Research and Development Centers Checklist
(for use in planning and evaluating university-based R&D centers)

DRAFT: 10/24/02

by
Daniel L. Stufflebeam
Western Michigan University

Research and development centers potentially are one of a university's strongest instrumentalities for obtaining grants and contracts, producing knowledge, generating new and useful products, and delivering research-based graduate education. Ideally, a university-based R&D center will excel in all four of these task areas, which in turn will bring the center and the university positive national and international recognition plus opportunities for leadership and service in the center's topical area.

However, for a variety of reasons many university-based R&D centers fall short of this ideal. For example, some centers foster only a modest amount of faculty research, without obtaining significant outside funds and without contributing much to graduate education. Some centers focus mainly on graduate education, attract little outside financial support, and ground their instruction in little or no ongoing research. Other centers obtain substantial amounts of outside moneys and are productive in research, development, and national and international leadership, but contribute little to graduate education. Unfortunately, it is rare to see a center that succeeds in acquiring substantial amounts of external funding, generating a flow of significant research and development products, providing research-based learning experiences to graduate students, and earning national and international recognition.

This checklist is intended for use by university faculty members, faculty bodies, deans, vice presidents, presidents, and trustees in planning and/or authorizing new R&D centers or assessing and strengthening existing centers. It is aimed particularly at university groups that believe R&D centers should succeed in securing outside funds; being nationally and internationally recognized for their research and development products; and significantly impacting their professions by helping to graduate outstanding, research-proficient masters- and Ph.D.-level scholars and practitioners. The checklist also has an interdisciplinary orientation, wherein principal and senior research associates (e.g., grant personnel) and faculty members and students from a university's different colleges and departments would collaborate in pursuing a center's aims.

It is emphasized that this checklist promotes centers that truly integrate research and development with graduate instruction. It does not promote centers that would emulate private or public sector R&D entities by focusing exclusively on research, development, and public service while contributing little to graduate education. A university's most important products are the students it graduates and the knowledge it generates. In a student-centered research university, such as Western Michigan University, R&D centers should contribute to graduate education as well as research.

Consequently, student-centered R&D centers need a core of tenured or tenure-track faculty members who can advise and teach graduate students, direct doctoral dissertations, and develop curricula. Also, a productive center typically will engage a range of highly skilled, non-tenure-track research professionals. They should receive salary, benefits, and access to participation in decision making that are commensurate with those of similarly qualified tenure-track faculty. Moreover, non-tenure-track center members should be encouraged and supported to teach, advise, and serve on doctoral committees.

This document is a checklist in the sense that it provides users with extensive, organized lists of points to consider when setting up or evaluating a university-based, student-centered R&D center. Included are lists of desirable attributes and missteps to avoid. The checklist reflects my 39 years of experience in developing and directing R&D centers in evaluation, educational measurement, and educator accountability. Those experiences—arguably successful, but also party to limitations and difficulties (especially in integrating research and graduate education)—yielded valuable lessons that should be instructive in efforts to plan or assess other university-based R&D centers that pursue graduate education as well as research and development goals.

The checklist's criteria are grouped into the following areas: (A) clarifying a center's **substantive orientation**; (B) securing needed **university support**; (C) obtaining **external funds**; (D) **communicating** the center's mission, activities, and achievements; (E) **staffing** the center; (F) **managing** the center; (G) **disseminating** center findings and products; (H) fostering **teaching and learning** in the center; and (I) **evaluating** the center.

Reflecting on my experiences in developing and administering three R&D centers at The Ohio State University and Western Michigan University, if I were now to lead an effort to set up a new center,

I would:[1]	For example:	Because:	I would **NOT**:
A. *(regarding the center's **Substantive Orientation**)*			
A1__ Provide a focused but also general <u>label for the center</u>	The Western Michigan University Evaluation Center (see www.wmich.edu/evalctr for information about this center)	The label should clearly indicate the area of intended work, but be broad enough to accommodate a growing awareness of appropriate clients and topics in a wide range of geographic areas	Begin with an overly restrictive label, such as The Center on Achievement Testing in Kalamazoo County Public Schools
A2__ Assure there is a <u>clear need</u> for the center	Conduct a literature review and a needs assessment to assure there are: – potential clients/beneficiaries with needs for projected center products and services – needs and problems requiring research, development, and training in the center's topical area – no existing centers that are fully meeting needs in the center's topical area (especially in the university's geographic area)	The parent university would be unlikely to support development of a new center whose projected contributions are not clearly needed	Give up the pursuit of the center simply because other centers are working in the intended substantive area
A3__ State a clear, concise <u>mission</u>	To advance the theory and practice of evaluation	The new center will need a foundational, enduring, limited, and understandable focus	Make the mission statement overly detailed or open to pursuits unrelated to the topical area
A4__ Define the center's <u>main operations</u>	Research, development, instruction, dissemination, selected service, and leadership	The center's work must be channeled in the full range of functional areas required to fulfill its mission	Allow a large number of mainly repetitive service projects (I would pursue only the types, range, and number of projects needed to provide a lab for research, development, and instruction)
A5__ Develop and periodically update a <u>conceptual framework</u> to guide the center's work	Michael Scriven's *Key Evaluation Checklist* or my *CIPP Evaluation Model Checklist* (See www.wmich.edu/ evalctr/checklists/)	A center's staff can collaborate better by working from a common set of concepts and technical language	Restrict center staff from using any other conceptual framework that is relevant to the center's work

I would:[1]	For example:	Because:	I would **NOT:**
B. *(regarding **University Support**)*			
B1___ Assure that the <u>university wants and will legitimate and support</u> the center	Communicate (through appropriate channels) with and obtain commitments from the deans of the involved college(s), the provost, the university president, the board of trustees, and pertinent faculty members and groups to acknowledge, endorse, and concretely support the center	The center's early progress will be enhanced if commitments of support are obtained at the outset	Insist that all key stakeholders officially sign off at the outset, since some may want to see signs of progress from the neophyte center before buying in
B2___ Assure that the university has or can acquire the <u>minimum required level of human capacity</u> to develop and operate a first class center	Identify at least one widely recognized (or soon to be recognized) "star" in the center's topical area who is available and committed to stick with the center's development effort over time and to make it succeed	A successful center requires at least one leader/pioneer who will work long and hard to do whatever is required to get the center up and running, recruit outstanding staff, provide conceptual leadership, secure grants, publish noteworthy pieces, give presentations on behalf of the center, deal with the parent organization's bureaucracy, etc.	Start a center unless at least one qualified individual is available and keenly interested to lead the effort, nor appoint codirectors or co-anything else in the center, since this confuses responsibilities, authority, and accountability
B3___ Secure an agreement to have the center <u>report directly to a high-level official of the university</u>	The new center might report to the dean of the most closely related college or to a central administrator, such as a vice president for research or the university's provost	A center should be supervised but also needs a measure of independence from any one academic department if it is to collaborate and draw from the expertise of various university departments	Locate the center in any one academic department
B4___ Secure a firm commitment from the university for <u>"hard money" support of the center's core staff</u>	At least a .5 FTE, but preferably a full-time, tenure-track director; at least a .5 FTE tenure-track scholar in the center's topical area; a full-time office manager/editor; and 2 graduate student research associates	As with any academic department of a university, a research center requires a firm investment of the university's regular funds to assure continuity of core staff	Agree to start and operate a center based solely on external financial support

I would:[1]	For example:	Because:	I would **NOT:**
B5__ Secure a firm commitment from the university that <u>grant and contract funds</u> <u>obtained to support core staff will remain in the center's revolving account</u>	When the director works on funded projects, the grant money obtained for this service would be placed in the center's revolving account	The center will need to retain grant/contract money obtained to assign university-funded core staff of the center to projects in order to hire others to carry on with the center's basic functions—including ongoing proposal development	Agree to reimburse the university for time of core staff that is purchased by grants and contracts, since this would cannibalize the center and either limit its future success or doom it to failure and phase-out
B6__ Secure a firm commitment from the university that an appropriate percentage of <u>overhead moneys</u> provided by the center's project sponsors will be allocated to support the center's indirect costs associated with carrying out its projects	The university might agree to provide the center with 30 percent of the center-generated overhead moneys and another 10 percent to each project's principal investigator	The center will need the indirect cost moneys to obtain equipment and services that the sponsor may not allow in direct costs, to communicate the project to the profession and various interested parties (e.g., at conventions and in books and journal articles), to plan needed follow-up projects, etc.	Agree that all or most of center-related overhead moneys should go to the university or a college to support efforts unrelated to the center's projects
B7__ Provide the center with a <u>functional physical location</u> and <u>equip it</u> appropriately	The center could be given offices and conference and library space in a university facility, e.g., a building that houses research and service centers	The center should be a place where scholars and students from both inside and outside the university can convene and reside to carry out the center's work	Define the center as a concept/program with no particular physical location or wait for the university to provide all the needed furnishings
B8__ Set up and maintain a specialized <u>center library</u>	Include books and journals on the center's topical area; publications in areas aligned with the center's work, such as project management and evaluation; and especially fugitive materials that are germane to the center's work	A center should be a repository of basic and advanced materials related to its focus and operations, including materials that scholars can find nowhere else	Depend on the university's library system to supply the center's needed materials
B9__ Make the center an <u>attractive, functional, inviting place</u>	Include comfortable conference rooms and offices, keep office equipment and software up to date, maintain a visiting scholars office, maintain a coffee/lunch room, display plants and attractive artwork	A high quality workplace fosters staff presence, pride, and satisfaction and speaks positively about the center to visitors	Expend funds on facilities that better would be spent on staff

I would:[1]	For example:	Because:	I would **NOT:**
B10__ Obtain a commitment from the university to supply <u>basic administrative and facilities support</u>	The center should be given a modest budget for equipment, furniture, office supplies, communication services, and travel and should receive regular university services, including janitorial service, heat, light, and air conditioning	Requiring the center's staff to raise funds for administrative and facilities items would detract from the center's grant/contract seeking and scholarly efforts, and this would also indicate a lack of university commitment to the effort	Insist on a fully optimal start-up budget for basic administrative support or depend entirely on overhead funds from grants and contracts for meeting costs of furnishings and facilities
B11__ Secure a commitment that the center will have a <u>voice in the development of the university's research policies</u>	Include a center representative on the university's research policies council	The center will need to deliberate on policies that will affect its success and can contribute an important perspective on how to strengthen the university's research and development program	Allocate center staff to an undue number of university/college committees
C. *(regarding **External Support**)*			
C1__ <u>Immediately obtain a major externally-funded project</u> to serve as a practical basis for addressing the center's mission, training staff, and expanding staff and other center resources	Win a federal contract or a grant from a charitable foundation in the center's area of work	Relatively immediately, the new center will need to get about its substantive business in a real-world project and build on the university's initial investment	Pursue a lot of small contracts or accept one that is lucrative but not strongly related to the center's mission
C2__ Cultivate <u>mutually beneficial relationships</u> with foundations, government agencies, and industries that fund work in the center's topical area	For limited periods of time, exchange staff with relevant foundations, government agencies, and corporations or agree to have a center staff member work part-time as a key advisor to a government agency or foundation	Centers are long-term, programmatic enterprises; both a center and its sponsors can be more productive over time by regularly collaborating and exchanging information and services	Discourage center students from taking jobs or consulting assignments in relevant foundations, government agencies, or corporations
C3__ Maintain a flow of relevant externally <u>funded projects</u> and stress the quintessential importance of <u>learning by doing</u>	Obtain both grants and contracts and use them to develop and apply improved theory	Outside projects provide the needed laboratory for research and instruction, also one means of keeping the center politically and economically viable in the context of a university that is strapped for research funds	Expect the university to continue to support the center if it does not bring in outside funds to supplement the university's investment

I would:[1]	For example:	Because:	I would **NOT:**
D. (*regarding* **Communication**)			
D1__ Maintain excellent <u>communication and collaboration</u> with the university's administration and the many groups with whom the center will work	Keep the university official(s) charged with oversight of the center informed and involved, regularly communicate with the university's service offices, keep touch with academic programs related to the center's work, and periodically brief university officials on the center's progress	While the center will require a strong measure of independence, it also will need to communicate and collaborate with relevant university units so that all parties can benefit appropriately and the center will be respected as a full member of the university community	Agree to have center staff members allocate unreasonable amounts of time to university committees, academic department meetings, and other department functions
D2__ Develop, regularly update, and disseminate materials on the <u>center's mission and contributions</u>	A brochure and a center vita (including mission, staff, past and current projects, contact information, etc.), a newsletter referencing the center's work to address issues of interest in the profession and society, and a well-maintained Web site containing descriptive information on the center	Center staff should have at their fingertips information about the center that they can readily give to interested potential funding agencies and others; center staff should regularly communicate with constituencies	Allow materials about the center to become out of date or allow a newsletter to become mainly a "show and tell" PR piece
D3__ Instill in staff a shared commitment to <u>represent the center professionally in demeanor and dress</u>	Clarify that all center staff members are ambassadors for the center, should be polite and welcoming to visitors, and should dress appropriately to fit center occasions; informal attire is generally acceptable, but staff members should dress more formally when important visitors will be coming to the center	Acting professionally instills pride throughout a center and creates a positive public persona	Require ties and jackets for men or formal attire for women during center work hours
E. (*regarding* **Staffing**)			
E1__ Continually look for and <u>recruit staff who would excel</u> in center positions	In conducting projects, always be alert to identifying persons who are highly talented, oriented toward the center's type of work, and available for hire (especially talented and appropriately motivated students who are about to graduate)	You win with people. A successful center must continually recruit and employ talented, industrious persons who have a track record of success or who show strong promise of productivity	Pirate persons from collaborating organizations. (Instead, I would always inform their leaders and discuss with them my possible interest in recruiting one of their staff members or students)

I would:[1]	For example:	Because:	I would **NOT:**
E2__ Assign the <u>highest attainable and affordable entry-level salaries</u> to new center staff	Make sure the salaries of new center professional and clerical/technical hires are, if possible, higher or at least commensurate with those of new hires in the university's academic departments	A center has a disadvantage in usually not being able to offer tenure-track positions and because locked-in salary schedules in many universities make the subsequent rewarding of outstanding performance with merit pay or sizeable salary increments difficult	Assume that new center staff will stay only until they can get more lucrative positions in the university's academic departments, other universities, or jobs in large research firms
E3__ Actively pursue but closely control <u>expansion of the center's work and enlargement of the core staff</u>	Plan with the university to add tenure-track positions to the center when this is justified by the track records of young, productive scholars and of the center at large	A successful center should grow in order to build on successes, and it should not become staffed with "second class" scholars	Tacitly accept that brilliant and productive, nontenure-track scholars should forever be supported by external grants and contracts or leave the center
E4__ Strive to make the center's staff, consultants, and students an <u>interdisciplinary group</u>	Engage persons with expertise in such areas as education, industrial engineering, computer systems, consumer technology, manufacturing, program evaluation, psychometrics, statistics, communication, public administration, philosophy, political science, sociology, and economics	The essence of excellent centers is that they focus on a given area of work but draw expertise from all relevant disciplines	Limit the center's participants to persons in the university or, especially, any one academic department
E5__ Stress to key center participants that <u>center work is a 12-month proposition</u>	Key time for writing proposals often is during summer months	Center staff are needed to participate based on project requirements, not the university's academic calendar	Be receptive to faculty participating in projects only during fall and winter academic terms or only during the summer months
E6__ Champion, celebrate, and <u>reward outstanding achievements</u> by center staff and students	Nominate productive staff for university and national awards	Staff should be recognized and reinforced for outstanding achievements, and doing so brings positive recognition to the total center	Stress a person's length of service or position in the center's administrative hierarchy over clear achievement, when deciding to nominate her/him up for an award

I would:[1]	For example:	Because:	I would **NOT:**
E7__ Develop a kind of <u>invisible college</u>—locally, nationally, and internationally—to participate in the center's work	Include outsiders who are known for their research and development contributions in the areas being pursued by the center; welcome and provide office space to interested retirees who have distinguished records in the center's area of work	A successful center needs to attract and engage the best available thought leaders in the discipline to attend to and contribute to the center's achievements	Allow the center to be relevant and important only within the bounds of the university
E8__ Give <u>credit where credit is due</u>	For center-produced materials, identify contributors according to their roles, including, for example, evaluation manager, authors, field researchers, clerical staff, and editor	Crediting contributions is morally and ethically right, fosters teamwork as well as pride in individual accomplishments, and engenders accountability	Allow any center member to take credit for someone else's work
E9__ Foster <u>collegiality among center staff</u>	Regularly engage staff members to lead centerwide symposiums on interesting aspects of their work; encourage staff members to draw on one another's expertise and upgrade one another's skills in particular theoretical and technical areas	The center should be a learning organization that uses its human resources and project experiences to advance individual and collective competence and performance	Allow the center to become a "holding company" for isolated, noncollaborating groupings of expertise and work
F. *(regarding **Management**)*			
F1__ Insist that <u>authority</u> and <u>responsibility</u> be commensurate at all levels of the center	Give project managers hire and fire authority over project staff; make the director a university official with hire and fire authority over faculty members who are employed by the center; delegate authority and responsibility for supervising support staff to a highly skilled member of the support staff	A center's success is dependent upon the best efforts of all members, and staff will excel only if given authority to do what they think is best in carrying out their assigned roles	Punish nonrepetitive mistakes, since these are often the best teachers and since authority figures throughout the center need the freedom to be creative and take risks in discharging their responsibilities
F2__ Conduct regular <u>staff meetings</u> to keep staff abreast of progress and to provide a forum for collective problem solving	Meet once or twice a month on a regular basis	All those with authority and responsibility for center activities should regularly communicate and deliberate with colleagues about the work, so that there will be concerted, collective effort	Allow meetings to become ritualistic or free association, speech-making sessions

I would:[1]	For example:	Because:	I would **NOT:**
F3__ Require each center employee to fill out a weekly <u>time sheet</u>, appropriately allocating minutes worked to each center account	Assign time to generalized center work and each externally funded project account for which service was provided	The center must be accountable for charges made to different project accounts and to sick leave and annual leave	Merely charge project sponsors for originally projected rather than actual staff time spent on projects
F4__ Make it center policy that meetings and important <u>center-related communications are documented and filed</u>	There should be written records of staff meetings, decision-oriented exchanges with university officials, and contractual agreements with clients	Documentation enhances accountability, communication, and conflict resolution	Direct center staff to write minutes of meetings convened and conducted by university officials or other parties outside the center (who may not be in the habit of documenting their meetings), but I would direct staff members to write down and file their own notes
G. *(regarding* **Dissemination***)*			
G1__ Set up and maintain a center <u>Web site</u>	The Western Michigan University Evaluation Center's Web site— attributable to Arlen Gullickson and Dale Farland—is a good example. See www.wmich.edu/evalctr	One of the best ways to reach and maintain contact with the field is to manage a Web site that contains materials and information that scholars and practitioners find theoretically significant and useful	Allow materials to be placed on the Web site without rigorous critique and approval
G2__ Obtain <u>outlets for publishing</u> center materials	Staff might edit book series and national journals; regularly present at state, national, and international meetings; contribute to a center occasional papers series; and conduct sack lunch seminars	To succeed, the center must produce and publish noteworthy research findings, theory papers, and practical materials	Expend an undue amount of money and effort on printing and mailing a slick newsletter
G3__ Provide <u>means for outsiders to learn of center contributions firsthand</u> and to interact with center personnel	Conduct an annual institute focused on recent center achievements; receive a limited number of visiting scholars and practitioners	A truly successful center will regularly host and have productive exchanges with scholars and practitioners from both inside and outside the university	Allow annual center institutes to stagnate by repetitively covering only the center's "old news"

I would:[1]	For example:	Because:	I would **NOT:**
G4__ <u>Support center staff and students to attend national and international meetings</u> if they will make substantive, center-related contributions at the meetings	Use funds accrued from selling core staff time to projects to fund a modest level of staff travel to conventions	Much of the center's success will be manifested in creative, original contributions at national/ international scholarly meetings. Funding such participation provides incentives for staff to be productive	Support staff just to <u>attend</u> professional meetings if they will not make substantive, center-related contributions

H. *(regarding **Learning and Teaching**)*			
H1__ Use center <u>projects as a laboratory</u> for identifying and analyzing research problems and creating new methods	Use study of center projects to build conceptual frameworks for guiding research related to the center's mission	A main reason for center projects is to provide bases for close-up, indepth study of phenomena related to the center's mission	Pursue a large number of projects devoted to delivering the same service over and over
H2__ Do everything possible to make the center a <u>learning laboratory for graduate students</u>	Students might be able to climb a career ladder in the center—starting with low-level research tasks, progressing to technical tasks, and culminating in managing major projects	The center's most important contributions will be ideas, products that put the ideas into practice, and people who will apply and build on the center's achievements	Employ only nonstudent scholars in key center positions, such as project team members or managers
H3__ Make the center a <u>locus of learning for graduate students and their advisors</u>	Involve pertinent graduate programs in the center's work and engage students and their professors in learning by doing	A productive research center provides the very best environment for graduate education, and engagement with graduate students enhances the center's competitiveness and long-term impacts	Regularly send center staff outside the center to teach courses in typical classroom settings

I. *(regarding **Evaluation** of the Center's Mission, Activities, and Achievements)*			
I1__ Adopt and apply professional <u>standards for evaluations</u>	Require that evaluations of center efforts be grounded in the Joint Committee *Program Evaluation Standards*, focused on utility, feasibility, propriety, and accuracy	A common set of expecta-tions for evaluations can enrich them and make evaluation a pervasive, shared part of the center's work	Restrict evaluation standards to validity, reliability, and objectivity
I2__ Periodically conduct <u>needs assessments</u> to keep the center appropriately focused	Survey the center's targeted beneficiaries to identify the most important problems they face in their work and similarly analyze the relevant professional literature	The center should keep current and relevant with respect to changing needs in its sphere of work and opportunities to address the needs	Abandon the center's mission to pursue fads and lucrative funding opportunities that are unrelated or only tangentially related to the center's mission

I would:[1]	For example:	Because:	I would **NOT:**
I3__ Regularly subject center activities to <u>evaluation</u>	Obtain both internal and external evaluations, and subject these evaluations to metaevaluation. Benchmark the center's operations, costs, appearance, productivity, etc. against comparable centers/organizations	Sound evaluations will be needed for improvement, accountability, dissemination, and documentation of lessons learned	Restrict evaluations to employment of experimental designs
I4__ Regularly <u>review and study completed projects</u> in order to identify and address noteworthy issues meriting/ requiring follow-up work	Diagnose and determine how best to address the problems that limited the success of a completed project	Both successful and unsuccessful projects are rich sources of experience and information of use in theoretical and empirical research	Revisit projects as a basis for rationalizing and developing an unwarranted defensive posture about their shortcomings
I5__ Maintain <u>high quality in all center releases</u>	Regularly subject center publications and other products to rigorous substantive and technical review and editing prior to release	While the center must engage in creative, high risk pursuits, its staff should constantly strive to meet standards of excellent content and communication	Send out even draft materials without a prior internal review
I6__ Maintain an <u>accountability record</u> for center activities, expenditures, achievements, and testimonials from constituents	Keep an institutional vita up to date, along with backup materials; maintain files and correspondence of news accounts related to the center's work	The center will be asked—often on short notice—by university authorities, potential financial sponsors of center work, and public media to provide evidence of past work and achievements	Issue PR statements that exaggerate the center's importance or achievements
I7__ Appoint and heed feedback from <u>review</u>, not advisory, panels for projects and the center as a whole	Expert panels have much to offer in critiquing draft documents. They have neither the background nor authority to decide on future center actions	Expert panels are usually well equipped to critique staff plans and reports and center policies, but have no special qualifications or authority to decide how things should be done, especially since they will be held harmless, whatever the outcomes	Give expert panels the notion that they are being asked to make decisions about the center's future policies and actions

I would:[1]	For example:	Because:	I would **NOT:**
I8 __ Employ an annual personnel review system, involving formative and summative evaluations of each center member keyed to her/his up-to-date job definition	Supervisors and subordinates periodically would review and discuss the subordinate's progress, note instances of outstanding performance, and address problems as appropriate. The supervisor would then write and share with the subordinate a report, including the main positive and negative points and any requirements for improvement.	Personnel evaluations are needed to help guide and strengthen individuals' job performance, assess each staff member's accountability, recognize and reinforce outstanding performance, and provide a basis for personnel actions	Make personnel evaluations highly structured, quantitative, impersonal, and oriented only to accountability

[1] The points in column one and the counterpoints in column four can be used, respectively, as steps to carry out and pitfalls to avoid in developing a center, as positive and negative criteria to reference in evaluating existing centers, or to assess plans for developing new centers. The points in columns two and three are offered to help confirm the validity of the criterial points in column one and, to a lesser degree, the counterpoints in column four.