**Team Science Competencies for Clinical Research Professionals: A Multi-Leveled Delphi Approach: Supplementary Materials**

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| **1. Facilitating Awareness and Exchange (Individual)** | | | |
| *Sharing information and perspectives, active listening and probing, reframing skills\** | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Active listening*** | ***Identify*** *examples of active listening during training sessions* | ***Demonstrate*** *active listening to gain clarity of exchanged messages.* | ***Integrate*** *active listening into staff training and meetings* |
| ***Relational openness*** | ***Recognize*** *the importance of relational openness as a team member* | ***Exhibit*** *relational openness by welcoming and introducing team members* | ***Create*** *a welcoming, inclusive, and positive environment.* |
| ***Open sharing*** | ***Explain*** *benefits of openness in sharing* | ***Practice*** *openness in sharing skills with others* | ***Mentor*** *openness and cross-team sharing* |
| ***Honoring personal boundaries and boundaries of others*** | ***Recognize*** *personal boundaries of self and others* | ***Exhibit*** *respect for personal boundaries* | ***Establish and reinforce*** *policies related to personal and cultural boundaries (race, ethnicity, religious, gender identity)* |
| ***Awareness of individuals' points of view*** | ***Express*** *understanding of other people's point of view* | ***Demonstrate*** *open, flexible perspectives, honoring different points of view* | ***Support*** *differences in points of view* |
| **2. Cognitive Openness & Intersubjectivity (Individual)** | | | |
| *Sharing information and perspectives from a team members expertise. This includes inquiring and gaining insights from other disciplines,*  *active probing for creating a common mental model, and reframing based on input from other team members.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Team citizenship*** | ***Express*** *respect for team members (e.g., on time, prepared).* | ***Demonstrate*** *team citizenship by participating in meetings and generating new ideas to meet the team’s vision, mission, and goals.* | ***Lead*** *team meetings with management of group dynamics and coaching through conflict.* |
| ***Team building principles*** | ***Recognize*** *team building activities.* | ***Apply*** *knowledge learned from team-building activities into practice.* | ***Develop*** *team building activities.* |
| ***Implicit bias training*** | ***Recognize*** *examples of implicit bias.* | ***Apply*** *skills learned through implicit bias training.* | ***Lead*** *and champion implicit bias awareness within the team's interactions, mission, vision, and goals.* |
| ***Team mission, vision, and goals*** | ***Understand*** *the team's mission, vision, and goals.* | ***Exhibit*** *the team's mission, vision and goals.* | ***Mentor*** *the team in the team's mission, vision, and goals.* |
| ***Disciplinary humility*** | ***Acknowledge*** *that disciplines have varying perspectives from which all can gain understanding.* | ***Show*** *disciplinary humility by asking clarifying questions of contributing disciplines including differences in acronyms, definitions, and language.* | ***Lead*** *discussions among team members and build bridges among the various team disciplines.* |
| **3. Self-awareness (Individual)** | | | |
| *Knowledge and understanding of personal styles, tendencies, strengths, and weaknesses.*  *Understanding when one's preferred approach may need to change to better meet the needs of the team member.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Self-awareness*** | ***Identify*** *personal traits and strengths* | ***Develop*** *and enhance positive traits and strengths* | ***Distinguish*** *among various member’s personal traits and strengths* |
| ***Versatility*** | ***Understand*** *various communication, behavior and learning styles and approaches* | ***Practice*** *using various communication styles or approaches* | ***Mentor*** *others to adapt their communication, behavior and learning styles and approaches* |
| ***Professional development*** | ***Recognize*** *importance of professional development* | ***Exhibit*** *participation in valuable professional development activities* | ***Support*** *professional development activities on a regular basis* |
| **4. Interdisciplinary Research Management (Individual)** | | | |
| *Ability to manage diverse and multi-team systems. Develop team skills to strengthen team structure and dynamics* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Collaboration and external relationships*** | ***Recognize*** *existing and potential collaborations.* | ***Apply*** *facilitation skills to foster collaboration, streamline communication and improve team effectiveness.* | ***Mentor*** *others in facilitating collaboration and building external relationships.* |
| ***Roles and responsibilities*** | ***Describe*** *one’s roles and responsibilities* | ***Distinguish*** *self and team members' roles and responsibilities.* | ***Support*** *team accountability and effectiveness by refining team members' roles and responsibilities.* |
| ***Value and support diversity*** | ***Recognize*** *the importance of education and training in diversity, inclusion, and Implicit bias* | ***Demonstrate*** *the importance of diversity, inclusion, and implicit bias* | ***Develop*** *a diverse and inclusive leadership team* |
| ***Respect*** | ***Acknowledge*** *the importance of respecting your team members* | ***Exhibit*** *respect for team members and colleagues via active listening, rapid follow-up, and sensitivity to both verbal and nonverbal communication.* | ***Integrate*** *appropriate training to build and promote respectful workplace habits.* |
| **5. Passion and Perseverance (Individual)** | | | |
| *Long term commitment and perseverance. Ability to overcome barriers and to be resilient when facing failures.* | | | |
| **SMART SKILLS:** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Multitask complex activities*** | ***Describe*** *how to prioritize your time in accomplishing study tasks* | ***Show*** *evidence of effective time management with multiple complex study activities* | ***Integrate*** *methods to support staff in managing multiple complex study activities* |
| ***Positive attitude*** | ***Recognize*** *that a positive, calm attitude in the face of complex study activities aids in time management* | ***Exhibit*** *a positive attitude while managing multiple complex study activities* | ***Lead*** *and encourage staff to be positive when there are delays or setbacks in a study* |
| ***Feedback as opportunities*** | ***Understand*** *quality check feedback and can adjust and document corrections effectively* | ***Exhibit*** *effective corrective action plans from audit and monitoring findings, able to see feedback as an opportunity for improvement.* | ***Incorporate*** *positive feedback to staff, with encouragement for open and positive quality improvement of study activities. Create a "lessons learned" with feedback, to avoid future similar issues.* |
| ***Troubleshooting challenges*** | ***Identify*** *challenges and potential solutions.* | ***Apply*** *multiple solution-finding methods for study challenges* | ***Mentor*** *team member to trouble shoot barriers to achieve goals.* |
| ***Resilience*** | ***Acknowledge*** *and articulate personal feelings of discouragement and burnout.* | ***Interpret*** *signs of personal and team member burnout and discouragement.* | ***Support*** *team member work-life balance and wellness.* |
| **6. Team Roles (Team)** | | | |
| *Identifying team members, establishing role clarity through delineating responsibility and aligning responsibility with authority.*  *Building and applying team agreements.* | | | |
| **SMART SKILLS:** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Roles and responsibilities*** | ***Understand*** *team member roles.* | ***Interpret*** *team member roles and responsibilities within the team structure.* | ***Construct*** *team roles by identifying which team members should be responsible for which activities.* |
| ***Learning & communication styles*** | ***Recognize*** *communication styles and preferences.* | ***Demonstrate*** *knowledge of different communication styles.* | ***Incorporate*** *communication styles into team interactions.* |
| ***Strengths & traits*** | ***Recognize*** *individual and**team strengths and traits.* | ***Compare*** *team members strengths and traits.* | ***Mentor*** *and coach team and individual members on their strengths.* |
| ***Organizational structure*** | ***Understand*** *the organizational structure (e.g., reporting pathways, roles, responsibilities).* | ***Use*** *the organizational structure for appropriate communication pathways to access knowledge networks and solicit information relevant to the team's goals.* | ***Support*** *changes to organizational structure.* |
| ***Team agreements*** | ***Describe*** *the rationale for use of a team agreement.* | ***Apply*** *the team agreement during team communications and interactions.* | ***Lead*** *the development of a team agreement and navigate team dynamics in the development.* |
| **7. Team-based Communication (Team)** | | | |
| *Paying attention to verbal and nonverbal cues, learning how to speak to the issue at hand, ensuring others understand what you are discussing*  *and ensuring that you understand others. Committing to understanding and listening to other team members.*  *Creating fear-free communication and information exchange. The focus is on delivery and active listening. The definition includes shared authorship.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Team agreements*** | ***Describe*** *team agreements* | ***Demonstrate*** *team agreements and norms* | ***Integrate*** *team agreements in practice* |
| ***Active listening*** | ***Understand*** *the benefits of active listening* | ***Apply*** *active listening techniques* | ***Develop*** *active listening skills in others* |
| ***Communication methods*** | ***Recognize*** *various communication methods and team preferences* | ***Exhibit*** *preferred team communication methods* | ***Construct*** *team communication methods for process improvement* |
| ***Feedback*** | ***Acknowledge*** *the importance of giving and receiving constructive feedback* | ***Practice*** *asking for feedback and using feedback received* | ***Incorporate*** *giving and receiving feedback using constructive conflict management techniques* |
| **8. Shared Visioning (Team)** | | | |
| *Individual acceptance of vision and adherence to movement towards the shared vision.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Support vision*** | ***Understand*** *shared vision* | ***Demonstrate*** *understanding by taking responsibility for role within the vision* | ***Lead*** *team in support of implementation of the vision* |
| ***Intellectual humility*** | ***Acknowledge*** *others' perspectives with empathy and adaptability* | ***Apply*** *appreciative inquiry techniques* | ***Teach*** *team how to apply appreciative inquiry techniques* |
| ***Conflict management*** | ***Recognize*** *the value of conflict* | ***Exhibit*** *constructive conflict management principles including assuming positive intent* | ***Integrate*** *improved conflict management skills into team* |
| ***Psychological safety*** | ***Understand*** *psychological safety and the need for team maintenance* | ***Demonstrate*** *support for team members' psychological safety to ensure balance between team maintenance and team task functions* | ***Develop*** *psychological safety and bonds of trust among team members.* |
| **9. Understanding Complexity (Team)** | | | |
| *Leadership structure that supports complex problem solving.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Critical thinking*** | ***Understand*** *the concept of risk analysis and the complex nature of studies, projects* | ***Use*** *risk analysis for complex studies, projects* | ***Lead*** *groups in risk-based analysis and solution finding for complex studies, projects* |
| ***Diverse perspectives*** | ***Acknowledge*** *the diverse perspective of team members and interdisciplinary communities of practice* | ***Distinguish*** *the diverse perspective of team members and interdisciplinary communities of practice* | ***Teach*** *and* ***lead*** *study team and interdisciplinary communities of practice to respect diverse perspectives* |
| ***Problem solving*** | ***Recognize*** *facilitators and barriers to problem solving* | ***Demonstrate*** *analyses of complex situations, problems* | ***Create*** *an open atmosphere that encourages all levels of the team to explore, identify, analyze and problem solve.* |
| ***Innovative solution-finding*** | ***Express*** *ideas for solution-finding* | ***Use*** *feedback to encourage and build upon ideas for innovative solutions* | ***Develop*** *creative thinking, openness, and recognition of new ideas. Use feedback and share the recognition with team members when innovation leads to solution.* |
| **10. Team Learning and Adaptive Behaviors (Team)** | | | |
| *Collaborative construction and reconstruction. Having an openness to rearranging collaborative and knowledge arrangements.*  *Engaging with those affected by the problem attempting to be solved. Adapting to the use of new approaches and tools to further team process and objectives.*  *Planning for team transitions. Ability to improve, learn, and grow. Adaptive learning and intentional facilitation of team learning/involvement during meetings*  *and problem-solving sessions.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Change & team growth*** | ***Understand*** *team building activities needed to address change and team growth.* | ***Use*** *team building activities to manage changes in team roles.* | ***Incorporate*** *lessons from team and relationship building activities into day-to-day practices.* |
| ***Process improvement*** | ***Identify*** *team process improvement measures and activities.* | ***Apply*** *team process improvement measures to promote team growth.* | ***Develop*** *a program for team process improvement.* |
| ***Team membership and role transitions*** | ***Understand*** *teaming processes that facilitate team transitions.* | ***Interpret*** *processes and policies needed to facilitate team transitions.* | ***Develop*** *a process and policies for team and role transitions.* |
| ***Psychological safety*** | ***Recognize*** *psychological safety contributions* | ***Apply*** *strategies to facilitate psychological safety* | ***Integrate*** *psychological safety* |
| ***Knowledge sharing & problem solving*** | ***Understand*** *best practices in knowledge sharing and problem solving.* | ***Demonstrate*** *best practices in knowledge sharing and problem solving.* | ***Support*** *best practices in facilitating knowledge sharing and problem solving.* |
| **11. Meeting Management (Team)** | | | |
| *Preparing, executing, and improving meetings effectiveness. Capacity to adapt flexibility and effectively to situational and intra-team challenges.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| **Meeting framework** | ***Identify*** *team meeting norms and expectations* | ***Demonstrate*** *organizing meetings utilizing the established framework* | ***Design*** *meeting frameworks and characteristics* |
| **Meeting execution** | ***Summarize*** *meeting objectives.* | ***Practice*** *active meeting participation* | ***Lead*** *meetings using key elements of the meeting design* |
| **Team integration** | ***Describe*** *team member roles & responsibilities in meetings* | ***Exhibit*** *knowledge of member's roles & responsibilities* | ***Mentor*** *team members in meeting roles & responsibilities* |
| **Meeting effectiveness** | ***Understand*** *meeting outcomes and action items.* | ***Use*** *meeting outcomes to execute action items.* | ***Develop*** *meeting methods and assessment metrics.* |
| **12. Interdisciplinary Collaboration (Team)** | | | |
| *Openness to using different methods of collaboration problem solving. Valuing interdisciplinary or transdisciplinary collaboration by engaging cross disciplines. Requires a cooperative spirit and mutual respect. Ability to measure individual needs against team goals. Demonstrate broad intellectual curiosity.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Boundary spanning*** | ***Express*** *receptivity to others' ideas and perspectives* | ***Practice*** *actively seeking others' ideas and perspectives* | ***Lead*** *the pursuit of solutions across teams, disciplines, and institutions* |
| ***Intellectual curiosity*** | ***Describe*** *receptivity to knowledge exchange* | ***Apply*** *knowledge exchange with teams and networks* | ***Develop*** *opportunities for others to engage in knowledge exchange* |
| ***Collaborative work*** | ***Understand*** *the process of collaborative work* | ***Practice*** *collaborative work* | ***Integrate*** *collaborative work for innovative solutions.* |
| ***Mutual respect*** | ***Recognize*** *shared ethical values in relation to collaborative team goals* | ***Show*** *respect for others across collaborative teams* | ***Create*** *an environment of mutual respect.* |
| ***Team network*** | ***Identify*** *interdisciplinary team networks* | ***Apply*** *teaming principles in interdisciplinary team network collaborations* | ***Integrate*** *interdisciplinary networks in accomplishing team goals and objectives.* |
| **13. Building Trust (Team)** | | | |
| *Ability to delegate/assume responsibility where team members are comfortable that work will be accomplished. Respect for others.* | | | |
| ***SMART SKILLS:*** | **FUNDAMENTAL** | **SKILLED** | **ADVANCED** |
| ***Open communication*** | ***Describe*** *the communication process among team members* | ***Apply*** *the norms and processes for established communication pathways.* | ***Develop*** *the norms and processes for communication among team members* |
| ***Team transparency*** | ***Understand*** *the importance of team transparency.* | ***Demonstrate*** *transparency* | ***Incorporate*** *transparency in processes.* |
| ***Team bonding*** | ***Acknowledge*** *the importance of team bonding* | ***Use*** *team bonding to build trust and cohesiveness.* | ***Create*** *team bonding strategies.* |
| ***Respect*** | ***Express*** *attitude (verbal and non-verbal) of respect to all team members* | ***Demonstrate*** *listening and valuing the opinion of team members* | ***Support*** *all team members to express ideas and thoughts* |
| ***Recognition*** | ***Acknowledge*** *individual and team member contributions.* | ***Practice*** *gratitude for individuals and team members.* | ***Develop*** *a culture of positivity, recognition and gratitude for individuals and team members.* |
| ***Task responsibility*** | ***Understand*** *the importance of completing delegated tasks.* | ***Exhibit*** *accountability in receiving, delegating, and completing tasks.* | ***Support*** *team members in receiving and completing delegated tasks.* |

\*Note: The definitions of each of the 13 competencies are from Lotrecchiano GR, DiazGranados D, Sprecher J, McCormack WT, Ranwala D, Wooten K, Lackland D, Billings H, Brasier AR. Individual and team competencies in translational teams. J Clin Transl Sci. 2020 Oct 21;5(1):e72. doi: 10.1017/cts.2020.551. PMID: 33948290.