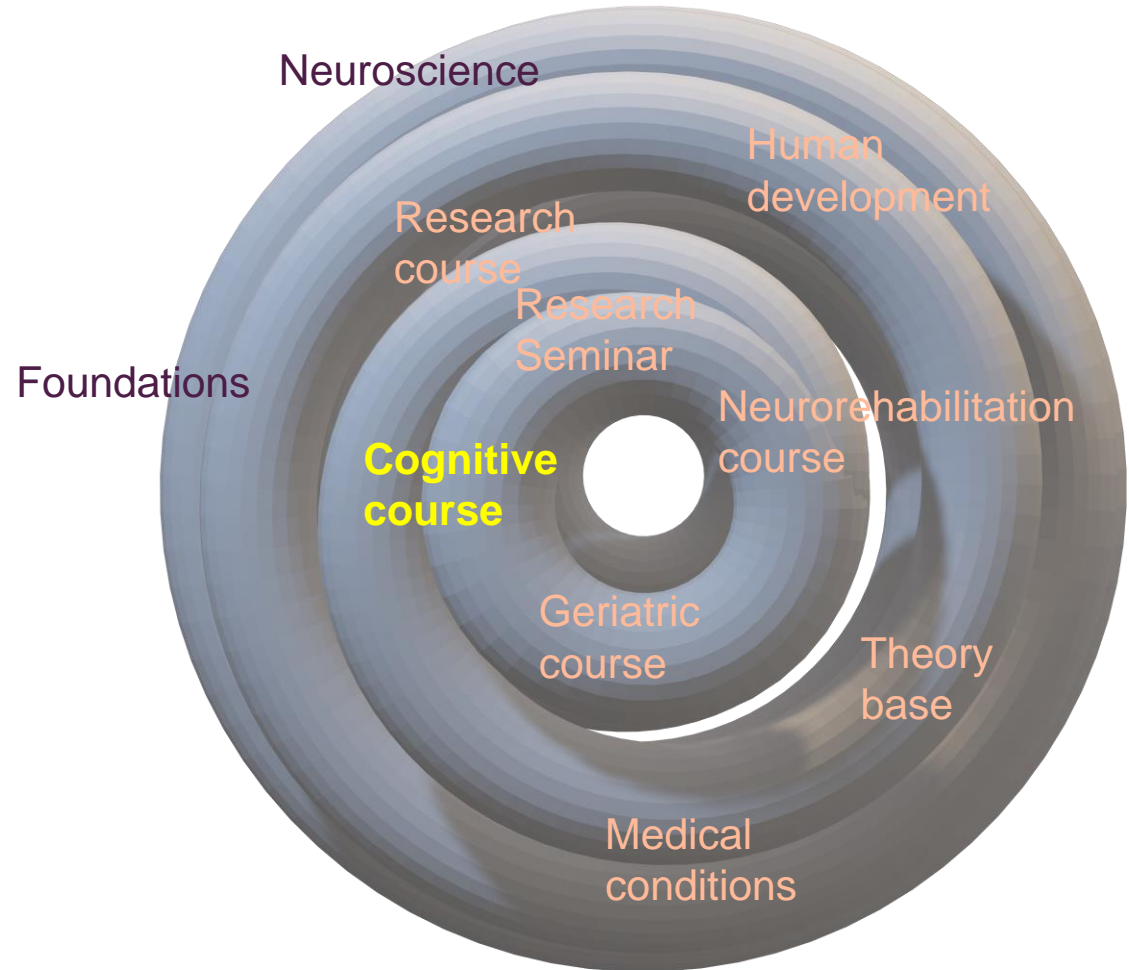
Cognitive Thread: cognition plays a central role across various OT fields (e.g., pediatrics, mental health, and physical recovery),

- Treating cognition is key.
- The syllabus shows how cognition is addressed



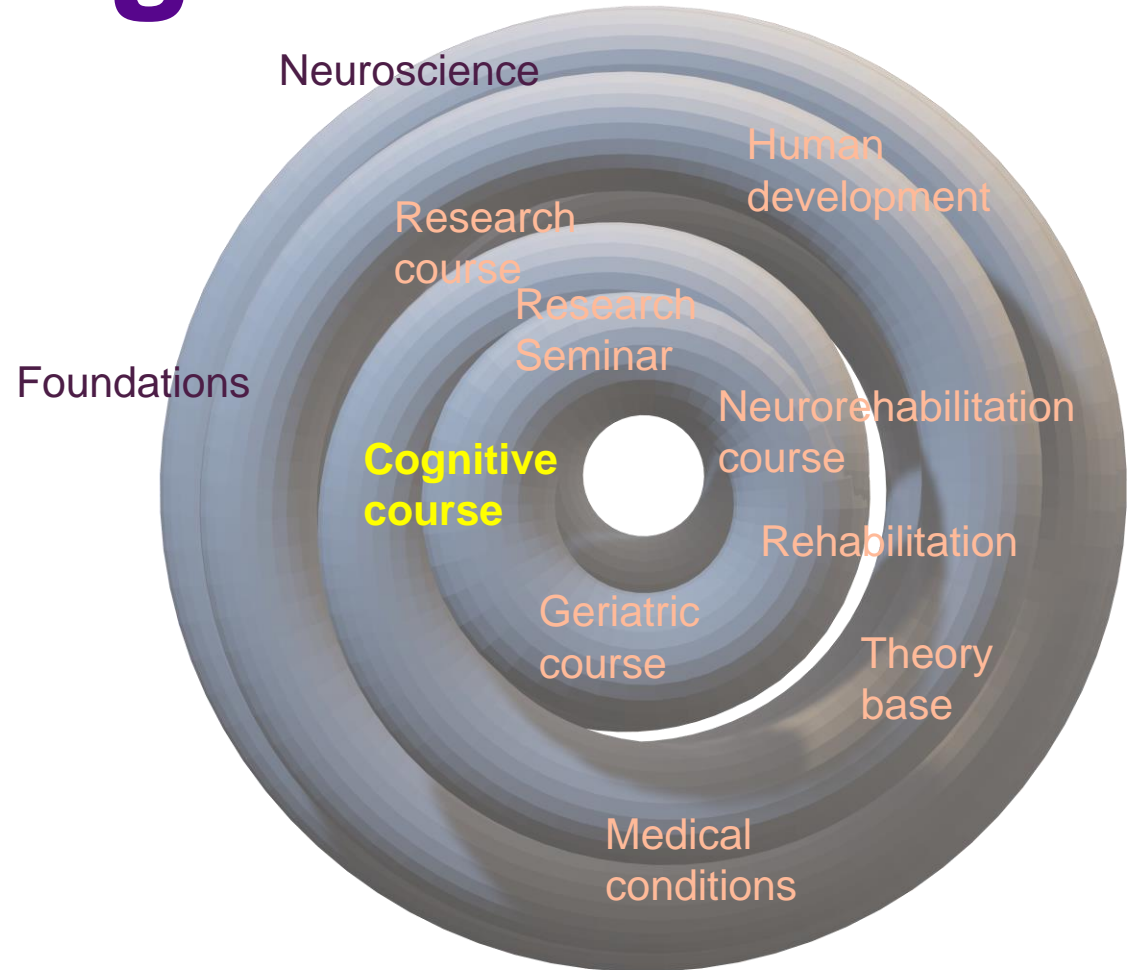
Evidence-Based Practice Thread

- Consistent focus on evidence-based practice, including research and critical analysis.
- Encourage students to search the literature and critique studies.
 - equips students with the ability to make informed clinical decisions.
 - fosters critical thinking and supports lifelong learning



Merging Technologies Thread

- The advancements in digital health and rehabilitation technologies.
 - Virtual reality or cognitive training



Take home questions:

- How can we ensure that cognitive assessments are integrated into every aspect of occupational therapy practice, from pediatrics to geriatrics?
- Can occupational therapists better tailor cognitive interventions to individual client needs across various contexts and populations?
- How can we promote evidence-based practice in cognitive rehabilitation?

In summary,

- The cognitive course at NYU is integral to the occupational therapy curriculum, emphasizing the essential role cognition plays across diverse practice areas.
- The curriculum prepares students for a future in which cognition and occupation are central to patient care.
- The course facilitates understanding of the impact of cognition, ensuring comprehensive patient treatment and lifelong learning.
- This course prepares future occupational therapists to lead in the interdisciplinary treatment of cognitive impairments .

Thank you

Professors Howe and Gentile
from OT NYU



OT-ALC: Functional Cognition

Introduction to USC Chan's Functional Cognition Course

Deborah B. Pitts, PhD, OTR/L, BCMH, CPRP, FAOTA
October 3, 2024

Presented by

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Acknowledgements

USC Chan entry-level clinical doctorate students who helped us launch this new course

My colleague Dr. Marisa Hernandez who joined me in the launch and first-time delivery of cognition course in USC Chan curriculum

The work of Toglia & Foster (2021) from their recent text—*The Multicontext Approach to Cognitive Rehabilitation: A Metacognitive Strategy Intervention to Optimize Functional Cognition*.

Entire first module of course built from Chapters 1-3 of this text

Wolf, T. J., Edwards, D. F., & Giles, G. M. (2019). *Functional cognition and occupational therapy: a practical approach to treating individuals with cognitive loss*. AOTA Press.

In particular, introduction to ‘cognitive-functional evaluation’ framework

AOTA Official Statement on Cognition, Cognitive Rehabilitation, and Occupational Performance. *American Journal of Occupational Therapy*, November/December 2019, Vol. 73, Supplement 2.

In particular framing/categorization of intervention approaches

USC Chan Entry-Level OTD Curriculum

Entry-Level OTD Curriculum launched Fall 2022

Several courses from entry-level Master's curriculum retained in full, some updated and other courses new to curriculum

Three-year program with 4 practice immersions (i.e. MH, pediatrics, adult rehabilitation, older adult) and set of thread courses

Functional cognition course hosted during Spring semester of year 2 while also enrolled in 4th and final practice immersion course

Third-year includes two-semester part-time FW partnered with Practice Scholar and Seminar courses to support capstone preparation to be implemented/engaged in during third semester of third year

Heavy reliance on student-centered pedagogies with effort to integrate DEI-related pedagogies

Learning activities for Functional Cognition course utilized Team-Based Learning™ 4S Framework (i.e. Significant Problem, Same Problem, Specific Choice and Simultaneous Report)

Approach to Course Development

Engaged in years long effort to strengthening own understanding of cognition and cognition interventions in mental health practice

Reflected on and reviewed continuing education cognition courses developed and conducted within national, state and local mental health practice context

Initial draft developed in collaboration with peers to submit for curriculum review (Note: Revised as launch date approached)

Reviewed AOTA Official Document on Cognition

Reviewed cognition/ functional cognition textbooks available via AOTA Store

Enrolled and completed AOTA Continuing Education courses on Functional Cognition

Reviewed Toggia & Foster (2021) *Multicontext* text

Reviewed all course syllabi, in particular practice immersion courses, regarding approach to addressing cognition

Consulted various colleagues within Chan Division and others

Made clear effort to ensure that course connected to knowledge, skills and reasoning being built in other courses

Course Content

Module I: Defining Cognition/Functional Cognition

Utilized AOTA's Official Document on Cognition and Toglia & Foster (2021) *Multicontext* text Chapters 1-3 to frame and organize this section

Module II: Assessing Cognition/ Functional Cognition

Introduced 'cognitive-functional evaluation framework' (Rotenberg & Maeir, 2019; Ereez & Katz, 2021)

Limited focus to 'cognitive occupational narrative', 'functional cognitive assessment' and 'environment and safety assessment' components

Module III: Cognition/functional Cognition Interventions

Informed by intervention approaches identified in AOTA Official Document on Cognition, focused on *Metacognitive and Domain Specific Strategy Instruction* (i.e. Multicontext and CO-OP) and *Specific Task or Habit Training* (i.e., Neurofunctional Approach)

Course Learning Activities

Module I: Defining Cognition/ Functional Cognition

Set of credit/no credit activities

Knowledge checks built primarily from Toglia & Foster (2021) *Multicontext*

Video analyses and self-occupational analysis

Environmental assessment/scan of cognitive barriers/facilitators of local public transportation

Module Summative Quiz

Module II: Assessing Cognition/ Functional Cognition

Primary assignment involved recruitment of participant from circle of support to complete a three-part in-person 'cognitive-functional evaluation' across semester

Course final consisted of synthesis of findings describing functional strengths/limitations and impact of occupational performance

Module Summative Quiz

Module III: Cognition/Functional Cognition Interventions

Critical appraisal of published quantitative study that addressed one of the three intervention approaches

In-class, team-based ethical reasoning applied to 'case scenario' where cognition contributed to possible functional risk

Module Summative Quiz

Future Course Planning

Overall course was received positively by students for content, design of learning activities, and balanced approach

Students felt that content was practical and could be immediately implemented in practice immersion Level I experiences happening at same time as enrollment in functional cognition course

Based on this no plan to make any significant changes to course for Spring 2025 (second implementation cycle), save some minor adjustments

Success with course and value of Toglia & Foster's *Multicontext* text to course development resulted in Chan faculty reaching out to Dr. Toglia to see if USC Chan could host a *Multicontext workshop*

Workshop with Dr. Toglia scheduled for November 16-17, 2024



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For Discussion:

1. How **important** is cognition in your curriculum?
2. Do you have the **tools** you need to include it?
3. What **resources** are you missing (besides time!)?