Guide to Individual Development Plans for
Quantitative Psychology Graduate Students
Last Revised March 29, 2022

The IDP is a basic career planning tool based on the application of problem solving and time management principles to meeting the goals of the graduate program. The most basic IDP has four parts that include; (a) conducting a self-assessment, (b) writing an IDP in conjunction with the mentor, (c) implementing the plan and revising as needed, and (d) surveying opportunities with the mentor. This IDP also includes a careful articulation of long-term and short-term goals to drive the content of the self-evaluation and planned activities during the student's graduate studies. By comparing short-term goals and competencies / areas for growth identified in the self-assessment, students develop short-term training objectives and target activities and associated timelines in collaboration with their advisor (and possibly other faculty members). This plan becomes the basis for developing a cohesive plan for training and research and for evaluating and guiding the graduate student as they progress through the program. Importantly, the plan is designed to be flexible as opportunities become available, learning creates changes in short-term goals or career objectives, and unanticipated obstacles are encountered and overcome. Thus, although the IDP is an exercise in long-range planning for graduate studies and beyond, it is also anticipated that the IDP will be updated/revised at the start of each academic year. Retaining prior versions of your IDP will allow you to reflect on changes in your proficiencies and goals over the course of your graduate career.

Creating a Training Plan

An IDP template is included at the end of this document. Note that this template may be modified on an individual basis as determined by the student, advisor, and program director. This IDP summarizes the results of a student's self-reflections after completing the following steps in developing an IDP and training plan. As appropriate for the student, more detail may be provided about some of these steps than others.

1. **Long-term Career Objective:** What type of career do you want to pursue? What experiences or competencies do you need to have to be competitive for this position?   Be as specific as you are able, but the expectation is that this goal may be diffusely defined for students early in their graduate studies, becoming more narrowly defined with more years of study.

2. **Short-term Career Objectives**: What type of position do you hope to secure at the end of your graduate studies (e.g., post-doctoral fellow, assistant professor, data scientist)? What experiences or competencies do you need to have to be competitive for this position? If you are uncertain, what information and experiences do you need to obtain to help you decide?

3. **Conduct a Self-Evaluation** (see following section on doctoral competencies and self-evaluation): How do your current experiences, competencies and weaknesses relate to those that you need to be competitive in your next position? What experiences and competencies do you need to strengthen that are highest priority for meeting your career goals?

4. **Outline the timeline for your degree milestones.** To successfully complete the graduate program, students must usually pass three milestones: a master's thesis, comprehensive exams, and a dissertation. Indicate when you plan to complete (or have completed) each of these milestones.

5. **Identify SMART goals for your next year of training** (see following section on SMART goal development)**:** Drawing on the areas for growth identified in your self-evaluation and your desired

dates of completion for remaining degree milestones, outline a set of SMART goals for the year (generally three to six goals).

6. **Seek Input**: Get feedback on your self-evaluation and plan from your advisor, program director and other faculty. Revisit and revise the plan with your advisor over the course of the year as needed, with revisions feeding back into your training priorities.

Doctoral Competencies and Self-Evaluation

The National Postdoctoral Association (NPA) identified six core competencies that cut across fields of study and that should form both a basis for other and self-evaluation as well as for developing a training plan. These same six competencies are utilized here, with the understanding that some skills will be less developed and/or emergent during the pre-doctoral training period (e.g., leadership is a skill that we would expect to see in the later years of graduate school). The six core competencies are:

1. Discipline-specific conceptual knowledge
2. Research skill development
3. Communication skills
4. Professionalism
5. Leadership and management skills
6. Responsible conduct of research

The IDP self-evaluation tool will help you to identify your level of mastery for these competencies within the field of quantitative psychology.

Developing SMART Annual Training Goals

SMART goals are:

Specific: define precisely what you hope to accomplish. Specificity helps you evaluate whether you've achieved the goal or not and what you hope to get out of the experience. Goals like, "Learn about multilevel models" may be harder to achieve than, "Learn the foundations of multilevel modeling by taking PSYC 846 and spending 60 minutes each week of 2022 reading articles about multilevel models."

Measurable: try to define what observable, measurable outcomes will indicate your progress toward the goal.

Achievable (and Actionable): ensure that the goal is something that you can accomplish within the period of time stated. If there are major barriers that may prevent you from achieving this, consider how to address those barriers and whether an intermediate goal may be the right first step, even if barriers remain. Likewise, using action verbs like "read," "finish," and "write" are often better than "do better at," "think about" since the latter can make it unclear what action steps are needed.

Relevant: why is this goal important to you? Try to prioritize goals that have specific benefits to your professional development and that, ideally, *feel* important to you, too.

Time-bound/time-keyed: What is the timeline for this goal? If it extends beyond 12 months, what is the broader timeline and what specifically can get you get done this year? Within the year, what are the critical dates on which intermediate steps will be achieved. Even if you end up having to adjust your timelines, they are useful for having checkpoints for yourself, collaborators, and mentors. One approach is to have quarterly targets for each goal and to review progress at the quarter boundary.

In developing SMART goals, follow these three steps:

Step 1. Outline your potential training goals for the year

Start by brainstorming as many key goals as come to mind, while being realistic about how much can be done over the next 12 months. You may wish to plan in terms of the academic year (current or next). For each objective/goal, please strive to follow the SMART goal framework above.

Step 2. Refine and prune the list

After writing out your goals, narrow them down to 3-6 high-leverage and realistically achievable goals that will make the most difference in your professional development and your progress in the program. Author Karen Martin has noted, "When everything is a priority, nothing is a priority." When evaluating the achievability of your goals, keep in mind your other obligations (e.g., duties as an instructional assistant or research assistant).

Even if all your goals are good, consider the Steven Covey-style distinctions of urgency and importance. Urgency refers to a goal's time-sensitivity and whether it has consequences if not achieved on a clear timeline. Importance refers to how the goal moves forward your broader priorities and professional values. Often, important, but non-urgent, goals get sidelined by less important, but more urgent, demands (e.g., keeping up with email).

Step 3. Elaborate the timeline for your critical goals and consider the intermediate outcomes

For each goal, articulate a clear vision for the next 12 months. Here are some questions to consider:

1. **Purpose:** Do you have a tangible sense of why this is important to you? Elaborating the purpose (and what this goal 'unlocks' for you, both in the present and future) can increase your engagement more than a mechanical or procedural checklist. Ideally, this should be tied to your short- and long-term career objectives and areas for growth that you identified in your self- evaluation.

2. **Initiation:** When will you start on this goal? If it's something that requires intensive attention, but not an entire year of effort, perhaps you start a goal in the summer. Other goals require constant effort over the year, with different levels of time commitment at different points.

3. **Definition:** What are the action items that define when you can mark the goal as "done?" Author Brené Brown talks about a "TASC" approach that includes (paraphrasing a bit):

   a. **Task Ownership:** Which parts of the training goal are fully within your control versus depend on others for success (e.g., as second author on a paper, you might have ownership of one section but not the whole manuscript).

   b. **Authority**: How will you be held accountable for completing your goal and by whom (i.e., yourself, advisor, committee)?

   c. **Setup for Success:** Does everyone involved agree that you are set up for success? This bears on questions of resources, time, and defined outcomes.

   d. **Checklist:** Do you have a checklist or documentation of what needs to happen to accomplish the goal?

4. **Milestones:** What are the intermediate outcomes along the way that you (and other invested parties) will review and discuss? When will these be achieved?

5. **Accountability:** Schedule checkpoints for each goal so that you can self-assess your progress and also get feedback from other invested parties (e.g., your graduate advisor or a collaborator). This can also be a context for reassessing and potentially refining the goal.

6. **Document and plan for external dependencies:** does achievement of this goal depend on other people or resources? If so, given that these are at least partly out of your control, how will you ensure that you achieve your goal? One piece of this is often to give the relevant people a 'heads-up', like, "I'm starting on this manuscript now and plan to send you a draft on June 1st. I wanted to give you a heads-up because my hope is that we can submit this in August, before the semester starts. It would be very helpful if you could get me comments on this by June 20th so that I have time to incorporate your feedback. Will that work for you?"

7. **Completion:** How will you know that the goal is complete? What about the intermediate outcomes? If you can't look at your goal in 12 months and have the potential to say, "Yes, I achieved that goal entirely," it is probably worth revisiting the definition and measurable outcomes. Goals often serve our broader values. For example, I may hold a value of, "Developing user-friendly software packages in *R* that aid in data visualization so that people can see patterns in their data without extensive coding knowledge." But a value-consistent goal like, "Work on an *R* package for visualizing longitudinal data" may be too vague to be meaningfully achieved. By comparison, a goal like, "Develop and release to CRAN an *R* package for visualizing transitions in Hidden Markov Models" is something whose completion is better defined.

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As a key part of the IDP, students should perform a self-evaluation, completing the checklist below to identify relative mastery and areas for growth. In our checklist, we identify levels of mastery as "Novice", "Competent", "Proficient", and "Expert" where these are defined as follows:

- Novice – New to this area, having little to no experience
- Competent – Capable in this area, having attained a moderate level of knowledge/experience
- Proficient – Highly skilled in this area, with strong knowledge/experience
- Expert – Full mastery: an area of specialization, expertise, and comprehensive knowledge

For example, for an area of discipline-specific content knowledge, a student might indicate "Novice" for an area in which they have not yet taken any formal coursework, "Competent" in an area for which they could comfortably serve as a teaching assistant and/or apply the knowledge in typical research contexts, "Proficient" in an area for which they could serve as primary instructor and/or conduct complex applications, and "Expert" in an area within which they believe they can make meaningful and novel contributions of their own.

For a few areas (indicated by gray shading), differentiating levels of mastery is unnecessary and students should simply indicate "Competent" v. "Novice" to indicate mastery or not.

Students are not expected to achieve "Expert" status in all areas, and should align their expectations for levels of mastery and priorities for growth across areas with their short- and long-term training goals.

	Novice	Competent	Proficient	Expert	Priority for Growth
Discipline Specific Content Knowledge **(Developed through coursework, application, and self-study, including comprehensive exams)**					
Linear Models – Mastery of the general linear model (i.e., ANOVA, multiple regression), including theory, assumptions, estimation, and practical application in psychological research (PSYC 830/831 sequence)					☐
Psychometric Theory – Mastery of psychometric theory, including historical development, classical test theory, factor analysis, and item response theory (PSYC 842, *Test Theory and Analysis* & other courses on factor analysis [PSYC843] and IRT [PSYC 859])					☐
Structural Equation Modeling – Mastery of structural equation models (inclusive of path analysis and confirmatory factor analysis), with expertise in model specification, identification, estimation, evaluation, and interpretation. (PSYC 844, *Structural Equation Modeling* & related courses, e.g., PSYC 845, *Longitudinal SEM*)					☐
Multilevel Modeling – Mastery of multilevel modeling (a.k.a. mixed effects models) for cluster-correlated data structures, including concepts of fixed versus random effects, variance components, disambiguation of within- v. between-cluster effects, and applications in hierarchical versus longitudinal settings. (PSYC 846, *Multilevel Modeling*)					☐
Substantive Area of Concentration – Has cultivated knowledge (e.g., by attending talks, conducting readings, taking available classes) in an applied area (e.g., neuroscience, social, etc.) to inform research ideas in quantitative psychology					☐

	Novice	Competent	Proficient	Expert	Priority for Growth
Research Skill Development **(Developed through PSYC 839,** *Quantitative Research Methods***, and research experiences in and out of Lab)**					
Attention to detail – Detail oriented in research; work generally free of careless errors (e.g., typographic errors in manuscripts, careless data analyses)					☐
Critical thinking skills – Demonstrates ability to critically evaluate own and others' research					☐
Effective search and critical evaluation of literature – Can efficiently and effectively identify core concepts and acquire state-of-the-art overview of a research problem					☐
Theory development and application – Uses psychometric / statistical theory to inform the conceptualization, design, and interpretation of research					☐
Research Design – Can develop and evaluate research designs to address theoretically derived hypotheses in the context of applied psychological research and/or Monte Carlo research					☐
Simulation Research – Demonstrates the ability to carry out and present artificial data examples or Monte Carlo simulations to evaluate the finite sample performance and/or robustness of statistical methods					☐
Applied data analytic skills – Demonstrates proficiency in both basic and advanced data analytic procedures as applied to empirical (not artificial) data in selected content area, and including data management, manipulation, and documentation					☐
Statistical Computing – Demonstrates mastery of statistical software (e.g., R, SAS) and/or programming languages (e.g., Python, C++) to conduct data management, specify and estimate models, and to present results in graphs and tables.					☐
Collaborative Scholarship – Demonstrates ability to interface with individuals from other areas of psychology (e.g., social, cognitive) and/or allied fields (e.g., biostatistics, computer science) to conduct integrative research					☐
Programmatic approach to research – Is developing a thematic approach to research that will lead to a coherent program of research upon graduation.					☐
Communication Skills – Writing **(Developed through class papers, manuscript and grant development, leveraging resources at Center for Faculty Excellence)**					
Scientific writing style – Demonstrates a scholarly writing style appropriate for a broad scientific audience with journal articles, review papers, chapters, and/or fellowship/grant applications					☐
Manuscript development – Demonstrates knowledge of how to develop an idea of appropriate scope for a manuscript as well as procedural steps involved in the publication process					☐
Career development – Demonstrates ability to write a clear and compelling research statement and CV					☐
Manuscript reviews – Demonstrates an understanding of the peer review process and the ability to conduct manuscript reviews					☐
Productivity – Demonstrates ability to achieve writing goals of high quality in a timely manner in order to create a productive publication record					☐

	Novice	Competent	Proficient	Expert	Priority for Growth
Communication Skills – Speaking (Developed through presentations and Q&A in Quant Forum, at conferences, as a teaching assistant, in research group meetings)					
Presentation skills – Demonstrates ability to prepare and present one's own research at a scientific conference, in a classroom, or in a quantitative seminar					☐
Team interaction skills – Demonstrates ability to function effectively as part of a research team and growing leadership within such teams					☐
Appropriately assertive – Appropriately advocates for needs in the work place without being overly aggressive or failing to seek resources or build relationships					☐
Teaching methods – Has knowledge of basic teaching methods and skill in using these in the classroom or in other oral presentations					☐
Networking - Takes advantage of opportunities to meet, email or interact with other professionals as appropriate to career goals and interests					☐
Professionalism					
Diversity Awareness – Recognizes individual differences, including race/ethnicity, gender, physical ability, intellectual perspective, etc., within professional interactions and seeks training to increase awareness and interact appropriately					☐
Organization – Demonstrates the ability to manage one's own effort and time across multiple projects to effectively bring them to completion.					☐
Problem solving – Able to solve problems without being overly dependent on others. Is proactive in trying to solve problems rather than being reactive.					☐
Accountability – Takes responsibility for own behavior. This includes being open to feedback from their supervisors/instructors					☐
Compliance with policies/responsibilities, expectations – completes trainings, reports, etc. as needed to be compliance with applicable policies and regulations			■	■	☐
Leadership and Management Skills					
Leadership on your own projects – Provides leadership on own projects in a way that facilitates communication and leads to timely project completion					☐
Involvement and Leadership in Community – Participates and takes an active role in the academic community, including formal and informal program-level activities (e.g., quant forum) and departmental events (e.g., colloquia).					☐
Responsible conduct of Research					
Demonstrates knowledge of ethical principles when conducting research – Understands ethical principles of human-subjects research, especially as they pertain to secondary data analysis					☐
Ability to identify scientific misconduct – Can identify scientific misconduct, especially as it relates to intentional misreporting or misinterpretation of results or to inappropriate data analytic practices					☐
Managing conflicts of interest – Can identify and work proactively to avoid or manage conflicts of interest due to individuals within a research team having a financial or other non-scientific interest in the outcome of a research project			■	■	☐
Knowledge of publication practices and responsible authorship – Familiar with principles for determining authorship credit (e.g., from APA), and understands that authorship entails a responsibility to ensure the accuracy of all reported information			■	■	☐

Individual Development Plan

Name:

Date:

Year in Program:

Advisor:

1. **Describe your long-term career objective.** What type of career do you want to pursue? What experiences or competencies do you need to have to be competitive for this position?

2. **Describe your short-term career objectives**: What type of position do you hope to secure at the end of your graduate studies? What experiences or competencies do you need to have to be competitive for this position? If you are uncertain, what information / experiences do you need to help you decide?

3. **Briefly describe the results of your self-evaluation.** State how your current experiences, competencies and areas for growth relate to those needed for your next career stage (next position). Identify the areas that are most central to your short- and long-term goals that you will target for growth in your remaining time in graduate school.

4. **Outline the timeline for your degree milestones.** This timeline will vary between students depending on their level of prior graduate studies before enrollment, whether they seek an additional minor or master's in an external Department, etc. However, a typical timeline might include a master's proposal by the end of Year 2, the master's defense and start of comprehensive exams (comps) in Year 3, the completion of comprehensives and dissertation proposal in Year 4, and the dissertation defense in Year 5. This is just one example of a timeline of study, although some close facsimile is necessary in order to complete the program within a five-year period.

Milestone	Date of Completion (Projected)	Current Status, Plans, or Progress
Master's Proposal		
Master's Defense		
Finalize Comps Topics and Readings		
Complete Reading Phase of Comps		
Complete Writing Phase of Comps		
Dissertation Proposal		
Dissertation Defense		

5. **Outline your progress toward completing the Quantitative Program Curriculum** (requirements listed for students beginning graduate studies in 2019+):

Course	Title	Date of Completion (Projected)
PSYC 830/831	Statistical Methods in Psychology I & II	
PSYC 839	Quantitative Research Methods	
PSYC 842	Test Theory and Analysis	
PSYC 844	Structural Equation Modeling	
PSYC 846	Multilevel Modeling	
Elective 1		
Elective 2		
Elective 3		
Elective 4		

Note: Students should consult the Quantitative Psychology Graduate Training Policy Manual for complete information on required coursework and should be aware of additional Departmental and/or College coursework requirements.

6. **Do you plan to obtain a minor or master's in another department?** If so, briefly outline your current progress and plans for completing the requirements, and how the minor/master's aligns with your short- and long-term goals.

7. **Describe your plans for completing your out-of-area coursework.** Please indicate how you will satisfy the Departmental requirement of 9 credit hours within the Department but outside of Quantitative (reduced to 3 credit hours if you complete a minor or master's in another department), and how the selected classes align with your short- and long-term goals.

8. **Describe your *Substantive Area of Concentration*, how you have developed expertise in this area so far, and any plans you have for further development.** (Required for students beginning graduate studies in 2019+).

9. **State your training goals for the next 12 months.** Drawing on the areas for growth identified in #3 and your plans for completing remaining degree milestones, coursework, and your substantive area of concentration, outline a set of SMART goals for the year, generally three to six.

For each goal, write a brief paragraph explaining why it is a goal and what endpoint will mark its successful completion (i.e., product or event). Provide a timeline for the initiation, intermediate milestones (if any), and completion of the goal. Indicate how you will hold yourself accountable. Identify any external resources / supports you will require to complete your goal.