John C. Smart
Michael B. Paulsen
Editors

Higher Education: Handbook of Theory and Research

Volume 26

Springer

Higher Education: Handbook of Theory and Research

Volume XXVI

For further volumes:
http://www.springer.com/series/6028

John C. Smart · Michael B. Paulsen
Editors

Higher Education: Handbook of Theory and Research

Published under the Sponsorship of the Association for Institutional Research (AIR) and the Association for the Study of Higher Education (ASHE)

Volume 26

Springer

Editors
John C. Smart
College of Education
University of Memphis
Memphis, TN 38152-3570
USA
jsmart@memphis.edu

Michael B. Paulsen
Department of Educational Policy
and Leadership Studies
N491 Lindquist Center
The University of Iowa
Iowa City, IA 52242-1529
USA
michael-paulsen@uiowa.edu

ISSN 0882-4126
ISBN 978-94-007-0701-6 e-ISBN 978-94-007-0702-3
DOI 10.1007/978-94-007-0702-3
Springer Dordrecht Heidelberg London New York

Library of Congress Control Number: 2011923067

Contents

Contributors

Debra D. Bragg is a professor in the Department of Educational Organization and Leadership at the University of Illinois. In addition to being director of the Office of Community College Research and Leadership, Dr. Bragg is director of the Forum on the Future of Public Education, a strategic initiative of the College of Education at Illinois. She is also responsible for coordinating the Higher Education and Community College Executive Leadership programs. Her research focuses on P-20 policy issues, with a special interest in the transition of youth and adults to college. She has directed research and evaluation studies funded by federal, state, local, and foundation sponsors, including examining the participation of underserved students in college transition and career pathway initiatives. Her recent investigations include studies of the implementation and impact of bridge-to-college programs for youth and adults funded by the Joyce Foundation and the United States Department of Education (USDE) and applied baccalaureate programs for adults funded by Lumina Foundation.

Dr. John J. Cheslock is an associate professor in the Higher Education Program at the Pennsylvania State University, where he also serves as senior research associate in the Center for the Study of Higher Education and director of the online Institutional Research certificate program. Dr. Cheslock's research focuses on the economics of higher education with a special interest in enrollment management, faculty labor markets, intercollegiate athletics, and the use of quantitative methods within educational research.

Randall F. Clemens is a dean's fellow in urban education policy and research assistant at the Center for Higher Education Policy Analysis at the University of Southern California. His research focuses on educational reform, policy implementation, and school and community partnerships.

Jay R. Dee is associate professor and director of the Higher Education Administration Doctoral Program at the University of Massachusetts Boston. His research interests include organizational theory, higher education leadership, faculty development, and the academic workplace. He is the co-author (with James Bess) of *Understanding College and University Organization: Theories for Effective Policy and Practice* (Stylus Publishing, 2008). Dr. Dee has published

more than 25 journal articles and book chapters on issues of leadership and organization in K-12 schools and higher education institutions. He received his Ph.D. from the University of Iowa.

Donald E. Heller is professor of education and senior scientist, and director of the Center for the Study of Higher Education at The Pennsylvania State University. His teaching and research are in the areas of higher education economics, public policy, and finance, with a primary focus on issues of college access and choice. He earned Ed.M. and Ed.D. degrees from the Harvard Graduate School of Education, and a B.A. in economics and political science from Tufts University. He is most recently the editor of *Generational Shockwaves and the Implications for Higher Education* (with M. d'Ambrosio, Edward Elgar, 2009).

Philo A. Hutcheson is associate professor of educational policy studies at Georgia State University, following nearly 20 years in college administration. He received his Ph.D. in higher education from the University of Chicago. His publications include "Shall I Compare Thee? Reflections on Naming and Power" in *Understanding Minority Serving Institutions*, eds. Gasman, Baez, and Turner (SUNY Press, 2008), "Setting the Nation's Agenda for Higher Education: A Review of Selected National Reports, 1947–2006" in *History of Education Quarterly* (August 2007), and *A Professional Professoriate* (Vanderbilt University Press, 2000). He has completed a book manuscript on the 1947 President's Commission on Higher Education.

Karen Kurotsuchi Inkelas is an associate professor in Department of Leadership, Foundations, and Policy, University of Virginia. She is also the principal investigator of the National Study of Living–Learning Programs (NSLLP). With the NSLLP, she has garnered nearly $1 million in extramural funding, including two grants from the National Science Foundation. She has also published extensively about living–learning programs in academic journals, edited books, and monographs, as well as delivered invited addresses at regional and national events. Inkelas also directs Advocates for Children, a living–learning program within College Park Scholars at the University of Maryland.

Isabeau Iqbal is a doctoral candidate in the Faculty of Education at the University of British Columbia. She has received an SSHRC doctoral fellowship to support work that combines her experience as an educational developer and research on the impact of such work, with a particular focus on research-intensive universities. Her dissertation work is a qualitative study of academic culture that investigates pre-tenured and tenured faculty members' experiences with, and understanding of, the summative peer review of teaching.

Adrianna Kezar is associate professor at the University of Southern California. Her research focuses on organizational theory, change, leadership, and equity issues in higher education. She has published 12 books, over 75 articles, and over 100 book chapters and reports. Her latest books include *Organizing for Collaboration* with Jossey Bass books and *Rethinking Leadership Practices in a*

Complex, Multicultural and Global World through Stylus Press. She received her Ph.D. from the University of Michigan.

Ralph D. Kidder serves as vice president for financial affairs and treasurer at Marymount University. He holds an Ed.D. in higher education administration from University of Massachusetts Boston, where his dissertation was *The Evolution of Research Mission in Urban State Universities in Post-World War II America: A Comparative Case Study*. He has taught the history of higher education at George Washington University and business courses at Lesley University's School of Management and has presented at ASHE, AERA, and the History of Education Society. He serves on the board of directors of Inc.spire, a business incubator in Reston, Virginia.

Dr. Tatiana Melguizo is an assistant professor in the USC Rossier School of Education. She works in the field of economics of higher education. She uses quantitative methods of analysis and large-scale longitudinal survey data to study the association of different factors such as student trajectories and specific institutional characteristics on the persistence and educational outcomes of minority (African-American and Hispanic) and low-income students. Melguizo received a Ph.D. in economics of education from Stanford University and an M.A. in social policy from the London School of Economics. Her work has been published in Education Evaluation and Policy Analysis, Teachers College Record, *The Journal of Higher Education*, *The Review of Higher Education*, and *Research in Higher Education*. She is a recipient of the American Education Research Association (AERA) dissertation grant. Dr. Melguizo has also received grants from the Institute of Education Sciences (IES), Spencer Foundation, AERA, the Bill and Melinda Gates Foundation, Jack Kent Cooke, Nellie Mae and Lumina foundations, and from the Association for Institutional Research, National Postsecondary Education Cooperative (AIR/NPEC).

KerryAnn O'Meara is an associate professor of higher education in the College of Education at the University of Maryland, College Park. Her research and practice focus on the academic profession, the civic mission of higher education, and academic reward systems. She is particularly interested in how reform in academic reward systems and in opportunities for professional growth can advance faculty work and institutional missions. She is also interested in the influence of striving for prestige in national ranking systems on academic reward systems and the balance of faculty teaching, research, and community engagement. She serves as the associate editor for research articles for the *Journal of Higher Education Outreach and Engagement*, and associate editor for the *Journal of the Professoriate*.

Dr. Gary Poole is a professor in the School of Population and Public Health in the University of British Columbia's Faculty of Medicine. He is also a senior scholar in the Centre for Health Education Scholarship, where he is conducting research on self-directed learning. He was the director of UBC's Centre for Teaching and Academic Growth from 2000 to 2010. He has won numerous awards for his

teaching and is currently the president of the International Society for the Scholarship of Teaching and Learning. In addition to his publications in the area of health psychology and the scholarship of teaching and learning, Dr. Poole is the co-author of "Effective Teaching with Technology in Higher Education."

Dr. Cecilia Rios-Aguilar is an assistant professor at the Center for the Study of Higher Education at the University of Arizona. Her research is multidisciplinary and uses a variety of conceptual frameworks (e.g., the forms of capital and funds of knowledge) and of statistical approaches (e.g., regression analysis, multilevel models, structural equation modeling, GIS, and social network analysis) to study the educational and occupational trajectories of underrepresented minorities, including Latina/os, English learners, and immigrant and second-generation students. Dr. Rios-Aguilar's applied research also includes the design and evaluation of different programs and policies targeted to underrepresented students.

Matthew Soldner is a doctoral candidate in the University of Maryland's College Student Personnel program, where he has worked with the NSLLP since 2006. Before joining the NSLLP, Soldner was associate director of Residential Life at the University of Maryland, Baltimore County, where he worked with living–learning programs and other efforts to engage students and faculty in residential environments. Soldner currently serves as an associate research scientist at the National Center for Education Statistics, where he has responsibility for the Beginning Postsecondary Students Longitudinal Study. He has published in journals such as *Research in Higher Education* and the *Journal of Higher Education.*

William G. Tierney is university professor, Wilbur-Kieffer professor of higher education and director of the Center for Higher Education Policy Analysis at the University of Southern California. His research focuses on increasing access to higher education, improving the performance of postsecondary institutions, and analyzing the quality of for-profit institutions. His most recent books are *Urban High School Students and the Challenge of Access* and *For-Profit Colleges and Universities: Their Markets, Regulation, Performance and Place in Higher Education* (w/G. Hentschke and V. Lechuga).

Vasti Torres is professor of educational leadership and policy studies at Indiana University and director of the Project on Academic Success. Prior to becoming a faculty member, she served as associate vice provost and dean for Enrollment and Student Services at Portland State University, Oregon. Her research revolves around issues of ethnic identity development, diversity, and the experiences of underrepresented college students. She has received numerous awards from student affairs associations, including the Contribution to the Literature from NASPA and Senior Scholar from ACPA. Dr. Torres holds her undergraduate degree from Stetson University and graduate degrees from the University of Georgia.

Chapter 1
Undergraduate Living–Learning Programs and Student Outcomes

Karen Kurotsuchi Inkelas and Matthew Soldner

Introduction and Outline of Chapter

Attempts to improve American undergraduate education—particularly at large research universities—have spawned a number of programmatic interventions designed to facilitate stronger student outcomes, including service learning programs, study abroad options of varying durations in various locations, undergraduate research, and a number of different types of learning communities (Kuh, 2008; The Boyer Commission, 1998). As each of these interventions gained in popularity, college campuses around the country scrambled to introduce them as part of their institutional offerings. All feature the fusion of traditional classroom learning with out-of-class immersions that purportedly enable students to apply their learning in different settings, critically analyze new information and perspectives, and deepen their intellectual curiosity (Kuh). However, another common feature of these interventions is a lack of a systematic focus of research on their effectiveness in delivering the student learning outcomes they are designed to promote. Instead, the literature on these interventions is varied: some empirical, some conceptual, some philosophical, and some practical.

In this chapter, we more closely examine one intervention, the living–learning program, and the student outcomes that have been associated with this type of program. Most generically, living–learning programs (LLPs) are *residence hall-based* undergraduate programs with a particular topical or academic theme. However, in the next section we describe the various methods we use to provide a more comprehensive definition. Following the conceptual description of LLPs, we summarize the historical roots and philosophical underpinnings of the modern LLP. We then turn to descriptions of the core traits that authors have ascribed to LLPs in what can be labeled "best practices" literature.

K.K. Inkelas (✉)
Department of Leadership, Foundations, and Policy, University of Virginia, Charlottesville, VA 22904, USA
e-mail: karen.inkelas@gmail.com

J.C. Smart, M.B. Paulsen (eds.), *Higher Education: Handbook of Theory and Research* 26, DOI 10.1007/978-94-007-0702-3_1,

We concentrate in the next section of the chapter on the empirical literature investigating the relationship between LLPs and a number of student outcomes, including academic performance, persistence, intellectual development, faculty and peer interaction, the transition to college, campus life, satisfaction, academic engagement and co-curricular involvement, attitudes and beliefs, self-efficacy, and psychosocial development. We then critique the current body of literature on LLPs, focusing first on the empirical literature and then on the practitioner works. Finally, we conclude the chapter with recommendations for future research and practice.

Defining Living–Learning Programs Within a Learning Community Typology

A precise definition of a living–learning program is elusive. Indeed, the terminology for LLPs can be confusing as well. Living–learning programs may also be known as residential learning communities, living–learning communities, living–learning centers, theme houses, or residential colleges but will be referred to in this chapter as living–learning programs, or LLPs. One way, perhaps, to better define LLPs is to nest them within the broader learning community structure that encompasses them.

Learning Community Typologies

Living–learning programs are one type of learning community. Learning communities have been described as curricular linkages that provide students with a deeper examination and integration of themes or concepts that they are learning (Gabelnick, MacGregor, Matthews, & Smith, 1990; Shapiro & Levine, 1999). Learning communities, like living–learning programs, can take several forms. The first to attempt to provide a typology of the different types of learning communities was Gabelnick et al. (1990). Subsequent learning community typologies are either combinations of the Gabelnick et al.'s categories or departure points from their version. Gabelnick et al. described five different variations of learning communities, with each subsequent variation being more structurally complex than its predecessor. The first type, "linked courses," is simply two courses that students co-register for in consecutive terms. The faculty in these courses coordinate their curricula in some way, such as sharing reading lists or linking assignments. "Learning clusters" can be considered to be expanded versions of the linked course. Now, instead of merely two courses, students co-enroll in a series of courses over a given semester or year that are connected in some way. The third type of learning community is called the "freshman interest group," or FIG, which takes a similar form to the learning cluster but—as suggested by its name—caters directly to first-year students and thus incorporates other programmatic elements to assist with the transition to college, such as "big buddies" or peer advisors and close ties to student support services.

The fourth type, "federated learning communities," consists of multi-disciplinary course clusters organized around a topic, for example, world poverty or technology

and ethics. Students co-enroll in a series of courses in different disciplines that are related to the overarching theme and a "master learner," or faculty member who is not an instructor for any of the related courses, participates in the curriculum alongside the students and assists them with integrating the different course materials. The final model in Gabelnick et al.'s typology is "coordinated studies." In this model, students and faculty alike become fully immersed in a particular theme: students *only* register for these courses in a given time period and faculty members *only* teach topics related to this theme. Gabelnick et al. provided a detailed table (pp. 32–37) outlining all five types of learning communities in their book, including their definitions, basic instructional techniques, appropriate size for student cohorts, faculty roles, and community issues. Interestingly, in this earliest effort to create a typology, the authors provided no type or model representing the residence hall-based learning community (i.e., a living–learning program).

Nine years later, Shapiro and Levine (1999) provided a new typology of learning communities that did incorporate a residential model. The first type, "paired or clustered courses," is a combination of the first two types within the Gabelnick et al.'s (1990) typology. Similarly, the authors combined two more of Gabelnick et al.'s types (and federated learning communities) to create their second type: "cohorts in large courses." Next, Shapiro and Levine encompassed Gabelnick et al.'s final type (coordinated studies) within a broader category called "team-taught programs." The authors depart from Gabelnick et al., however, with their final type, "residence-based programs." Shapiro and Levine define the residence-based program as one that "adapt(s) a particular curricular model to include a residential component," with the primary goal of the program being "the integration of students' living and academic environments" (p. 36).

In the same year that Shapiro and Levine (1999) published their learning community typology, Lenning and Ebbers (1999) offered a very different type of typology in their monograph. The Lenning and Ebbers's version includes four primary categories: (a) "curricular learning communities"; (b) "classroom learning communities"; (c) "student-type learning communities"; and (d) "residential learning communities." They further subdivide the first two categories: under curricular learning communities, there are (a) cross-curricular learning communities; (b) curricular cohort learning communities; and (c) curricular area learning communities. For classroom learning communities, there can be (a) total-classroom learning communities and (b) within-classroom learning communities.

Lenning and Ebbers (1999) described curricular learning communities as those which are typically interdisciplinary and involve some type of integration of concepts across individual courses or themes. They assert that all five types of Gabelnick et al.'s (1990) learning communities can be constituted as "cross-curricular learning communities" or those that restructure the curriculum so that individual classes or coursework within those classes are linked for greater coherence and enhanced student learning. Curricular cohort learning communities, on the other hand, were described as, essentially, mini-degree programs, where students take a series of courses together as a cohort in lock-step progression. Finally, curricular area learning communities combined traditional

disciplinary coursework in an academic major with out-of-class discussion or study groups.

Classroom learning communities, in Lenning and Ebbers's (1999) typology, consisted of communities of support and learning within one class. This can be accomplished, the authors asserted, in two fashions: (a) a total-classroom learning community, or a class that behaves much like a community—with supportive peers and instructors that see their role as facilitators more than teachers; and/or (b) a within-classroom learning community, or a system through which small groups are formed within a larger class—such as group work, team learning, or collaborative projects. The third type of learning community in the Lenning and Ebbers's typology is the student-type learning community, which tends to focus less on academic topics or themes and more on the types of students the programs cater to, such as underrepresented groups or academically talented students. Like Shapiro and Levine (1999), Lenning and Ebbers (1999) do include a residence hall-based program in their typology: the "residential learning community." In their description of the residential learning community, they referenced several examples of programs at various universities, including residential colleges, residential FIGs, residential honors programs, and various academic themes within a residential component. However, they stopped short of attempting to categorize the different types of LLPs.

The third learning community typology published in 1999 was provided by Love and Tokuno. Their typology mimics three of Shapiro and Levine's (1999) categories, including "paired or clustered courses," "student cohorts in larger classes," and "team-taught programs." However, their major contribution to learning community typology development is the introduction of the "learning community for special populations." Similar to Lenning and Ebbers's (1999) "student-type learning communities," the focus of this category of programs is on the type of students the program caters to, and not its academic theme or topic. Indeed, when describing their "student-type learning communities," Lenning and Ebbers directly allude to the more thorough treatment that Love and Tokuno provide for this type of programming.

Love and Tokuno (1999) identify six types of programming for special student populations: (a) academically underprepared students; (b) students from underrepresented groups; (c) students with disabilities; (d) honors programs; (e) residential students; (f) students with specific academic interests. Learning communities for academically underprepared students function primarily to assist these at-risk students through review courses, basic skills training, and in-depth academic advising. Programs for students from underrepresented groups typically focus on issues and topics relating to people from a specific social background (e.g., African-Americans) and incorporate a mentoring or networking program among members of the campus community who share a similar background. Communities for students with disabilities are designed to help students with physical, psychiatric, or learning disabilities meet their educational needs through support services, awareness and sensitivity training for campus constituents, and academic accommodations. Honors programs generally work with students that their campuses have designated

as high-ability or academically talented. These programs typically offer special courses or seminars open only to Honors students.

Love and Tokuno (1999) place "residential students" and "students with specific academic interests" as the final two groupings under the category of programming for special student populations. However, their descriptions of these types of programs tend to mirror what we believe are more representative of other categories previously described in other typologies as residential learning communities or curricular learning communities. Love and Tokuno describe "residential student" learning communities as those which "take the learning community concept into the residence halls, blurring the lines between in- and out-of-class learning" (p. 15). Thus, the primary distinction of this type of programming in their typology is that the community is situated in a residential setting, which appears consistent with the way in which Lenning and Ebbers (1999) and Shapiro and Levine (1999) define the "residential learning community." Finally, Love and Tokuno define communities of "students with specific academic interests" as those which group together students of the same academic major (e.g., engineering). Students in these programs not only take the same classes over a defined period of time but also participate in co-curricular activities designed to complement topics in their major classes. Depending upon the extent of the coordination among the various courses in the major, as well as among the co-curricular activities, this type of program appears to be consistent with Lenning and Ebbers's description of the "curricular learning community."

Finally, the same combination of authors from the Gabelnick et al.'s (1990) work provided an updated typology in Smith, MacGregor, Matthews, and Gabelnick (2004) which appears to integrate many of the typologies introduced since their 1990 version. First, they combined some of their original categories and changed some of their terminologies to match subsequent authors' works: "linked or clustered courses" became one category, FIGs were subsumed under a new category called "learning communities within courses that are unmodified," along with freshman seminars and colloquia, or other types of integrative courses, and "team-taught learning communities" appears to draw from terminology used in Shapiro and Levine (1999) and Love and Tokuno (1999). Smith et al. also add some new categories absent from their 1990 typology in the 2004 version, including "curricular cohort programs," for which they directly reference Lenning and Ebbers's (1999) typology. Finally, they added five other categories, including a residential category called "living–learning communities," thus compensating for its omission from the 1990 version.

In sum, typologies of learning communities have been advanced over the past 20 years, with subsequent authors refining, re-categorizing, and creating new types of learning communities based on programs they had encountered or observed in their work. While the first attempt at a learning community typology (Gabelnick et al., 1990) did not include LLPs, all subsequent typologies included some version of the residence hall-based learning community (Lenning & Ebbers, 1999; Love & Tokuno; 1999; Shapiro & Levine, 1999). Moreover, even the same authors who excluded LLPs in their original typology saw fit to include these programs in their

updated typology 14 years later (Smith et al., 2004). Yet, each of the above typologies used different terminology to represent LLPs, and none attempted to classify the different types of LLPs in existence around the country (for a visual representation of the five learning community typologies and the overlap among them, see Fig. 1.1). With its varied treatment within the learning community literature, it is not surprising to learn that the definition and the acknowledgment of the different types of living–learning programs in existence are not well understood by researchers and practitioners alike.

Living–Learning Program Typologies

More recent efforts have begun to address the omissions and confusion associated with some of the earlier work on *living–learning* typologies. The first two of these originated in the practitioner literature. Zeller, James, and Klippenstein (2002) identified several types of programs that aim to help students draw connections between their formal classroom and out-of-class experiences which take place in a residence hall setting. These include (a) residential colleges; (b) living–learning centers; (c) theme housing; (d) residential learning communities; and (e) the freshman year experience. Residential colleges are based upon the British model of postsecondary education, in which students and faculty live and work together on typically liberal arts types of educational endeavors (described in greater detail later in this chapter). Living–learning centers were described as residential programs with strong academic program partnerships, such as foreign language programs or pre-med programs. Theme housing provided an opportunity for students with similar interests or hobbies to live together. Typically, these types of programs provide little-to-no academic or disciplinary content. Residential learning communities, on the other hand, were described as programs in which clusters of students not only live together but also take many of their first-year classes together as well. Finally, freshman year experience programs focused on the facilitation of a successful transition to college. One might note that these descriptions are very similar to their broader learning community counterparts; the only difference is that all of these types of programs exist within the residence hall setting.

Schoem (2004) introduced a three-pronged typology of living–learning programs, composed of residential colleges, residential learning communities, and residential education programs. Residential colleges, based on the Oxford/Cambridge classic model, are commonly characterized as multi-year, focusing on a liberal arts education, with faculty and students living together in the residence hall. Residential learning communities, on the other hand, link models of learning communities (e.g., FIGs or clustered courses) with a residential component. They can be one year or multi-year and often also include a co-curricular component that is linked to the learning community. Finally, residential education programs bring students with common interests together in the same residential setting and may provide co-curricular activities and faculty involvement in the program. They do not, however, feature the residential college tradition, or integrate a learning community model.

<table>
<tr><th>Gabelnick et al. (1990)</th><th>Shapiro & Levine (1999)</th><th>Lenning & Ebbers (1999)</th><th>Love & Tokuno (1999)</th><th>Smith et al. (2004)</th></tr>
<tr><td>Linked Courses</td><td rowspan="2">Paired or Clustered Courses</td><td rowspan="4">Curricular Learning Communities, including:
(a) Cross-curricular LCs</td><td rowspan="2">Paired or Clustered Courses</td><td rowspan="2">Learning Communities of Linked or Clustered Courses</td></tr>
<tr><td>Learning Clusters</td></tr>
<tr><td>Freshman Interest Groups (FIGs)</td><td rowspan="2">Cohorts in Large Courses</td><td rowspan="2">Student Cohorts in Larger Classes</td><td rowspan="2">Learning Communities within Courses that are Unmodified
(a) Freshman Seminar or Interest Group
(b) Integrative Seminar or Colloquy</td></tr>
<tr><td>Federated Learning Communities</td></tr>
<tr><td>Coordinated Studies</td><td>Team-Taught Programs</td><td>Team-Taught Programs</td><td>Team-Taught Learning Communities</td></tr>
<tr><td></td><td></td><td>(b) Curricular Cohort LCs
(c) Curricular Area LCs</td><td></td><td>Curricular Cohort Programs</td></tr>
<tr><td></td><td></td><td>Classroom Learning Communities, including:
(a) Total-Classroom LCs
(b) Within-Classroom LCs</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Student Type Learning Communities
cf Love & Tokuno (1999)</td><td>Learning Communities for Special Populations, including:
(a) Academically Underprepared Students
(b) Students from Underrepresented Groups
(c) Students with Disabilities
(d) Honors Programs
(e) Residential Students*
(f) Students with Specific Academic Interests*</td><td></td></tr>
<tr><td></td><td>Residence-Based Programs</td><td>Residential Learning Communities
Examples provided include:
(1) Residential Colleges
(2) Residential FIGs
(3) Honors
(4) Various Academic Themes</td><td></td><td>Living-Learning Communities</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Additional Co-Curricular Elements</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Sequential Course LCs</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Multiple LC Structures on a Single Campus</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Fixed-Content and Variable-Content LCs</td></tr>
</table>

Fig. 1.1 Comparison of learning community typologies (*While Love and Tokuno placed these two types of programs in this cell, the authors believe that they are more similar to other categories in the figure)

However, Inkelas and Associates (2004, 2007) provided two more comprehensive typologies of living–learning programs, and importantly, their typologies remain—to date—the only empirically derived typologies in the living–learning *or* learning community literature. The authors have developed two different thematic typologies of LLPs, based on two different data collections. The 2004 thematic typology was based on programmatic information provided by 297 LLPs under the auspices of the 2004 National Study of Living–Learning Programs (NSLLP), a Spring 2004 data collection at 34 different postsecondary institutions across the United States. Using the name of the LLP and its 50-word description provided by the institutions, one rater sorted 247 LLPs into 14 primary categories, with sub-types beneath some categories. In all, there were 26 total LLP thematic types in the 2004 analysis.

The 2007 Inkelas and Associates thematic typology was built upon the original 26 primary and sub-types of categories in the 2004 version but utilized a significantly more rigorous method of analysis. Using information from 611 LLPs participating in the NSLLP data collection in Spring 2007, a team of six raters examined three data elements: (a) the program's name; (b) the program's stated goals and objectives; and (c) the program's ratings of the relative importance of 17 pre-selected learning outcomes. Each rater independently categorized the 611 LLPs into one of the existing 26 categories from the 2004 typology, or created new categories to accommodate distinctive programs that were not reflected in the 2004 version. Eventually, the raters reached consensus regarding the thematic type of 555 LLPs in the 2007 data, emerging with 17 primary categories and 41 types in total, including sub-types. This thorough analysis also resulted in a few changes to, and improvements in, the original 2004 typology as well. The descriptions below represent the most recent 17 groupings within the Inkelas and Associates LLP typology, in alphabetical order:

1. "Civic/social leadership programs." These LLPs focused on public service or active participation in the political process. There are four sub-types within this category, including (a) civic engagement programs, which emphasize engaging students in civic issues, primarily through political activism or service; (b) environmental sustainability programs, concerned with promoting ecological action, (c) leadership programs, focusing on leadership development, and (d) service-learning and social justice programs, which promote civic engagement largely through social responsibility.
2. "Cultural programs." These programs stressed cultural understanding and appreciation, and are subdivided into three types: (a) international/global programs, which may focus on a single country or a region, or more broadly may emphasize international affairs, (b) language programs, which aim to help develop students' linguistic and cultural proficiency in a foreign language, and (c) multicultural/diversity programs, which focus on domestic diversity issues such as race/ethnicity, sexual orientation, or other social identities.
3. "Disciplinary programs." This large grouping of LLPs clustered students together by similar majors or disciplinary interests. There are 11 sub-types in

this category: (a) agriculture or veterinary medicine, (b) business, (c) communication or journalism, (d) education, (e) engineering and computer science, (f) general science, (g) humanities, (h) interdisciplinary, (i) law or criminal justice, (j) mathematics, or (k) the social sciences.

4. "Fine and creative arts programs." These LLPs focused on promoting appreciation and interest in the visual arts, music, architecture, film, prose, or photography. And, because of their prevalence, culinary arts is included as a sub-type within this grouping.
5. "General academic programs." These programs offered general academic support but did not feature any particular disciplinary theme (e.g., engineering or history), nor did they serve a particular group (e.g., first-year students, transfer students).
6. "Honors programs." Honors LLPs provided an academically enriched learning environment for an institution's academically talented students. Typically, students are invited to participate in these programs, based on prior high school achievement indicators (e.g., high school GPA or standardized test scores).
7. "Leisure programs." These LLPs generally offered little-to-no academic content and instead centered on recreational activities. The three sub-types in this category included the following: (a) general leisure pursuits, examples including playing card games or World Cup enthusiasts, (b) local community exploration, or programs that focused on learning about leisure or cultural activities nearby their campuses, especially those in an urban center, and (c) outdoor recreation, offering students an opportunity to develop sporting or outdoor/wilderness skills.
8. "Political interest programs." Participants in this LLP type discussed domestic political issues and supplemented their learning through media outlets. Typically, though, community service or service learning was not emphasized.
9. "Research programs." Students in this type of LLP participated in faculty-guided research or peer team-based projects.
10. "Reserve Officer Training Corps (ROTC) programs." All members of this LLP type were in either the Army, the Navy, or the Air Force ROTC groups at their (or a host) institution.
11. "Residential colleges." These types of programs varied somewhat by structure, but they generally spanned multiple years of the college experience and attempted to re-create an early-American liberal arts focus on academic, cultural, and social pursuits.
12. "Sophomore programs." These types of LLPs focused on the continuing needs of students in their second year of college.
13. "Transition programs." Transition LLPs assisted undergraduate students in their adaptation to university life and were further divided into the following sub-types: (a) career or major exploration, focusing on academic and vocational investigation, (b) first-year student programs, which assisted first-year students on their college transitions, (c) new student transition programs for diverse populations, which served the transition needs of students from non-dominant backgrounds (e.g., first-generation college students, LGBT students),

and (d) transfer student programs, focusing on the transition experience of students who transferred to an institution from a two- or four-year college.

14. "Umbrella programs." These types of LLPs typically housed several, potentially distinct communities without disaggregating those communities by theme. For example, a "living–learning center" might incorporate under its administrative structure eight different communities of students, each focusing on a separate disciplinary or social issue.
15. "Upper division programs." These programs served the needs and interests of juniors and seniors, and may have included components that prepare students for post-graduate study or workforce entry.
16. "Wellness programs." These programs often focused on physical and psychological healthy living, and were subdivided into two types: (a) general wellness and healthy living and (b) spirituality and faith based, which emphasized issues of personal spirituality or the formal study of religion.
17. "Women's programs." This final category of LLPs focused on women's development and were represented by two sub-types of programs: (a) women's leadership programs, which promoted women's roles as leaders in society and the workforce and (b) women-only science, technology, engineering, and mathematics (STEM) programs, which worked to combat the underrepresentation of women in STEM through a single-sex living environment designed to facilitate communal support and networking.

For more information about the above typology, see Inkelas and Associates (2007).

Finally, Inkelas, Soldner, Longerbeam, and Brown Leonard (2008) offer a different kind of LLP typology, based not on programmatic themes but instead on programmatic structures. In combination, both substantive and structural typologies are necessary to provide a truly comprehensive portrayal of the distinguishing characteristics of different types of LLPs. Using the 2004 NSLLP data, the authors conducted a two-step cluster analysis to sort 297 LLPs into statistically derived groupings using the following LLP structural components: (a) program size; (b) budget source; (c) number of faculty involved in the program; (d) courses offered by the program; (e) administrative affiliation of the program's director; (f) special resources offered by the program; and (g) co-curricular activities provided by the program. Of the 297 LLPs in the study, 207 were successfully clustered into three groupings (several of the programs not included in the final cluster analysis were all programs from the same institution that had idiosyncratic features which prevented them from clustering with other programs on other campuses). The three groupings were characterized by Inkelas et al. (2008) as follows:

1. "Small, limited resourced, primarily residential life emphasis." These LLPs included typically less than 50 participants and were administered and funded primarily by housing or residence life units on their campuses. Thus, there was little coordination with academic departments or units, and academic resources, such as faculty involvement and advising, were scarce in this type of program.

2. "Medium, moderately resourced, student affairs/academic affairs combination." LLPs in this grouping typically included about 100 participants and offered more resources to students (such as multicultural programming, community service opportunities, and career workshops). They also demonstrated limited partnerships with academic units (e.g., more faculty participation and academic advising options) but did not exhibit the extent of academic/student affairs collaboration as illustrated in the third grouping.
3. "Large, comprehensively resourced, student affairs/academic affairs collaboration." This type of LLP was typically very large, averaging 343 participants, and students in these programs had access to a wide variety of resources and co-curricular activities. These programs also boasted the largest number of dedicated course offerings and affiliated faculty.

Inkelas et al. (2008) noted a few surprising findings related to their structural typology. First, they found it noteworthy that over 200 different LLPs represented in the structural typology could be reduced to only *three* structural types. Recalling that thematic typologies developed by the same team of researchers revealed over two dozen different program themes, the authors speculated that, while the themes of programs may vary from institution to institution, the way that LLPs are run—no matter the location—is remarkably similar. Second, after matching student survey data with program level data, the authors found that "bigger" is not necessarily "better." Examining a range of self-reported student-learning outcome data, Inkelas et al. found that students in the small, limited resourced, primarily residential life (cluster 1) programs did not significantly differ from their peers in large, well-resourced, academic and student affairs collaborations (cluster 3). Interestingly, though, students in clusters 1 and 3 did outperform students in the medium, moderately resourced, student/academic affairs combination programs (cluster 2). The authors cautioned, however, that their exploratory analysis required further testing.

There were some commonalities among the thematic groupings provided by Zeller et al. (2002), Schoem (2004), and Inkelas and Associates (2004, 2007). First, of obvious note, all three typologies included and defined "residential colleges" in a similar fashion. Second, Zeller et al.'s "living–learning centers" were described analogously to Inkelas et al.'s "multi-disciplinary programs" (2004) or "umbrella programs" (2007). Third, there were strong parallels between Zeller et al.'s "freshman year experience programs" and Inkelas and Associates' "transition programs." Finally, one might argue that the rest of the themes uncovered in Inkelas and Associates' (2004, 2007) thematic typologies were merely an expansion of Zeller et al.'s categories of "theme housing," "academic residential programs," or "residential learning communities."

At first blush, one might also see parallels between Schoem's (2004) typology of LLPs and the Inkelas et al.'s (2008) structural typology: the "residential education programs" (which might also be interpreted as "theme housing" by Zeller et al. (2002)) parallel the "small, limited resourced, primary residential life" programs, and as the sophistication of the programs increases in the Schoem's typology, so does the complexity of the structural components in the Inkelas et al.'s typology.

However, it is important to distinguish that not all residential colleges can be classified as large, or comprehensively resourced, or full academic/student affairs collaborations. Moreover, the culture and tradition of the residential college distinguishes this type of program in other ways that a structural typology cannot address.

Altogether, the various LLP typologies reveal an ever-expansive portrait of living–learning programs in existence at U.S. postsecondary institutions. However, several common characteristics can be noted that may bring us closer to a definition of these programs. First—and paramount—all LLPs are residence hall-based programs, meaning that students who participate in these programs not only participate in some sort of curricular or co-curricular activity jointly but also live together in the same residence hall location. Second, the characteristics or features of several different types of LLPs mirror those of their conceptual cousins, the learning communities. Some LLPs, like their freshman interest group (FIG) learning community counterparts, strongly emphasize the transition to college for first-year students by providing resources to facilitate student success. Other LLPs focus specifically on targeted student populations, like high-talent students in Honors programs or students of color or international students in cultural programs. Many LLPs provide linked or team-taught courses as part of their curriculum. Third, while there may be numerous different *themes* among LLPs across the United States, their *structural* characteristics manifest themselves in only three essential structural types, where a specific LLP's structural type can be discerned through an analysis of (a) the size of the program; (b) the amount of fiscal, human, and programmatic resources it contains; and (c) the extent to which there is or is not a collaboration among relevant academic and student affairs units. Although a precise definition of living–learning programs remains elusive in the literature, these common components bring into focus a sharper characterization of the contemporary LLP.

The Historical Development of and Rationale for Living–Learning Programs

The "Oxbridge" Residential College as the Model

The above characteristics may exemplify modern living–learning programs, but these communities actually have strong historical legacies. Although Chaddock (2008) may trace the living–learning community back to Pythagoras in 6 BC, many observers reach back to a more recent past in the nineteenth century. Several of the first American colonial colleges were intentionally patterned after the attributes and characteristics of the two great English universities: Oxford and Cambridge. However, the early colonial colleges—largely due to financial limitations—offered either little more than sparse living chambers or no housing to students whatsoever (Chaddock). Yet, in their attempt to model the Oxford and Cambridge (or "Oxbridge") experience, many higher education leaders in the colonial period

routinely invoked the British residential college model (Alexander, 1998). For example, Harvard President Dunster (1640–1654) was credited with promoting the following: ". . .learning alone might be got by lectures and reading; but it was only by studying and disputing, eating and drinking, playing and praying as members of the same collegiate community, in close and constant association with each other and with their tutors, that the priceless gift of character could be imparted to young men" (Morison, p. 252, as cited in Chaddock).

The "Oxbridge" residential college model included a system of residences—each equipped with commons, unions, and athletic fields—in which instructors and students lived, studied, worked, and socialized together communally (Alexander, 1998). Early colonial colleges, including Harvard, William & Mary, and Princeton, followed this pattern by constructing buildings with not only lecture halls but also dining rooms, a kitchen, a library, and sleeping quarters for students and their tutors (Ryan, 1992). Concerned not only with learning subjects but also with molding character through the "full development" of its students, students spent their entire academic experience within the same building—attending lectures, performing recitations and disputations, praying, dining, socializing, and sleeping (Ryan). Tutors lived in residence with students to oversee their learning and development. Thus, the environment in which students (and their instructors) lived was also the same as in which they learned. As can be seen in the above typologies of LLPs, postsecondary institutions across the United States continue to appropriate the residential college concept in some form to this day, but the extent to which the American versions replicate the *esprit de corps* of their original British counterparts has been debated for decades (Alexander).

Eventually, the colonial model began to give way to a more discipline-focused Germanic model of higher education at many colleges and universities in the United States in the late 1800s. The German model emphasized independent and graduate study, as well as faculty research. A college education was transformed from a largely communal phenomenon to one where students specialized in a particular professional or vocational interest, faculty focused primarily on their own scholarship, and most importantly in the history of LLPs, the role of the college residence became peripheral to the academic enterprise (Veysey, 1965; Rudolph, 1990; Ryan, 1992).

Twentieth-Century Reformers

Although the German model became the standard bearer in American higher education, particularly among the land grant universities built by the Morrill Act of 1862, it was not without its critics. Two of the most prominent critics of the early twentieth century would become key figures in the modern version of the living–learning program: John Dewey and Alexander Meiklejohn. Dewey believed that American universities needed to adopt a more progressive version of education, where students become more active agents in their own learning. He disdained the view that students were empty vessels receiving knowledge from experts. Instead,

he favored the approach where students and teachers learned collaboratively, or through "shared inquiry" (Smith et al., 2004). Indeed, several of the pedagogical terms in teaching and learning scholarship that are taken for granted now—such as active learning and student-centered learning—took their form from Dewey's writings. In order to accomplish this progressive form of education, students and faculty would need to have a much closer relationship than was typical during that time. Moreover, community (or co-curricular) activities that reinforced students' learning and gave them opportunities to practice skills they were learning in their curricula were strongly advocated (Smith et al.; Shapiro & Levine, 1999).

Dewey and Meiklejohn both shared in the belief that the then-current status of American higher education was deficient. Molded from Meiklejohn's beliefs and created as an alternative version of undergraduate education at the University of Wisconsin, the Experimental College of 1927–1932 became what is widely viewed as the progenitor of the modern living–learning program (Shapiro & Levine, 1999; Smith et al., 2004; Smith & Williams, 2007). Meiklejohn (1932/2001) felt that increasing specialization among academic disciplines was leading to the intellectual and social fragmentation of the university. The Experimental College would, therefore, integrate students' curricular, co-curricular, and residential experiences all in one setting. First and foremost, students would live together in the same hall. They would participate in a common and required curriculum focusing on democracy; yet, the courses would use novel pedagogical techniques, such as team-teaching and clustered courses. In addition, students in the Experimental College would form many of their own clubs or activities. During its existence, Meiklejohn even incorporated a field experience into the program, requiring students to conduct an analysis of how democratic principles manifested themselves in their hometowns (Meiklejohn).

The Experimental College closed after only 5 years, and in his report to the University of Wisconsin, Meiklejohn (1932/2001) highlighted several challenges that contributed to its demise: (a) allowing non-participants to live in the same residence hall as participants; (b) uneven faculty involvement arising from divided loyalties with their traditional disciplines; and (c) difficulty in enacting new policies that were vanguard to established practices of the day. Ironically, all of these issues still plague living–learning programs today!

Contemporary Gatekeepers and Calls for Undergraduate Education Reform

In addition to providing an excellent summary of Dewey and Meiklejohn's contributions to early learning communities, Smith et al. (2004) continued their historical narrative into present day. They wrote of Joseph Tussman, who was one of Meiklejohn's protégés, and his Experiment at Berkeley, a team-taught interdisciplinary study of democracy (albeit non-residentially based) in the 1960s. They went on to chronicle the surprisingly small circle of academics that carried on the learning community movement to San Jose State College, the State University of New

York-Old Westbury, and eventually Evergreen State College. Many of the central figures in the learning community movement were given the opportunity to plan the curriculum for this new public university in Washington state. Founded in 1969, Evergreen went through a rocky first decade but stabilized by the 1980s to become the central force behind the learning community approach to undergraduate education. With seed money from two grants, several in the Evergreen leadership looked to move their reform efforts statewide and established the Washington Center for Improving the Quality of Undergraduate Education. The Washington Center remains a leader and central figure in the learning community movement to this day, having expanded their reach to postsecondary institutions across the United States (Smith et al.).

Like their learning community counterparts, living–learning programs exploded in popularity over the past three decades, with many campuses racing to implement LLPs to keep up with their competitive peers. Moreover, similar to learning communities, the impetus for this growth was based on several, often intersecting, calls for reform within American undergraduate education, particularly at the large, research university. First, a growing unease raised by the public sector concerned the overall quality of undergraduate education in America's colleges and universities. Several critical books were published in the late 1980s on what the authors described as the decay of American undergraduate education—questionable or poorly integrated curricula, an overreliance on inexperienced instructors or graduate students to teach undergraduate courses, and a politically radical intellectual focus of contemporary academic scholarship, especially in the humanities and social sciences. These authors included Bloom's (1987) *The Closing of the American Mind,* Ravitch and Finn's (1988) *What Do Our Seventeen Year Olds Know*, and Sykes's (1988) *ProfScam: Professors and the Demise of Higher Education.*

The full accuracy of the accusations made by these authors and books notwithstanding, observers in and outside of the academy found enough "truth" in these claims to focus more deeply on undergraduate education, particularly at large research universities. What followed were public calls for undergraduate reform—from federal and state lawmakers, parents, students, and higher education itself. Thus, from the 1980s to the present, state governments started mandating accountability of their public universities regarding access and retention, educational quality, declining standards, and costs. At the same time, parents, students, and legislators started demanding greater accountability about what are students learning, why attrition is so high, how higher education contributes to economic growth and individual returns on investment, and why it is so expensive (Gabelnick et al., 1990; Shapiro & Levine, 1999; Smith et al., 2004).

Federal policymakers also responded to the reform call, conducting their own studies and publishing their own reports. Publications such as The Boyer Commission's (1998) *Reinventing Undergraduate Education: A Blueprint for America's Research Universities,* The Kellogg Commission on the Future of State and Land-Grant Universities' (1990–2000), *Returning to Our Roots*, and The Association of American Colleges and Universities' (2002) *Greater Expectations: A New Vision for Learning as a Nation Goes to College* similarly called for

American postsecondary institutions—especially large research universities—to rededicate their focus on undergraduate education by incorporating more active and collaborative learning activities, such as undergraduate research, first-year programming, freshman seminars, and capstone courses, especially if they help to create smaller, more intimate communities of practice within the larger university setting.

At the same time that public outcry was heightening about the quality of undergraduate education in America, so too were questions about who was gaining access to college and who was able to persist to graduation. It is well documented that postsecondary enrollment is more diverse by race/ethnicity, age, gender, socioeconomic status, etc., than ever before in American history and continues to grow more diverse with each successive year (Adelman, 1999; Learning Reconsidered, 2004). Moreover, students are reaching four-year postsecondary education from increasingly divergent routes, including via community colleges, transfers and "double dipping" from other four-year colleges, the military, and other nations (Adelman).

This increasingly diverse population of college-goers, it is argued, has an equally diverse set of learning styles that may or may not mirror the dominant mode of teaching and learning in the traditional college setting (Laufgraben, Shapiro, & Associates, 2004; Learning Reconsidered, 2004; Smith et al., 2004). Laufgraben et al. asserted that there was a transformational shift in pedagogy concerning college students in the 1990s, away from the traditional notion of faculty teaching being equated with student outcomes and toward a new paradigm placing an emphasis on student learning (Barr & Tagg, 1995). Several of the premises in the teaching to learning shift included the following:

- Students coming to college with prior knowledge and experience that affects how they process new information; teachers must pay attention to these differences in order to maximize impact.
- In order to reach students with different learning styles, passive forms of learning (such as lectures and reading) should be intermingled with more active techniques that reinforce meaning, such as team projects, integrative assignments, and mixed medias.
- Learning is best facilitated when instructors convey clear learning expectations in the form of learning outcomes (Laufgraben, et al., 2004, pp. 12–13).

It is important to note that while the drumbeat for educational reform toward student learning has been credited to have begun in the 1990s by authors such as Smith et al. (2004) and Laufgraben et al. (2004), Dewey and Meiklejohn argued for much of the same concepts in the early twentieth century: more active styles of learning, greater faculty involvement with students, smaller communities of practice, and co-curricular reinforcement and applications of curricular content.

Although living–learning programs are not considered the "answer" to all of the above challenges to undergraduate education, they have been advanced as an intervention that can address several of higher education's educational shortfalls. First, LLPs help to "make the big store small" by providing a more intimate peer group

of students with similar interests within the broader university context (Inkelas & Weisman, 2003). The more narrow academic focus of the program may also serve as a way to motivate students by engaging them in a common enterprise, possibly generating an enthusiasm for learning (Gabelnick et al., 1990; Shapiro & Levine, 1999). In addition, LLPs are linked to easier transitions to college and retention through programming designed to engage students more deeply with faculty, peers, and active and collaborative styles of learning (e.g., research projects, service learning, and internships) (Inkelas & Associates, 2004; Schoem, 2004). Moreover, LLPs are thought to provide a bridge between students' in- and out-of-class experiences and thus impart greater coherence to the college environment for students who have difficulty navigating the sea of different experiences (Laufgraben, Shapiro, & Associates, 2004). In sum, living–learning programs are thought to "(make) possible the integration of the social, cultural, physical, spiritual, and intellectual growth of students in such a way that each complements the others" (Adams, 1974, p. 89).

However, while the propaganda on living–learning programs makes them appear like the ideal undergraduate educational intervention, ironically, the same calls for accountability that helped to ignite the explosion of LLPs across the country were not met with similar calls to assess whether LLPs could live up to their lofty reputations before and during their great proliferation. Unlike their learning community counterparts, LLPs did not have well-known gatekeepers such as those at Evergreen State who were knowledgeable of the historical and philosophical roots of these interventions, who could constrain the parameters of what could conceivably be described as an LLP, or could even be the facilitator of the dialogue regarding the evolution of these programs. This void would create a somewhat "Wild West" scenario—in which new LLPs were being created at rapid pace, but there was little-to-no agreed-upon definition of what an LLP should be, insight as to how they should be run, and evidence that they were effective in the goals and objectives they had been created to achieve.

Core Practices in Living–Learning Programs from the Extant Literature

To fill the void in leadership on the dialogue regarding LLPs, a practitioner-based set of literature has emerged that describes what could be considered "best" or "core" practices of living–learning. The form of much of this literature is based on a "lessons learned" philosophy, in which practitioners or administrators who have developed LLPs share with public audiences tips that they have for creating new programs. Each offers practical advice, often in the form of lists or guidelines. Authors in this type of literature also typically identify actual LLPs that they feel are indicative of the core practices they are advancing, although none offer any methodological explanation for how they determined that those specific programs are the "best" practice of their assertions. Therefore, for this review, we have chosen to focus on the *practices* that the practitioner literature identifies as central to effective LLPs, but not the specific names of the programs themselves. In addition,

it is important to note that the broader learning community literature also offers core practices, but the sources cited below only encompass practices associated with *living*–learning programs. Because each different source offered distinct, idiosyncratic sets of core practices, instead of summarizing each work individually, we chose to synthesize their writings into seven principal practices for LLPs, detailed below.

Establish a Clear Vision and Objectives

The first practice involved establishing a clear vision and set of objectives for an LLP. Gruenewald and Brooke (2007) recommended that before any living–learning program is created, the developers establish a clear mission and set of related learning outcomes. Similarly, Hummel, Murphy, and Zeller (2008) suggested that new LLPs identify common goals, which may include initial learning outcomes that can be enhanced or supplemented over time. Some authors went even further by suggesting goals that they feel all LLPs should aspire to as core values. Schoem (2004) set lofty goals for LLPs, including (a) a meeting place for the scholarly community, (b) primary facilitators of deep learning on college campuses, and (c) a vehicle for democratic education and instructional innovation. Hummel et al. added to their basic premise of establishing common goals by prescribing philosophical constructs that they feel all LLPs should fulfill, including creating inclusive communities where students take active responsibility for their actions and providing opportunities for students to partake in a variety of learning experiences.

Solicit Campus Leadership and Support

Several authors noted the importance of campus leadership and support for the sustainment of LLPs. While Laufgraben, O'Connor, and Williams (2007) argued that successful LLPs need the support of campus senior leadership, Schoem (2004) utilized the word "champions" to represent key leadership that advocates for the centrality of living–learning on a campus. Both Laufgraben et al. and Schoem also asserted that leaders should recognize and reward outstanding efforts in living–learning, when appropriate. Part of that leadership includes financial support and sponsorship of expertise. Hummel et al. (2008) suggested three potential monetary and conceptual sponsors for LLPs: (a) academic affairs, who can offer guidance on enhancing pedagogy and curricula; (b) student affairs, who can assist in strengthening campus community and creating connections between in- and out-of-class experiences; and (c) external sponsors, who can offer financial support and take part in developmental efforts to secure future funding.

Form Academic and Student Affairs Partnerships

In addition to key leadership, several authors stressed the importance of partnerships between academic and student affairs units in order to operate effective LLPs. While

none provided specifics on how these two historically distinct cultures (Bergman & Brower, 2008; Schoem, 2004) can move past their differences and work together, several authors provided what they perceived as characteristics of strong partnerships. Gruenwalde and Brooke (2007) advised that effective administrative and organizational structures should provide equal roles in both supervision and funding for academic and student affairs partners. The authors also maintained that the foundation of effective partnerships is a transparent network of communication. Finally, Laufgraben et al. (2007) offered that keys to successful academic and student affairs partnerships include shared values and mutual support from campus champions.

Seek and Maintain Faculty Involvement

Roles of faculty in LLPs may vary, but several authors argued that their presence is critical. Faculty involvement may take the form of teaching courses for the LLP (Bergman & Brower, 2008), advising and mentoring students (Inkelas & Longerbeam, 2008; Inkelas, Soldner, & Szelenyi, 2008), participating in co-curricular activities like meals with students, lecture series, or field trips (Bergman & Brower), or serving on the LLP's steering committee or advisory council (Shapiro & Levine, 1999). A common challenge for LLPs is the recruitment and retention of faculty in such roles. Bergman and Brower noted that faculty often have stereotypes about residence hall settings and student affairs staff that may impede positive relationships at first (indeed, student affairs and residence life staff may hold negative stereotypes about faculty as well). The authors recommended a shared governance system where faculty and student affairs staff worked collaboratively to make decisions about the execution of the LLP. In addition, Bergman and Brower recommended to allow faculty to ease into the LLP experience by having them perform more traditional roles at first—such as teaching and advising—so that they may become more comfortable in their new environment before branching out to less familiar territory. Finally, while several authors (e.g., Laufgraben et al. 2004; Smith et al., 2004) lamented that the faculty reward structure at research institutions does not incentivize faculty to work with LLPs, other practitioners, such as Schoem (2004), took a different approach and recommended to recruit faculty who are either tenured or off of the tenure track who may be seeking the intellectual community that they never found within their traditional disciplines. Regardless of how they may become and stay involved with LLPs, student–faculty interaction has been shown in the empirical literature to be more prevalent for undergraduates who participate in LLPs (Garrett & Zabriskie, 2003; Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006b; Pascarella & Terenzini, 1980; Pike, 1999).

Facilitate Peer Interaction and a Healthy Residence Hall Climate

Since LLPs are housed in residence halls, peer interaction and perceptions of the residence hall climate can be integral parts of a successful environment. Schoem (2004) conceived of LLPs as programs that can help build a strong sense of community for

students. Because students in LLPs are together not only for their classes but also for meals, studying, and social activities, LLPs offer a communal setting where undergraduates can feel a part of something larger than themselves. He noted that the living environment allows for students to practice democracy through interaction with diverse peers and perspectives, upholding community standards, and managing conflicts. Inkelas and her colleagues explicitly tied the residence hall climate to several student outcomes for LLP students (Inkelas & Weisman, 2003; Inkelas et al., 2006a; b): they asserted that LLP students' perceptions of their academic and social residence hall climates were consistently one of the strongest predictors of a number of outcomes, including sense of belonging, the transition to college, and civic behaviors. Moreover, the authors cited peer interaction and discussion of academic and sociocultural issues as critical to a healthy LLP environment (Inkelas & Longerbeam, 2008; Inkelas et al., 2008).

Integrate and Assess LLP Activities

The final two core practices are related to one another in that they involve practices which require LLP stakeholders to periodically reflect upon their work. Schoem (2004) wrote that LLPs, in order to be truly effective, must integrate the academic and social experience for their students. Similarly, Hummel et al. (2008) asserted that LLPs should be the "critical nexus" between the in- and out-of-class experience. The authors described ways in which this integration can be made possible, including dovetailing co-curricular activities like service learning or study groups with course curricula or faculty interests. Importantly, both authors believed that the extent to which the LLP environment feels "seamless" to students, the more powerful the experience will be. Finally, continuous quality improvement requires regular assessment. Both Gruenewald and Brooke (2007) and Hummel et al. (2008) recommended to base assessments on the fulfillment of or progress toward program visions and objectives.

Ironically, while practitioner authors have been recommending that assessment plans become a core practice of LLPs, only a limited amount of research or assessment on living–learning programs has been made publicly available. Indeed, the scholarship on LLPs cuts across the historical, the philosophical, the conceptual, the practical, and the empirical; however, the empirical component of the literature is rarely, if ever, used in combination with the others. In fact, this review may be the first time that all different aspects of the LLP literature are summarized in one work. Accordingly, we now turn to research and assessment that examines living–learning programs and student outcomes.

Empirical Studies Investigating Relationships Between LLP Participation and Student Outcomes

For purposes of scope, in this section we review the peer-reviewed, quantitatively oriented literature focused on the relationship between LLP participation and

student outcomes. The review focuses on work published between 1980 and 2010, including theses and dissertations. Readers interested in a summary of earlier works are directed to Blimling's (1998) meta-analysis of research focused on residential colleges, considering a subset of the larger universe of LLPs. In total, 25 studies are described below.

Our review is thematic and addresses research on the effects of participation in LLPs on the following sets of student outcomes and experiences: (a) performance, persistence, and attainment, (b) intellectual development, (c) faculty and peer interactions, (d) college transition, (e) campus life, and (f) attitudes and beliefs. Within each theme or sub-area, our approach is chronological, making it possible to trace the evolution of living–learning program research in that area. As such, we have focused on fully describing studies the first time we reference them. To guide the reader to relevant background information about a particular study, later mentions of a study's findings include a cross-reference to its earliest occurrence.

For the sake of consistency, we use a series of common conventions throughout this review. When possible, we present information about the full sample surveyed (N), response rates (RR), the resulting analytic sample (n) and, if the authors provided additional description, we disaggregate the above between traditional residence hall environments (TRHs) and one or more living–learning programs (LLPs). To the extent that additional information about those LLPs is provided, such as their purpose, focus, or theme, that data are presented, as well. Further, to simplify the description of multivariate models, we use several generic terms to describe commonly occurring sets of variables. For example, our reference to "student background characteristics" refers to a series of variables which may include any combination of sex, gender, race, family income, and the like. Similarly, "pre-college academic achievement" refers to any combination of high school GPA, rank, or standardized test scores.

We also attempted to standardize our description of authors' statistical findings. "Statistically significant" refers to any test statistic where $p \leq 0.05$ or better. When possible, effect sizes are reported (e.g., d or R^2). If authors did not report effect sizes, but they were calculable from other statistics reported in the manuscript, we generated our own estimates of effect size and indicated them with the "hat" character (e.g., $\hat{d}$). Means or mean differences (diff) were included only when information about the scaling of the original variable was provided or was felt to be commonly known (e.g., GPA using a four-point scale), or when a standard deviation could be reported to help provide the reader a sense of magnitude. Additional descriptive information about models (e.g., degrees of freedom, chi-squares, or information criterion) was included when provided.

The Role of the National Study of Living Learning Programs (NSLLP) in the Extant Scholarship

For more than a decade, we and our associates have maintained a multi-institutional research program focused on LLPs, much of it falling under the umbrella of the National Study of Living Learning Programs (NSLLP). Our initial goals for the

NSLLP were twofold. First, we sought to provide participating institutions information about the outcomes associated with LLP participation on their campus, relative to participation in TRH environments. Second, we sought to develop a research database that would begin to allow us to draw inferences about LLPs on a national scale. To date, the NSLLP has been administered nationally in 2004 and 2007, and described in a series of technical reports.

We chose not to include results from our technical reports in this review since they were not subject to peer review. However, the wealth of data that has come from the NSLLP has allowed a number of researchers to conduct their own secondary analyses, many of which have been subjected to peer review. Those works are included in this review and described below. So that the reader is aware that a reviewed study is derived from the NSLLP, the appropriate administration's technical report is referenced in the study's initial introduction. Readers interested in accessing the NSLLP technical reports can retrieve them from either www.livelearnstudy.net or the University of Maryland Libraries' Digital Repository (see Bibliography for more information).

We begin our review of the extant empirical research on LLPs with inquiries examining LLPs and students' academic performance.

Academic Performance

LLPs are often purported to improve academic performance, typically operationalized as an improvement in first semester or cumulative grade point average. Between 1980 and 2010, six studies explored the relationship between LLP participation and academic performance. Of those studies, two showed no evidence for a relationship between LLP participation and academic performance. The remaining four studies suggested positive associations between LLP participation and grade point averages for at least some respondents.

In what is among the earliest works focused on the outcomes of LLP participation, Pascarella and Terenzini (1980) sought to understand the relationship between LLP participation and first-year students' GPAs (see also Sections "Persistence," "Intellectual Development," "Faculty Interaction," "Peer Interaction," and "Campus Life"). Central to their analysis was the notion that interpersonal processes within a residential environment, such as student-faculty and peer-peer interactions, might mediate that environment's influence on student outcomes. To evaluate their hypotheses, the authors used a three-stage analytic strategy: (1) identifying potentially important processes within residential environments, (2) testing an OLS regression model of a residential arrangement's relationship to an outcome of interest, net of pre-college characteristics and not including process variables, and (3) if a statistically significant relationship between residential arrangement and the outcome of interest was noted, retesting the previous model after having incorporated process variables.

Using a sample of 773 first-year students (RR = 53%; LLP_n = 65, or 8%; non-LLP_n = 708, or 92%), Pascarella and Terenzini (1980) regressed first-year GPA

on student background characteristics, educational aspirations, pre-college achievement measures, and expectations about collegiate intellectual and social life, in addition to an indicator of students' LLP participation ($R^2 = 0.47$, $F(16, 746) = 12.85$). Holding those factors constant, LLP participation ($\beta = 0.04$) was not a statistically significant predictor of performance ($F(1, 746) = 1.34$). As a result, the final phase of Pascarella and Terenzini's planned analysis—the possible role of interpersonal process variables—was not implemented for this outcome.

While Pascarella and Terenzini (1980) were not able to fully explore the mediating role of interpersonal process in their model of academic performance, Pike, Schroeder, and Berry (1997) were. In a frequently cited piece, Pike et al. explored the experience of 1018 (RR = 38%) first-year students, 13% ($LLP_n = 130$; non-$LLP_n = 888$, or 87%) of whom participated in any one of 22 residential freshman interest groups (FIG) that included a residential component, co-enrollment in a one-credit academic success seminar, peer advisors, and various co-curricular activities. Using a combination of student survey data and administrative records, the authors used two-group measured variable path analysis to compare the processes underlying academic performance of residential FIG participants and their non-participating peers. They noted no statistically significant difference between the first-year GPA of students who had participated in a residential FIG and those who had not, controlling for background characteristics, pre-college measures of academic ability, support from significant others, faculty–student interaction, and academic and social integration.

Five years later, Edwards and McKelfresh (2002) explored the relationship between participation in a residential college focused on the natural sciences and students' academic performance (see also Section "Persistence"). The authors gathered administrative record data on 342 students ($LLP_n = 81$, or 24%) and regressed students' first-semester and first-year GPAs on gender, a composite measure of pre-college academic ability, race/ethnicity, LLP participation, and a gender × residential college interaction term.

Rather than providing regression coefficients for each predictor variable, Edwards and McKelfresh (2002) used the resulting equations to predict first-semester and first-year GPAs for each gender × participation group, with the pre-college ability composite variable held at its mean. The main effect of participation was not statistically significant for either first-semester or full-year GPAs. However, the authors noted a gender × participation interaction in the full-year GPA analysis: while women LLP participants ($\widehat{GPA} = 2.91$, SE = 0.11) had outcomes that were statistically indistinguishable from non-participants ($\widehat{GPA} = 2.92$, SE = 0.06), male LLP participants ($\widehat{GPA} = 2.86$, SE = 0.12) reported statistically significantly higher GPAs than did their non-participating male peers ($\widehat{GPA} = 2.46$, SE = 0.07).

While prior authors had drawn their LLP samples from a single (or single type of) LLP, Stassen (2003) contrasted the academic experience of students in one of three LLPs and their non-participating peers (see also Sections "Persistence" and "Academic Engagement and Co-curricular Involvement"). Following two cohorts of incoming students, she gathered administrative record ($N_1 = 3{,}948$ and

$N_2 = 3{,}580$; subsample statistics not presented) and student survey data ($\text{LLP}_{\text{RR}} = 59\%$, $\text{LLP}_n = 477$, or 59%; $\text{non-LLP}_{\text{RR}} = 62\%$, $\text{non-LLP}_n = 328$, or 41%) on both LLP non-participants and students participating in programs that exhibited varying levels of student collaboration, faculty collaboration, and group identity. Stassen conducted separate analyses for each cohort, regressing first-semester GPA on student background characteristics, pre-college ability measures, participation in academic support programs, field of study, and variables indicating the LLP in which students participated. Across both cross sections, participation in each of the three LLPs was associated with statistically significantly higher first-semester GPAs when compared with non-participation ($0.22 \leq$ adjusted $R^2 \leq 0.27$; $0.12 \leq B \leq 0.22$; $0.03 \leq \beta \leq 0.10$).

Pasque and Murphy (2005) continued in Stassen's (2003) multiple-program tradition of analysis (see also Section "Academic Engagement") but aggregated participants from seven LLPs that varied by focus, intensity, and duration. They began by collecting survey data from 3,144 undergraduates of all class years ($\text{LLP}_{\text{RR}} = 78\%$, $\text{non-LLP}_{\text{RR}} = 56\%$). Then, the authors regressed an ordinal measure of cumulative GPA (1 = D+ or lower, 6 = A+ or A) on student background characteristics, high school grade point average, interaction terms between key social identities of interest to the authors (i.e., male/female, White/student of color, sexual orientation, and non-Christian/Christian religion), and an indicator of overall LLP participation. Regression results indicated that LLP participation was statistically significant ($B = 0.23$, $\beta = 0.11$, SE = 0.04) in the overall model ($R^2 = 0.12$; $F = 23.82$), holding other variables constant. Dividing the unstandardized coefficient by the standard deviation of the GPA variable ($\sigma = 0.49$) revealed that LLP participation was associated with a 0.47 standard deviation increase on the GPA measure.

Most recently, Purdie (2007) compared the relationship between first-year students' participation in one of three interventions designed to promote students' academic success, compared to non-participation. Three distinct interventions were considered, including (a) LLPs, (b) classroom-based first-year experience seminars (FYEs), and (c) residential FIGs, where groups of 15–25 students lived together and were co-enrolled in a series of four courses. Using four years of administrative records ($N = 13{,}932$, $\text{FYE}_n = 6\%$, $\text{FIG}_n = 29\%$, $\text{LLP}_n = 52\%$, $\text{non-participant}_n = 13\%$; RR = N/A), Purdie regressed first-semester GPA on student background characteristics, pre-college achievement measures, membership in a Greek-letter organization, on-campus residence, field of study, as well as a series of indicators of students' program participation. After controlling for other variables in the model ($R^2 = 0.39$), only participation in a FIG was statistically significantly related to first-semester GPA ($B = 0.04$, $\beta = 0.02$, SE = 0.02).

The studies reviewed above suggested at least some relationship between LLP participation and improved academic performance. It seems notable that studies with more robust models (e.g., pre-college expectations or post-entry interaction measures), as opposed to those that controlled only demographic characteristics (e.g., gender, family income, or parental education), evidenced either no effect (e.g., Pascarella & Terenzini (1980) and Pike et al. (1997)) or effects that were particularly small (e.g., Purdie (2007)). In Section "Critique of the Extant Literature," we consider the consequence of this finding for LLP researchers.

Persistence

Studies focused on the relationship between LLP participation and students' persistence are the second most numerous type of empirical research focusing on LLPs, represented by five works. This is far from surprising: conventional wisdom surrounding LLPs suggests that they create institutional microenvironments that assist students with navigating and integrating their academic and social experiences as well as create strong bonds with the campus community (Hummel et al., 2008; Schoem, 2004)—conditions traditionally related to student persistence (e.g., Tinto, 1993). The empirical evidence reviewed below, however, suggests only partial evidence that LLP participation may facilitate stronger persistence.

In addition to academic performance (above), Pascarella and Terenzini (1980) also sought to explore the relationship between LLP participation and student persistence. While their research indicated participation did not evidence a statistically significant relationship to academic performance, the authors found it initially exhibited a positive, statistically significant relationship to persistence through the first year of college ($\beta = 0.07$). However, after including variables representing student–faculty interaction, students' ratings of faculty concern for student development and teaching, and peer–group interactions, LLP participation was no longer a statistically significant predictor of persistence ($\beta = 0.02$). The authors concluded that while participation in an LLP does not contribute to persistence per se, participation afforded students access to environments characterized by powerful relationships between students, faculty, and their peers that promote student success.

The work of Pike et al. (1997) is amongst the most frequently cited example of persistence-focused LLP scholarship. The authors contrasted the experience of 2,678 first-year students, 13% of whom participated in a residential FIG program. Using a combination of student survey data and administrative records, the authors used two-group measured variable path analysis to compare the processes underlying persistence between residential FIG participants and their non-participating peers.

Pike et al. (1997) hypothesized that nine independent variables shared a direct, causal relationship with persistence, including gender (female), racial minority status, entering ability (measured by ACT score), support from significant others, faculty–student interaction, academic integration, social integration, academic achievement (measured by GPA), and institutional commitment. Indirect relationships among relationships were also posited, including those between student background characteristics and measures of interaction, integration, achievement, and commitment; those between interaction measures and measures of integration, achievement, and commitment; and, finally, between integration and achievement and commitment. By relaxing cross-model constraints on all intercepts and several structural equations (including those involving student background characteristics, faculty–student interactions, and persistence), good data model fit was attained ($\chi^2(42) = 54.97$).

After testing for a between-group difference in the persistence intercepts of both groups and finding none, Pike et al. (1997) concluded that participation in residential FIGs made no direct contribution to students' rate of persistence, controlling for other elements in the model. While they found no direct relationship between residential FIG participation and improved persistence, the authors noted that FIG participants did report greater institutional commitment and social integration than did their non-participating peers. No statistically significant difference was noted between groups' reported levels of academic integration.

In addition to their exploration of students' academic performance (above), Edwards and McKelfresh (2002) also considered three separate forms of persistence—to a student's field of study, to university residence halls, and to a student's second year of study—and its relationship to participation in a residential college. While they noted no effect on major persistence, the authors reported a statistically significant gender × LLP participation interaction in their analysis of residence hall persistence (64.1% of male LLP participants were predicted to persist, compared to 13.7% of male non-participants) and a statistically significant ethnicity × LLP participation interaction in their analysis of university persistence (89.5% of non-white LLP participants were predicted to persist, compared to 75.7% of non-white non-participants).

Although Stassen's (2003) prior work found uniform support for the notion that LLPs were positively related to students' academic performance, her findings vis-à-vis persistence through the first year were mixed. Analyses on her first cohort found a statistically significant relationship between participation in each of the three programs under investigation (a University Honors program, a selective talent advancement program [TAP], and an open-access residential academic program [RAP]) and reduced odds of attrition ($0.40 \leq e^{\beta} \leq 0.67$) net of student background characteristics, pre-college ability measures, participation in academic support programs, and field of study. However, the same analysis conducted on next year's cohort uncovered a statistically significant relationship ($e^{\beta} = 0.69$) for only one program, RAP. After disaggregating her analysis to consider voluntary versus non-voluntary withdrawal separately, Stassen found participation in only one program—again RAP—was statistically significantly related to decreased odds of attrition in both cohort years ($0.63 \leq e^{\beta} \leq 0.74$ for voluntary withdrawal and $0.51 \leq e^{\beta} \leq 0.56$ for involuntary withdrawal).

As a follow-up to her persistence-focused analyses, Stassen (2003) sought to identify whether LLP participants and their non-participating peers reported meaningful differences in persistence-related elements of their collegiate experience, including institutional commitment and a series of academic and social integration indicators. In the aggregate, LLP participants reported significantly greater levels of institutional commitment ($\alpha = 0.80$; four items, including "during this semester, to what extent have you felt a sense of community at this University") than did their non-participating peers. No statistically significant difference in mean institutional commitment was reported between specific LLP types.

While no statistically significant differences between LLP participants and their non-participant peers were noted on two of Stassen's three single-item indicators of

social integration, non-participants reported greater exposure to racial/ethnic diversity than did their participating peers. In stark contrast, LLP participants (in the aggregate) reported significantly greater means on six of seven indicators of academic integration than did their non-participating peers. They included academic work with peers ($\alpha = 0.79$; three items, including "how many times have you worked on homework with another student"), group project work (single item), positive academic behaviors ($\alpha = 0.59$; five items, including "how often have you come to class well prepared to answer questions or engage in discussions"), hours spent studying (single item), positive learning environments ($\alpha = 0.70$; six items, including "a lot of what I have learned in my courses can be applied to the real world"), and integration of ideas (single item): only the frequency of faculty contact was invariant between the two groups.

Purdie's (2007) earlier finding that participation in a residential FIG was positively related to improved academic performance among first-year students was mirrored by his study of first-year persistence. Net of student background characteristics, pre-college achievement measures, membership in a Greek-letter organization, on-campus residence, field of study, and first-semester GPA, participation in a FIG was associated with increased odds of persistence ($e^{\beta} = 1.18$; Nagelkerke $R^2 = 0.35$, Cox and Snell $R^2 = 0.21$). Purdie noted no statistically significant relationship between FYE or LLP participation and persistence.

The mixed findings regarding the relationship between LLP participation and student persistence closely track those reported earlier about LLP participation and academic achievement: models with statistical control of college environment variables tend to show no (or a diminishing) direct relationship between LLP participation and persistence. However, there is evidence that LLP participation may exert a positive, indirect pressure on persistence by promoting its theoretical antecedents, including faculty and student interaction (Pascarella & Terenzini, 1980), social integration (Pike et al., 1997), academic integration (Stassen, 2003), and institutional commitment (Pike et al.; Stassen). This finding regarding LLPs' direct and indirect effects on student outcomes will be discussed in more detail in Section "Critique of the Extant Literature" and has distinct methodological consequences for those interested in continued research into LLP programs' efficacy.

Degree Attainment

Only one study we reviewed focused on degree attainment. Beckett (2006) sought to explore differences in attainment and time to degree between residential FIG participants and their non-participating peers, and whether those differences were robust to socioeconomic status. To do so, he used administrative records of 13,541 students (FIG = 28%, non-FIG = 72%) from four sequential cohorts (i.e., 1998–2001) of first-time (i.e., initially enrolled in the Fall and did not transfer more than 24 credits), beginning students.

To address his first question, Beckett (2006) regressed degree attainment on a series of predictors (including student background characteristics, measures of

pre-college ability, field of study) along with an indicator residential FIG participation. Holding other factors constant, FIG participation was significantly and positively associated with degree attainment ($e^{\beta} = 1.18$). However, interpretation of this finding is somewhat complicated by Beckett's inclusion of all cohorts in one analysis and the use of a dependent variable that ignores time to degree: in his initial analysis, his dependent variable might be more aptly characterized as "degree attainment for the first cohort after X years, for the second cohort after X-1 years, for the third cohort after X-2 years, and for the fourth cohort after X-3 years." Perhaps in recognition of this concern, Beckett's second analysis explicitly focused on time to degree, and the dependent variable was changed from "attainment" to "attainment within 4 years." The results were virtually identical: FIG participation was significantly and positively associated with degree attainment within 4 years ($e^{\beta} = 1.16$).

Beckett's (2006) third research question sought to understand residential FIGs' relationship to degree attainment among 3,811 students who were designated as "at risk" (i.e., parents' adjusted gross income of $48,000 or less or a high school grade point average of 2.75 or less). He found that, similar to the prior full-sample analysis, FIG participation was significantly and positively related to "at-risk" students' probability of degree attainment ($e^{\beta} = 1.36$). On the basis that the odds ratio associated with FIG participation was greater in the "at-risk" analysis than it was in the full-sample analysis, Beckett concluded that residential FIG participation may disproportionately benefit "at-risk" students. This contention is not explicitly tested, however.

Intellectual Development

The literature focused on assessing the relationship between participation in an LLP and gains in intellectual development, writ large, is extensive. Making meaning of that literature is substantially complicated by uncertainty as to what is being measured, with the differences ranging from semantic to substantive. We review seven articles below. Irrespective of how the concept was operationalized, the bulk of the findings suggests that LLP participants reported greater intellectual development than did their non-participating peers.

Pascarella and Terenzini's (1980) work (see Section "Academic Performance") is the earliest study that we reviewed that included a measure of intellectual development ($\alpha = 0.74$; four items including self-reported gains in "applying abstractions and principles in problem solving"). When the authors regressed their first-year students' intellectual development scores on student background characteristics, educational aspirations, pre-college achievement measures, expectations about collegiate intellectual and social life, and an indicator of residence arrangement, a positive relationship between LLP participation and intellectual development was noted ($\beta = 0.10$, $F(1, 746) = 8.25$). However, when they included measures of mediating interpersonal process variables (e.g., faculty–student interaction and peer interactions), the residence arrangement variable was no longer a statistically significant predictor.

Clarke, Miser, and Roberts (1988) used survey data from 197 first-year students who lived in one of eight different residential environments that varied along three dimensions (LLP versus non-LLP × faculty involvement versus no faculty involvement × highly thematic versus non-highly thematic) to explore environment-related differences in a variety of outcome measures, including students' perceived academic development (see also Section "Satisfaction"). Controlling for a student's self-reported locus of control, the authors reported that the results of their factorial ANCOVA indicated LLP participants reported statistically significantly greater means on the development measure than did their non-participating peers. Unfortunately, Clarke et al. did not describe what was meant by academic development, mentioning only that it (along with several other outcomes) was measured using items adapted from earlier work by Pace and Astin. They also provide no data that would allow the reader to understand the magnitude of the difference observed between LLP participants and their non-participating peers.

Building upon the prior work of Pascarella and Terenzini (1980) and Pike et al. (1997), Pike (1999) used structural equation modeling techniques to identify group-related differences in the outcomes reported by 626 first-year students and to understand how characteristics of the collegiate environment contributed to students' intellectual development (see also Sections "Faculty Interaction," "Peer Interaction," and "Academic Engagement and Co-curricular Involvement"). Two scales from the College Student Experiences Questionnaire (CSEQ)—gains in general education ($\alpha = 0.76$; related to enjoyment of literature or understanding of art, music, or drama) and intellectual development ($\alpha = 0.82$; related to the ability to write clearly and think analytically)—were explored. In the first phase of his analysis, Pike found that LLP participants posted higher scores on general education ($\hat{d} = 0.27$) and intellectual development ($d = 0.10$) than did their non-participating peers.

After concluding that a mean difference existed between groups, Pike (1999) used structural equation modeling to identify relationships between variables he hypothesized to be antecedents of the intellectual development measures. In effect, Pike implemented an analysis that was analogous to an ANCOVA and a comparison of estimated marginal means. After controlling for student background characteristics, student involvement, interactions with peers and faculty, personal integration of course knowledge (e.g., engaging in activities that showed how different concepts fit together), and integration of course knowledge into conversations with others (e.g., discussions with peers), no statistically significant differences in general education and intellectual development gains were reported between LLP and non-LLP participants. Of course, the integration processes Pike saw as mediating intellectual development might be seen as indicators of intellectual development in and of themselves. However, Pike's analysis revealed that, after controlling for student background characteristics, involvement, and peer and faculty interactions, no statistically significant differences existed between LLP and non-LLP participants on either integration measure.

Pasque and Murphy's (2005) work on LLP participation and social identity sought to understand how interpersonal and residential forces might help foster student success (see Section "Academic Performance") and intellectual engagement

($\alpha = 0.80$; nine items, including "enjoyment of challenging intellectual pursuits"). Regressing engagement on a series of student background characteristics and interactions among them ($R^2 = 0.12$, $F = 23.82$), the authors found that LLP participation was a statistically significant predictor of students' intellectual engagement ($B = 0.37$, $\beta = 0.10$). Given engagement's reported standard deviation of 0.49, LLP participation was associated with a 0.76 standard deviation increase in the dependent variable.

Two studies by Inkelas and her colleagues, Inkelas et al. (2006a) and Inkelas et al. (2006b), included substantial investigations into the relationship between LLP participation and students' self-reported gains in intellectual development. In the former, the authors reported on a four-institution study that enrolled 5,437 students (LLP = 45%, non-LLP = 55%), while in the latter they described a study that included 4,058 participants (LLP = 43%, non-LLP = 57%) from three institutions.

Five outcomes were unique to Inkelas et al.'s (2006a) first study, in which student responses from all three participating institutions were combined for analysis. They included self-reported growth in (a) critical thinking ability ($\alpha = 0.73$; six items including "exploring the meaning of facts when introduced to new ideas"), (b) application of knowledge ($\alpha = 0.69$; six items including "something learned in one class helped with another"), (c) enjoyment of challenging intellectual pursuits ($\alpha = 0.64$; four items including "enjoying the challenge of learning new ideas"), (d) developing a personal philosophy ($\alpha = 0.81$; four items including "developing one's own values and ethical standards"), and (e) personalizing knowledge ($\alpha = 0.69$; four items including "preferring courses with material that helps me understand myself"). LLP participants reported statistically significantly higher mean scores than did their non-participating peers on three of the five measures, including critical thinking ability ($\hat{d} = 0.20$), application of knowledge ($\hat{d} = 0.13$), and enjoyment of challenging intellectual pursuits ($\hat{d} = 0.20$).

Two additional outcomes, growth in cognitive complexity ($\alpha = 0.82$; four items including "ability to critically analyze ideas and information") and increased appreciation for liberal learning ($\alpha = 0.82$; four items including "openness to views I oppose"), were explored in both Inkelas et al. (2006a) and Inkelas et al. (2006b). While, as noted above, the former study combined student responses from all three institutions into one analytic sample, the latter analyzed each of its four institutional samples separately. The authors noted no statistically significant difference between LLP participants and their non-participating peers on the measure of cognitive complexity. However, LLP participants in both studies reported greater growth in their appreciation for liberal learning, on average, than did students who were not in LLPs (maximum $\hat{d} = 0.10$).

While Inkelas and her colleagues observed differences in intellectual development between LLP and non-LLP students, issues about how to interpret those findings remain (Inkelas et al., 2006a, b). The absence of a pre-test, for example, makes it difficult to disentangle the effects of LLP participation from students' characteristics at entry, most notably unique motivations that spur students to participate in a living–learning program resulting in a form of self-selection bias. The amalgamation of multiple institutions in a single sample, beneficial in that it

minimizes the prospect that any one finding is idiosyncratic to a particular setting, may inadvertently confound institutional-level effects with those observed at the level of the student. However, the consistent use of psychometrically sound, factor-based scales—as opposed to single items—represents a substantial improvement over the methods of other quantitative studies of LLPs. These concerns related to the measurement of abstract learning concepts in LLPs are discussed later in the Section, "Critique of the Extant Literature."

Eck, Edge, and Stephenson (2007) reported on survey data collected from 403 first-year undergraduates (LLP = 47% and non-LLP = 53%) who had been asked to rate their gains (1 = "not at all" to 7 = "significantly") on several single-item outcome measures, including several that might be considered indicators of intellectual development. For example, the authors note that gain scores for LLP participants exceeded those of their non-participating peers on items including "[identifying] solutions for complex problems" (diff = 0.36), "decision-making skills" (diff = 0.37), "evaluate the quality of opinions and facts" (diff = 0.51), and "[ability] to see multiple sides of issues" (diff = 0.77; p. 7). Making meaning of these differences is complicated by two factors. First, while the authors noted that each of these differences were statistically significant at $p < 0.05$, no measures of effect size were presented, and the information needed to compute effect sizes post hoc were not reported. Second, the post-test-only nature of the design makes it impossible to determine whether the differences noted might reasonably be thought to be related to LLP participation, or whether they were artifacts of students' entering characteristics or self-selection bias.

Most recently, Kohl (2009) used data collected by Inkelas and Associates (2004) to explore differences in students' self-reported critical thinking ability. His work involved 637 students at eight institutions who lived in one of three residential environments: residential honors LLPs (48%), LLPs focused on civic engagement or social leadership (19%), and traditional residence halls (33%). Using OLS regression, Kohl regressed critical thinking ability on variables representing student background characteristics, pre-college intellectual confidence, select institutional characteristics (i.e., size, selectivity, investment in student services, and location), student involvement, peer and faculty interactions, hall academic and social climates, and indicators representing residence in civic engagement LLPs and in TRH environments ($R^2 = 0.32$, $F(25) = 11.59$). No statistically significant relationship was noted between the indicator for participation in a civic engagement LLP (versus residential honors LLPs) and students' critical thinking abilities, but residence in traditional halls versus residential honors LLPs was associated with lower critical thinking scores ($\beta = -0.33$).

Faculty and Peer Interactions

As noted earlier, enhancing participants' interaction with faculty and peers is a key goal of LLPs. Several studies have examined the extent to which LLP participants report more frequent (or more consequential) interaction with faculty members and

other students. Below, we review five studies focused on faculty–student interaction and three studies focused on peer interaction, and the role LLP participation may play in augmenting both. Generally, these studies suggest that LLP participants report more frequent interaction with faculty and peers than do non-participants.

Faculty Interaction

Because of their interest in how interpersonal factors within residential environments influenced LLP participants' outcome attainment, both Pascarella and Terenzini (1980) and Pike (1999) contrasted the level of faculty–student interaction reported by LLP participants and their non-participating peers. Net of other factors (described above), Pascarella and Terenzini (1980) reported that LLP participation was associated with more frequent faculty interaction ($\alpha = 0.85$, five items including "my non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes") ($\beta = 0.110$, $F(1, 746) = 8.81$)) and higher student ratings of perceived faculty concern for student development ($\alpha = 0.82$, five items including "few of the faculty members I have had contact with are generally interested in students," reverse coded) ($\beta = 0.092$, $F(1, 746) = 6.27$)) than non-participation. Similarly, Pike (1999) reported greater reported levels of faculty interaction ($\alpha = 0.84$, seven items derived from the CSEQ) among LLP participants than non-participants (ES = 0.19), net of student background characteristics and pre-college academic ability.

Using data collected from three cross sections of students ($N = 7{,}887$) participating in one of nine LLPs (37%), "neighbors" who did not participate in an LLP but lived in a building that housed one or more programs (32%), and non-LLP participants in wholly traditional residence hall environments (31%), Garrett and Zabriskie (2003) focused on identifying residence-related differences in faculty–student interaction. LLP participants reported statistically significantly higher mean scores on three of four measures of formal/academic interaction than did both their non-participating neighbors and non-participants who lived in wholly traditional residence halls, including (a) making an appointment to meet with faculty during office hours ($F(2) = 30.56$), (b) asking an instructor for course-related information ($F(2) = 10.35$), and (c) visiting informally with a faculty member before or after class ($F(2) = 25.28$). No statistically significant differences in formal student–faculty interactions were noted between neighbors and students who did not live in a building that housed an LLP.

Turning their attention to the four items representing informal/mentoring faculty–student interactions, Garrett and Zabriskie (2003) noted that, for each, LLP participants reported higher mean scores than did their neighbors and their non-participating peers who lived in traditional residence halls, including (a) attending cultural events with an instructor ($F(2) = 26.57$), (b) discussing personal concerns with a faculty member ($F(2) = 16.61$), (c) visiting informally with a faculty member at a social engagement ($F(2) = 74.29$), and (d) discussing vocational and academic concerns with a faculty member ($F(2) = 20.04$). This time, statistically significant differences between neighbors and students living in a building without an LLP

were noted, with neighbors reporting statistically significantly higher mean scores on measures of informal faculty interaction than did students in wholly traditional environments.

Inkelas and colleagues have also explored residence-related differences in student–faculty interaction. In Inkelas et al.'s (2006a) four-institution study, no statistically significant between-group differences were noted on measures of course-related faculty interaction ($\alpha = 0.76$, three items including frequency of having "visited informally with instructors before or after class"), but LLP participants were more likely than non-LLP participants to report higher levels of informal faculty mentorship ($\alpha = 0.78$, three items including frequency of having "worked with instructors on independent projects") ($\hat{d} = 0.15$). Inkelas et al.'s (2006b) three-institution study yielded somewhat more equivocal results, with LLP participants at two of the three institutions reporting higher levels of both course-related faculty interaction and faculty mentorship ($0.01 \leq$ partial $\eta^2 \leq 0.02$).

Peer Interaction

Both Pascarella and Terenzini (1980) and Pike (1999) investigated the relationship between LLP participation and peer interaction. Pascarella and Terenzini, who asked students to respond to items designed to tap their satisfaction with newly formed friendships and their perception that those relationships contributed positively to their growth and development ($\alpha = 0.84$; six items, including "since coming to this university I have developed close personal relationships with other students"), found a positive association between LLP participation and meaningful peer interactions ($\beta = 0.11$, $F(1, 746) = 9.31$). Pike's work separated peer interaction itself ($\alpha = 0.89$; seven items, including "interacting with people who are different from you") from the content of those interactions ($\alpha = 0.86$; ten items including frequency of talking about "major social problems"). Net of student background and pre-college characteristics, Pike noted that LLP participants reported statistically significantly higher means on both measures than did their non-participating peers (ES = 0.32 and 0.45, respectively).

Like Pike (1999), Inkelas et al. (2006a) sought to develop more nuanced measures of student interaction. Distinguishing students' peer interactions that were academically or vocationally focused ($\alpha = 0.75$; four items including "discussed something learned in class") from those that were socially or culturally focused ($\alpha = 0.84$; six items including "discussed social issues"), Inkelas et al. noted that, across the four institutions in her study, LLP participants reported more frequent interactions of both types than did their non-participating peers ($\hat{d} = 0.10$ and 0.20, respectively).

College Transition

Only one study we reviewed focused explicitly on students' academic and social transition to college. Using data collected as part of the 2004 National Study of

Living–Learning Programs (Inkelas & Associates, 2004), Inkelas, Daver, Vogt, and Brown-Leonard (2007) compared the transition to college of 1,335 first-generation students who participated in LLPs to that of their non-participating peers (subsample distribution not reported). After controlling for students' pre-college confidence in handling the challenge of college-level work, LLP participants reported higher scores on Inkelas et al.'s measure of ease of academic transition ($\alpha = 0.66$, three items including "ease of communicating with instructors outside of class") ($F(2) = 16.61$) than did their non-participating peers, although the effect size was very small (partial $\eta^2 = 0.03$). Similarly, using students' pre-college confidence that they would be able to feel a sense of belonging to their new campuses as a covariate, LLP participants reported higher scores on Inkelas et al.'s measure of ease of social transition ($\alpha = 0.65$, three items including "ease of getting to know others in my residence hall") ($F(2) = 51.01$) than did non-participants. The effect size, however, was still quite small (partial $\eta^2 = 0.07$).

Campus Life

Four studies we reviewed focused specifically on students' perceptions of residence hall or campus climates. Generally, those studies have suggested that, compared to their non-participating peers, LLP participants report more socially and academically supportive residence hall and/or campus climates. Two other studies explored residence and race-related differences in students' perceptions of the campus racial climate and sense of belonging. The results of those studies suggest that sense of belonging is not directly related to LLP participation, but race and racial climate are influential.

Pascarella and Terenzini (1980) operationalized students' perceptions of campus academic and social climates as having two components: academic press and sense of community ($0.81 \leq \alpha \leq 0.87$). Net of student background characteristics, they found no difference between LLP participants' and non-participants' perceived sense of academic press (10 items, including "I have found my academic life at this university to be intellectual") and academic community (six items, including "I have found my academic life at this university to be sensitive"). However, the authors noted that LLP participation was related to students' greater sense of social press ($\beta = 0.07$, $F(1, 746) = 4.11$) and sense of social community ($\beta = 0.10$, $F(1, 746) = 7.13$), net of student background characteristics (both scales same as academic press and community, having replaced "academic life" with "non-academic life"). When Pascarella and Terenzini included variables representing student and faculty interpersonal processes, however, residential arrangement was no longer a statistically significant predictor.

Several studies by Inkelas and coauthors have explored the relationship between students' perceptions of their campus residence halls as academically and socially supportive and their participation in LLPs. In a single-institution study, Inkelas and

Weisman (2003) contrasted the experiences of three groups of LLP participants—those in a transition program ($N = 318$), an academic honors program ($N = 378$), and a disciplinary-based program ($N = 187$)—versus non-participants ($N = 1{,}277$). Statistically significant differences existed in group means for perceptions of both academically ($\alpha = 0.73$, five items including agreement with "I think staff in my residential environment spend a great deal of time helping students succeed academically") and socially ($\alpha = 0.83$, six items including agreement with "I feel students in my residential environment have an appreciation for people of different religions") supportive climates. Post hoc tests revealed that non-participants reported significantly less supportive academic climates than did peers in transition program ($\hat{d} = 0.33$) and disciplinary-based programs ($\hat{d} = 0.56$), and less supportive social climates than did peers in honors ($\hat{d} = 0.34$) and disciplinary-based programs ($\hat{d} = 0.21$).

Two later works, Inkelas et al. (2006a) and Inkelas et al. (2006b), evidenced similar findings. In their four-institution study, Inkelas et al. (2006a) found that, across all institutions, LLP participants reported more academically supportive residence hall climates ($\hat{d} = 0.33$) and socially supportive residence hall climates ($\hat{d} = 0.42$) than did their non-participating peers. In a potentially related finding, Inkelas et al. (2006a) reported that a statistically significant difference existed between LLP participants' perceptions of the campus racial climate ($\alpha = 0.80$, six items including "interaction between students of color and White students") and the racial climate as perceived by their non-participating peers, although the small benefit accrued to LLP participants was negligible at best ($\hat{d} = 0.05$). In a subsequent study, Inkelas et al. (2006b) found that, with four institutions analyzed separately, LLP participants reported more academically supportive residence hall climates (partial η^2 ranging from 0.02 to 0.12) and socially supportive residence hall climates (partial η^2 ranging from 0.03 to 0.09) than did their non-participating peers.

Building on authors whose primary focus was identifying residence-related differences in students' perceptions of residence hall and campus climates, the work of Johnson et al. (2007) sought to understand how those differences might affect students' sense of belonging ($\alpha = 0.90$, five items including "I feel a sense of belonging to my institution"). First popularized by Hurtado and Carter (1997), sense of belonging is generally defined as a student's perception that he or she is part of the larger campus community and is believed to be particularly salient to the persistence of students from groups traditionally underrepresented in postsecondary education. In that vein, Johnson and her colleagues sought to explore race-related differences in the sense of belonging of 2,967 first-year students, as well as the factors—including LLP participation—that contributed to the sense of belonging to students in each group.

Using data from Inkelas and Associates (2004), Johnson et al. (2007) found race-related differences in students' reported sense of belonging, with White students reporting greater sense of belonging than did their African-American, Asian-Pacific American, and Hispanic/Latino peers ($\eta^2 = 0.01$). No difference was noted between White students and students who were identified as multiracial/multiethnic.

Interested in the student background and college environment factors that were predictive of students' sense of belonging (including those that may have led to the observed group mean differences), Johnson et al. analyzed regression models for each racial group separately. Although each model evidenced some degree of variability ($8.54 \leq F \leq 21.89$; $0.30 \leq R^2 \leq 0.37$), net of factors including student background characteristics, institutional selectivity, peer and faculty interactions, ease of academic and social transition, and measures of campus climate, participation in an LLP was not statistically significantly related to students' sense of belonging for students in any racial group.

Johnson (2007) continued her investigation of students' sense of belonging with a sample of 1,722 women in science, technology, engineering, or mathematics (STEM) majors, using data from Inkelas and Associates (2004). Participants lived in one of four residence arrangements: (a) all-female, STEM-focused LLPs (7%), (b) co-educational, STEM-focused LLPs (7%), (c) any other type of LLP (34%), and (d) traditional residence hall environments (53%). In a series of race × residence arrangement ANOVAs, Johnson found statistically significant main effects for race vis-à-vis sense of belonging ($F(4, 1{,}481) = 10.69$, partial $\eta^2 = 0.03$), perceptions of a positive racial climate ($F(4, 1{,}627) = 4.01$, partial $\eta^2 = 0.01$), and interactions with diverse peers ($F(4, 1{,}653) = 51.15$, partial $\eta^2 = 0.03$). Post hoc analyses indicated that White students reported statistically significantly higher sense of belonging than did their African-American, Asian-American, and multiracial/multiethnic peers; Black students reported less positive perceptions of campus racial climates than did their Asian-American, multiracial/multiethnic, and White peers; and African-American, Asian-American, Latina, and multiracial/multiethnic students were more likely than White students to report interactions with diverse peers ($\alpha = 0.90$, nine items including frequency with which students reported "attending a social event" with someone of another race). In each analysis, the main effect for LLP participation—and the race × LLP participation interaction effect—was not statistically significant.

Satisfaction

Relatively few authors have explored how participation in an LLP is related to student satisfaction, with only one relevant article appearing in a peer-reviewed journal. Clarke et al.'s (1988) work (see Section "Intellectual Development") found that first-year LLP participants were more likely than their non-participating peers to report satisfaction with job placement and counseling services, to have used those services, and to have reported changing their career choice, and that LLP participants were more likely than their non-participating peers to report satisfaction with the variety of courses available to them and the opportunity provided them to sample those courses.

Academic Engagement and Co-curricular Involvement

Given LLPs' emphasis on creating sites for meaningful curricular and co-curricular engagement, it is not surprising that several authors have explored the relationship between LLP participation and students' reports of involvement, both in and out of the classroom. We reviewed two studies that focused on students' academic engagement. On balance, the findings of those studies suggest that the level of academic engagement reported by LLP participants is greater than that of their non-participating peers.

Eck et al. (2007), introduced above, wrote their work "[provided] clear and convincing evidence that living–learning communities . . . are improving student engagement within . . . the classroom" (p. 7). Indeed, LLP participants in their study demonstrated higher mean scores than did their non-participating peers on ratings of participation in classroom discussions (diff = 0.37), oral presentation skills (diff = 0.51), writing skills (diff = 0.69), and "meaningful class discussions" (diff = 0.62, p. 7). Unfortunately, the absence of descriptive statistics required to compute appropriate effect sizes for the differences noted and the post-test-only nature of the study's design makes it impossible to validate the authors' initial claim.

Arms, Cabrera, and Brower's (2008) work provided stronger evidence of the relationship between LLP participation and academic engagement. As part of a larger study focused on students' ($N = 257$) experiences with academic advising, Arms et al. explored the relationship between the site of advising services (i.e., at a central advising office (44%), in a traditional residence hall (42%), or in an LLP (14%)) and students' ratings of advisee–advisor engagement ($\alpha = 0.84$; five items, not described) and participation in enriching educational experiences ($\alpha = 0.84$; eight items, described as being derived from the National Survey of Student Engagement and the NSLLP).

Net of background characteristics, pre-college academic ability, and expectations, Arms et al. (2008) noted no statistically significant relationship between the site at which a student received his or her academic advising and subsequent advisee–advisor engagement. However, their regression of enriching educational experiences on a similar model including advisee–advisor engagement suggested that, net of other factors, students who received their advising in an LLP—presumably a proxy for LLP participation itself—reported greater frequency of participation with enriching educational experiences than did those who received their advising elsewhere ($B = 0.29$, $\beta = 0.11$). Given a scale standard deviation of 0.69, participation in an LLP was associated with 0.42 standard deviation increase in the outcome of interest.

Other work has focused on involvement in campus or residence hall activities, noting that LLP participants have generally reported greater levels of interaction than did non-participants. Pike (1999), for example, noted that LLP participants reported greater involvement in the arts, music, and theater ($\alpha = 0.84$; derived from the CSEQ), in clubs and organizations ($\alpha = 0.90$; derived from the CSEQ),

and in the residence hall (derived from the CSEQ) than did their non-participating peers, net of pre-college factors (ES = 0.42, 0.45, and 0.31, respectively). Similarly, Brower, Golde, and Allen (2003) reported that LLP participants were disproportionately represented among students who reported having been "somewhat or very involved" in hall activities and having participated in campus activities or community service "often or very often," compared to their non-participating peers. Finally, Inkelas et al. (2006b) noted that, across each of the three institutions they studied, LLP participants were more likely than non-participants to have reported involvement in cross-cultural student organizations.

Attitudes and Beliefs

Studies of the role of LLP participation in attitude formation are relatively rare in the peer-reviewed scholarship. Published research has followed three streams: (a) physical wellness, (b) diversity and multiculturalism, and (c) civic engagement.

Brower et al. (2003) were the first to consider the LLP's power to shape educationally purposeful social norms in a study of first-year students' binge drinking behaviors. The authors contrasted the experiences of 137 LLP participants and 125 non-LLP participants on three dimensions: (a) frequency of binge drinking, (b) experiences of the primary effects of alcohol abuse (i.e., those caused by one's own use), and (c) experiences of the secondary effects of alcohol abuse (i.e., consequences of others' use). In addition to reporting a higher frequency of lower risk drinking (one or fewer drinking episodes since entering college) than did their non-LLP peers (22 versus 10%), LLP participants were less likely than their non-LLP peers to report episodes of binge drinking (38 versus 57%). Brower et al. also found that LLP participants reported fewer primary consequences of their own alcohol use (e.g., poor academic performance or physical symptoms), as well as fewer secondary consequences as a result of the alcohol use of others (e.g., disturbances to the living environment or verbal or physical assaults), than did their non-LLP peers.

Subsequently, Brower (2008) used data collected by Inkelas and Associates (2007) to explore high-risk drinking behaviors in a larger sample of LLP and non-LLP participants (RR = 33%; N = 23,910; LLP$_n$ = 11,669, or 49%; and non-LLP$_n$ = 12,241, or 51%). His findings corroborated those of Brower et al. (2003). Specifically, Brower found that LLP participants were significantly more likely (30.8%) than non-participants (23.6%) to report being non-drinkers (χ^2 = 1,13.9), and, among students who did drink, LLP participants reported less binge drinking (62.4%) than did non-participants (69.7%, χ^2 = 71.8). LLP participants also reported statistically significantly lower rates of both primary and secondary effects of alcohol use than did their non-participant peers.

Eck et al. (2007) also considered the connection between LLP participation and increased wellness among first-year college students. Unfortunately, the way in which the authors presented their findings makes it difficult to understand the interplay between LLP participation and issues related to health and wellness. While

the authors reported that LLP participants evidenced a higher mean on an item asking respondents to rate the gain (1 = "not at all" to 7 = "significantly") in their "ability to deal with stress" (diff = 0.41) than did their non-participating peers, LLP participants also reported higher means on "the impact of drug use" (diff = 0.43), "the impact of alcohol consumption" (diff = 0.56), and "college students' sexual issues" (diff = 0.52). Although the authors are not clear that *all* items represented gains in the "ability to deal with" a given wellness issue, the positive tenor of Eck et al.'s discussion would suggest we should interpret their findings in a favorable light.

Pike's (2002) exploration of the relationship between residence arrangement and students' openness to diversity contrasted the experiences of 502 first-year college students living in one of four environments: (a) traditional residence halls (33%), (b) "sponsored learning communities," thematic communities that focused on building social networks among students (23%), (c) first-year interest groups, which involved small groups of first-year students in the same floor of a residence hall who were enrolled in a core of common classes (30%), and (d) off-campus (14%). He hypothesized that openness to diversity ($\alpha = 0.79$; five items, including "I enjoy talking with people who have values different from mine") was directly influenced by students' background characteristics, college experiences (e.g., faculty and peer interactions), perception of campus press for diversity, and place of residence, as well as through several indirect relationships among those constructs.

Using a single-group, measured variable path analysis, Pike (2002) concluded that, net of other factors in the model, residence in any of the three on-campus living arrangements had a statistically significant, positive direct effect on students' openness to diversity (TRH = 1.23, SLC = 1.33, and FIG = 1.65). However, only participation in a FIG evidenced a statistically significant indirect effect on openness to diversity (ES = 0.53), suggesting that this environment—notably the one most akin to the prototypical LLP—was uniquely capable of shaping other facets of a student's college experience in ways that promoted development. Lacking in Pike's approach is a post hoc test of which of the groups (if any) evidenced statistically significantly different levels of openness to diversity from each other.

In their four-institution study, Inkelas et al. (2006a) explored diversity appreciation ($\alpha = 0.75$; three items, including having "learned about other racial/ethnic groups"), positivity of diversity climate ($\alpha = 0.80$; six items, including "frequency of cross-racial interaction"), and the frequency of interactions with diverse peers ($\alpha = 0.89$; nine items, including "attending social events together") reported by LLP participants and their non-participating peers. LLP participants reported higher means on Inkelas et al.'s measure of diversity appreciation, although the effect size was negligible ($\hat{d} = 0.06$). The differences between LLP participants and their non-participating peers on diversity climate and interaction measures were also statistically significant, but effects remained negligible ($\hat{d} = 0.05$ and 0.11, respectively).

Finally, Rowan-Kenyon, Soldner, and Inkelas (2007) explored the relationship between residence arrangement and students' sense of civic engagement, contrasting students ($N = 1{,}034$) who participated in civic engagement-focused LLPs

($n = 34\%$), LLPs not focused on civic engagement ($n = 33\%$), and traditional residence hall environments ($n = 33\%$), using data collected as part of Inkelas and Associates (2004). Rowan-Kenyon et al. noted that, after holding constant students' pre-college measure of the importance in co-curricular involvement, participants in civic engagement-focused LLPs reported a higher mean score on the authors' measure of civic engagement ($\alpha = 0.92$; 10 items, including importance of "working with others to make the community a better place") than did their peers living in LLPs not focused on civic engagement or in traditional residence hall environments (partial $\eta^2 = 0.03$). However, when the authors evaluated a larger model that regressed civic engagement on student background characteristics; current co-curricular involvement; peer and faculty interactions; self-reported development in critical thinking, personal philosophy, and interpersonal self-confidence; and indicators of LLP participation, no statistically significant effect for LLP participation remained.

Self-efficacy

Only one study we reviewed explored the relationship between LLP participation and a student's self-efficacy, or a sense that one is capable of performing a particular activity or achieving a particular goal. Kamin (2009) explored sophomore students' sense of academic self-efficacy ($\alpha = 0.78$; seven items, including belief student would "do well academically") using a sample of 4,700 students (LLP = 46%, non-LLP = 54%) drawn from 47 institutions nation-wide. She found that LLP participants reported higher self-efficacy than did their non-reporting peers, with a moderate effect size (partial $\eta^2 = 0.11$).

Psychosocial Development

Finally, Leinwall (2006) explored the relationship between LLP participation and aspects of students' psychosocial development, popularized by Chickering (1969) and Chickering and Reisser (1993), and as measured by the Student Development Task and Lifestyle Assessment (SDTLA; see Winston, Miller, and Cooper, 1999). In particular, she explored three developmental tasks (and their subtasks) traditionally associated with college students, including (a) developing mature interpersonal relationships, (b) developing autonomy, and (c) establishing and clarifying purpose. Neither specific items nor study-specific psychometric information was presented, although Leinwall noted that prior work with the STDLA had suggested Cronbach's alpha for its scales ranged from 0.62 to 0.88. A total of 229 respondents participated (LLP = 54%, non-LLP = 46%), all sophomores who had been exposed to either 2 years of participation in one of 12 LLPs or 2 years of the institution's traditional residence hall environment.

Using a 2 × 2 ANOVA design (LLP versus non-LLP × male versus female), Leinwall (2006) noted no statistically significant main or interaction effects for LLP