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The Online Journal of Distance Education Reaches the 10-Year Mark: A Look Back Using Social Network Theory to Examine its Collaboration Network

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Introduction

Happy 10th birthday to the *Online Journal of Distance Learning Administration*! Who would have ever imagined that this online journal situated on the Web site of a smaller university in Carrollton, Georgia, U.S.A., (population about 20,000 and listed in 2002 as one of the 50 best small southern towns in the United States), and without the financial backing of a large national association, would emerge 10 years later as one of the field's premier journals? Not even the founding editor, Dr. Melanie Clay, quite envisioned the number of contributors and readers who would seek out her journal from all over the world to entrust their academic knowledge and to read the latest "practical distance education management ideas as well as more theoretical works" (Clay, 2008). Dr. Clay briefly recounted how the journal originated and later surpassed her own expectations.

Most of what I learned about leading a distance program came as a result of visiting and talking to others at other colleges and universities, or simply by trial-and-error. So, one day, in the summer of 1998, I was discussing this with Janet Gubbins, who is now the assistant director of distance learning here, and within about 30 minutes' time we decided to create an online journal relating to the issues that we faced every day. . . . We were simply looking to promote a formal exchange of ideas and research in this area, and had no idea whatsoever that the journal would become so widely read and cited. So I would say that our expectations were very much exceeded. (M. Clay, personal communication, August 4, 2008).

The survival of any academic journal (and its editorial board) is noteworthy after considering the complexities, logistics, and resources involved in its continuation; the success of this journal must be particularly gratifying to its editor, board, and institution, considering its humble beginnings. The academic milieu is one of peer review and academic criticism where academics "vote with their manuscript submissions" and quickly withdraw their support whenever a journal does not meet their high standards. What makes the auspicious beginnings of this journal even more significant—and possibly one of the reasons for its success against many odds—is that it is the first online journal in the field of distance education in North America and one of the

first, and still few, to allow its authors to retain full intellectual property rights. A respected professor of distance learning and member of the editorial board for the journal, Michael Beaudoin, emphasized the importance of the "open forum" that this journal has established due, in large part, to its willingness to allow authors to retain ownership of their articles:

In addition to the many "firsts" that Scott Howell notes regarding the OJDLA, it is worth mentioning that this venue has also significantly advanced the discussion, and no doubt has enhanced professional practice, in the critical area of distance education leadership. And it has accomplished this within an open forum that fosters sharing of best practices based on solid theoretical foundations, rather than promotes proprietary scholarly interests that too often plague more publications with more conventional formats. (M. Beaudoin, personal communication, June 5, 2008)

The success of OJDLA is evident in the number of academic authors who have voted with their manuscript submissions. These authors have often collaborated with other authors (and the institutions they each represent) in creating and diffusing knowledge using the critical space provided by OJDLA. The structure of this collaboration network can not only enhance or inhibit the potential for knowledge creation and diffusion among authors within the field, but it can also highlight potential institutional norms (enhancers and constraints) that may inform the nature of knowledge development and innovation within the field of distance learning (Hite, Hite, & Chang, 2007).
In celebration of OJDLA's 10th anniversary, this article uses social network theory to analyze the collaboration network of authors and institutions who have contributed to the journal during the past decade (1998−2007). While social network theory is more commonly used in such fields as management, health, and sociology, the application of this theory is newer to education (Hite, Williams, & Baugh, 2005) and even newer to distance learning. The following three research questions guided this study:

1. What are the journal demographics: acceptance rates, authorship, institutional representation, and international presence?

2. What is the nature of the structure of the OJDLA co-author collaboration network?

3. What are the strategic implications of this collaboration network structure?

Background

In the first ten years of the journal (1998−2007), 240 articles were published by 358 authors representing 177 institutions by nearly as many female as male authors (male = 53%; female = 47%). An analysis of journal demographics will set a context for characterizing this journal's publishing patterns from the network perspective.

OJDLA Journal Demographics

During its first decade, OJDLA had an average acceptance rate of 37.5% (see Table 1). The acceptance rate has become more competitive over the years, suggesting that OJDLA is gaining greater prestige in the field. The majority of OJDLA articles were sole-authored (n = 129; 53.8%), with two-author articles representing another 25.4% (n = 61). Thus, sole and two-author articles together comprise 79.2% of all OJDLA articles. As shown in Figure 1, the total number of articles prepared by more than two authors (a range of three to seven coauthors) represents only 20.8% of OJDLA articles.

Almost 85% (306) of the 358 unique authors who contributed to the journal authored only one article during OJDLA's 10-year history; 36 (10%) authored two, ten (3%) authored three, and 7 (2%) authored four. The seven who authored (or coauthored) four articles each were Zane L. Berge, Kim Dooley, Susan M. Fritz, Scott L. Howell, George E. Marsh II, Dave B. Marx, and Kay S. Rockwell.

A total of 36 authors represented 26 (14%) institutions located outside the United States (7 from Canada, 3 from Australia, 3 from United Kingdom, 2 from Brazil, and 1 each from China, Egypt, Hong Kong, Japan, Malaysia, Nigeria, the Netherlands, Norway, Singapore, South Africa, and South Korea). The number of authors for OJDLA located outside the United States, and the institutions they represent, has increased slightly from the early years of the journal to the present.

Using Social Network Theory to Examine OJDLA's Collaboration Network

The journal demographics can be further analyzed using social network theory (Kadushin, 2004; Mizruchi, 2004). A core assumption of social network theory is that network structures reflect a "web" of relationships between actors, e.g., OJDLA authors, positioned within a larger network system (Gulati, 1995) that may also have strategic implications. In applying the approach of network systems to distance education learners, Moore (2003) suggests that "the network in some form . . . will be a very important, if not dominant, organizational structure of distance education in the future" (p. 1). The collaboration network of authors in distance learning also contributes to a similar network system by creating an invisible college at the level of faculty across the field.

Table 1

Summary of Manuscript Submissions and Acceptances for OJDLA (1998−2007).

Years	No. of Manuscript Submissions	No. of Manuscript Acceptances	Acceptance Rates
1998	36	21	58.3%
1999	51	20	39.2%
2000	58	19	32.8%
2001	57	24	42.1%
2002	68	22	32.4%
2003	76	29	38.2%
2004	82	24	29.3%
2005	73	31	42.5%
2006	74	25	33.8%
2007	65	25	38.5%
Total	640	240	37.5%
Mean	64.0	24.0	n/a

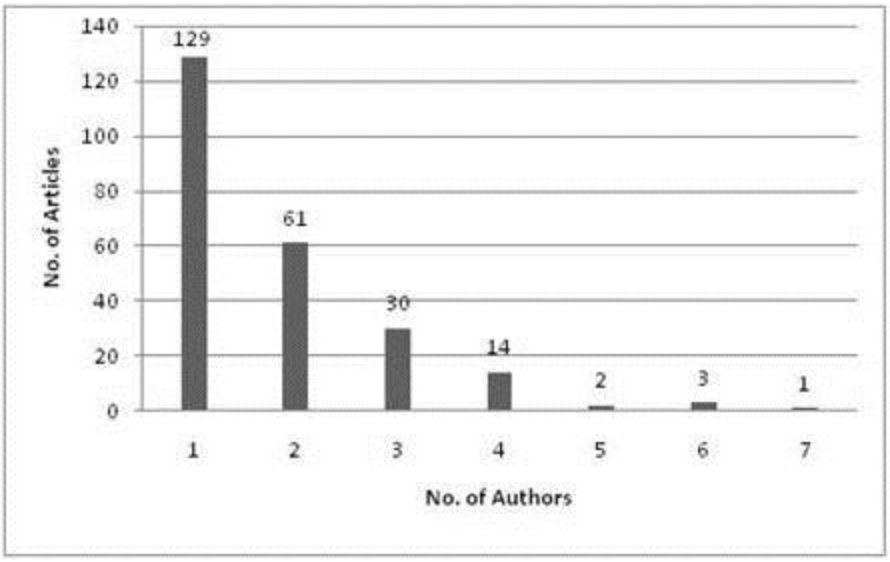

Figure 1. Number of articles prepared by number of authors (1998−2007)

At the micro level, the OJDLA network consists of authors and the ties or relationships between those authors. These ties between two authors (a dyad) become the basic building blocks of the collaboration network. A set of network ties creates larger network structures. For example, in Figure 2, a direct network structure consists of a given author and the set of this author's direct coauthoring ties, creating a star-shaped structure. In Figure 3, an egocentric network structure shows direct and indirect ties among all authors within a direct network. A larger network structure occurs in Figure 4, where the network ties of all the authors in the network are combined into a more complex network structure.

A network is identified by a specific set of actors and is described on the basis of what flows across their ties and potentially throughout the larger network system. For example, resource-sharing networks examine how network ties create potential bridges or conduits for the flow of resources throughout the network (Hite, Williams, & Baugh, 2005; Hite, Hite, Jacob, Rew, Mugimu, & Nsubuga, 2006). In a resource-sharing network, the network ties create bridges or conduits to represent the potential flow of resources throughout the network.

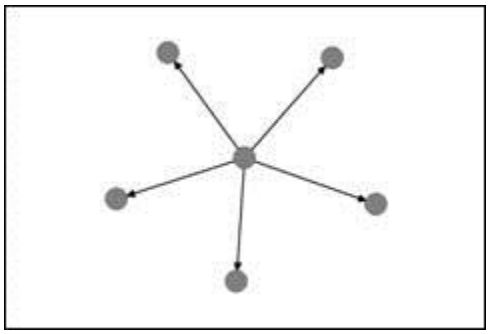
Figure 2. Direct network structure.

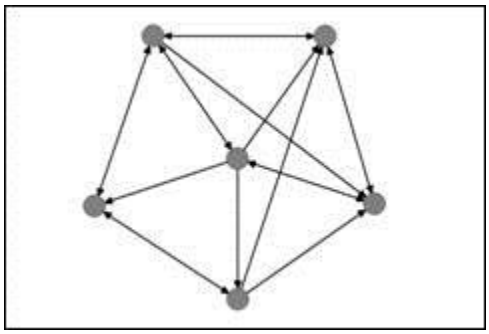
Figure 3. Egocentric network structure.

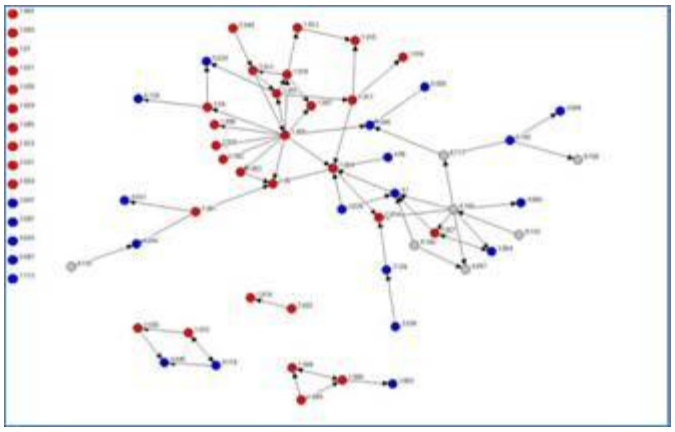

Figure 4. Example of a large network structure.

Network flows are influenced by the network's structural dimensions, including size, density, core/periphery, strength of ties, structural holes, and centrality (Wasserman & Faust, 1994; Burt 2001). *Size* is the number of actors in the network. *Density* is the ratio of actual to potential ties within the network. Based on the number of actors, potential ties represent the number of possible ties that would exist if every actor had a tie with every other actor. *Core/ periphery* refer to the structures within the network and the location of actors within these structures. Separate network structures that have no ties to other structures (of any size) are referred to as *components*. When most actors are located within a central component, the network has a core structure. In contrast, a periphery structure would have actors located in more disconnected components, including as isolates (no ties). *Strength of ties* is a measure of the given relation between two actors that creates the network structure. For example, tie strength is often measured in terms of the extent of content that flows across a tie. For example, in collaboration networks, strength of ties can be measured by the number of times that two authors have coauthored an article. *Structural holes* exist between disconnected components and present the potential for bridging ties. A bridging tie fills a structural hole, spanning between two components. Lastly,*centrality* identifies the number of ties for each actor; those actors with more ties are positioned more centrally within the network structure. These structural dimensions have strategic implications for the potential flow of network content.

Collaboration networks are characterized by the set of the ties between authors which, in turn, determine the degree of collaboration within the network (Hite, Hite & Chang, 2007; Newman, 2004). The combined structure of these interpersonal ties creates a better understanding of patterns of knowledge diffusion (Singh, 2005), including regional clustering (Wagner & Leydesdorff, 2005a), preferential attachment, and the balance between cooperation and competition (Wagner & Leydesdorff, 2005b). A unique, interpersonal network of authors exists for the authors (and institutions) who have contributed to OJDLA. In the OJDLA collaboration network, a tie exists between any two authors who collaborated as coauthors of the same article. The resulting collaboration network structure demonstrates patterns that suggest how knowledge creation and dissemination may be facilitated or hindered within the field of distance learning administration.

Methods

Using network methods and analysis (Wasserman & Faust, 1994; Scott, 2000), this study explored OJDLA's collaboration network by examining coauthoring and institutional relationships that emerged during the first 10 years of OJDLA's existence. The network actors consisted of the entire population of individual authors (n = 358) who contributed to the 240 peer-reviewed journal articles published in OJDLA from 1998−2007. Within this population of actors, a network tie exists between two authors if they coauthored at least one OJDLA article within the 10-year time frame. This set of coauthor relationships provided the basis for creating OJDLA's collaboration network matrix (Wasserman & Faust, 1994).

The collaboration network matrix was analyzed using UCINet (Borgatti, Everett, & Freeman, 1999) software and graphically displayed using the NetDraw (Borgatti, 2003) software. The collaboration network structures at both the author and institutional levels were examined for structural patterns in size, density, core/periphery, strength of ties, structural holes, and centrality (Wasserman & Faust, 1994; Burt, 2001).

Findings and Discussion

OJDLA's collaboration network was first examined from the perspective of individual authors. This author-level network was then aggregated to obtain the institutional-level collaboration network, in which the institutions of OJDLA authors represented the network actors.

OJDLA CoAuthor Collaboration Network

The structure of the OJDLA coauthor collaboration network will be described in terms of size, density/cohesion, core/periphery, strength of ties, structural holes, and centrality.

Size, density, and distribution. This network consists of 359 unique authors with 295 coauthor collaboration ties. In Figure 5, the network graph of the OJDLA collaboration network structure is presented; the red- and blue-colored dots represent male and female authors, respectively. Each set of connected authors represents one component of the network structure. These authors, ties, and components have been grouped by similarly sized components to facilitate and illustrate the network analysis, e.g., single authors on the left, two-author ties on the outside, etc.

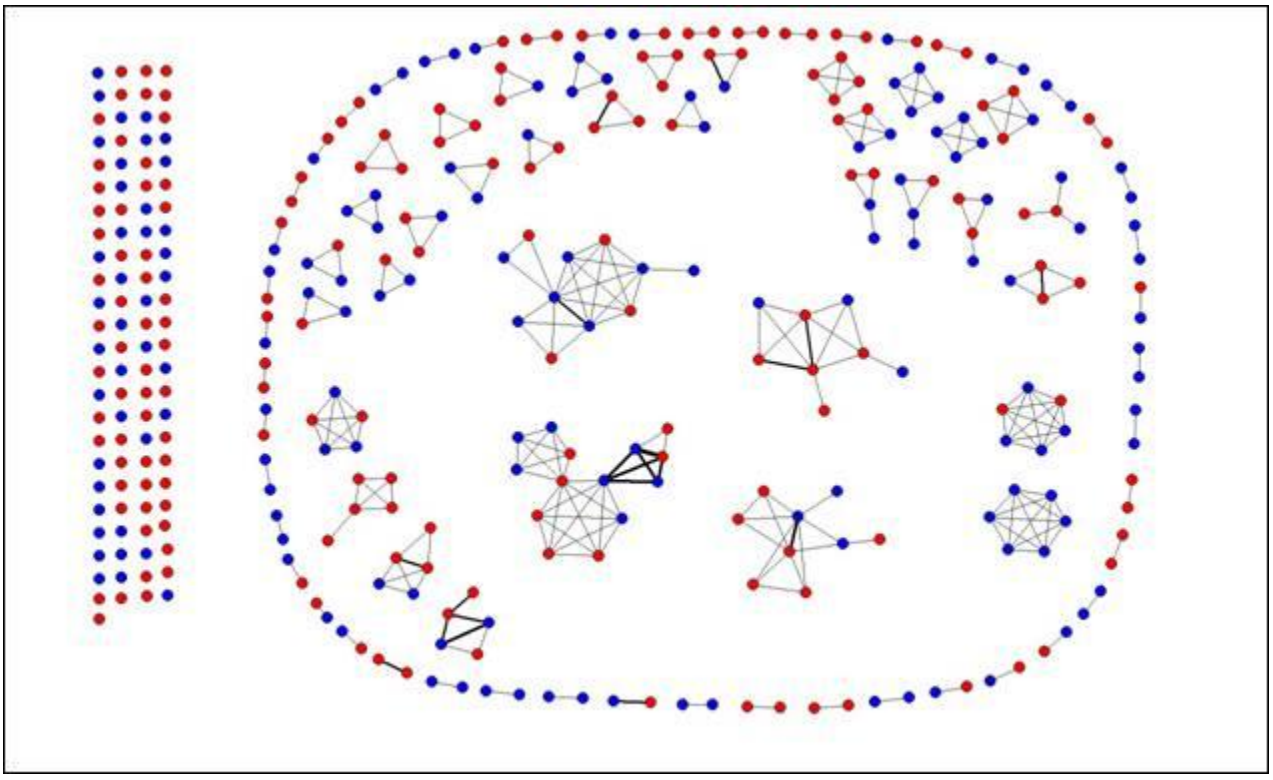

Figure 5. OJDLA coauthor collaboration network by gender.

(KEY: Nodes colored by gender: red = male, blue = female)

The network density is 0.5%, which indicates very low overall cohesion (a "sparse" network). One potential value of a collaboration network having low cohesion is increased author autonomy, and, with effective bridging structures in place, increased reach across the network (Burt, 2001). The value of higher cohesion (density) would generally be stronger relationships with easier access to and flow of knowledge and resources through the network, as well as a better knowledge of the collaboration partners (Hite, 2003).

Referring to the authors presented in Figure 5, a fairly even gender distribution exists across the entire network. The only gender-based pattern is seen in the two-author articles. A majority of these dyadic ties (31 of 48, 65%) demonstrate gender homophily (Ibarra, 1992), where female and male authors tended to publish with coauthors of the same gender. However, components composed of more than two authors demonstrate no clear gender-based patterns.

Core v. periphery. No clear core exists within this collaboration network; rather the structure consists of many smaller components, suggesting that collaboration generally occurs across only a few articles (see Table 2). A periphery-heavy structure is evident with 103 isolate (sole) authors (56%), and 96 (26%) authors who coauthored with only one other person. Thus a majority of OJDLA authors (82%) are found in the "periphery" of the network.

Table 2

Distribution of Components within OJDLA CoAuthor Collaboration Network.

Size of Component Structure (n)	Number of Components	Number of Authors Involved	Cumulative Percentage
1 [Isolates]	103 (56%)	103	56%
2 [Dyads]	48 (26%)	96	82%
3 [Triads]	15 (8%)	45	90%
4	10 (5%)	40	95%
5	3 (2%)	15	97%
6	2 (1%)	12	98%
7	0	0	98%
8	1 (.5%)	8	98.5%
9	1 (.5%)	9	99%
10	0	0	99%
11	1 (.5%)	11	99.5%
12	0	0	99.5%
13	0	0	99.5%
14	1 (.5%)	14	100.0%
TOTAL	185	353	

The four largest components of this collaboration network are shown in Figures 6−9. These larger components demonstrate how authors who publish more articles, and articles with more than one set of coauthors, facilitate the development of more complex network structures. More complex structures create more avenues or paths through the network which can facilitate a greater reach for knowledge creation and dissemination as well as greater opportunities for knowledge innovation. Three aspects of more complex network structures are considered: (1) *strength of ties*, (2) *bridging structural holes*, and (3) *brokering centrality*.

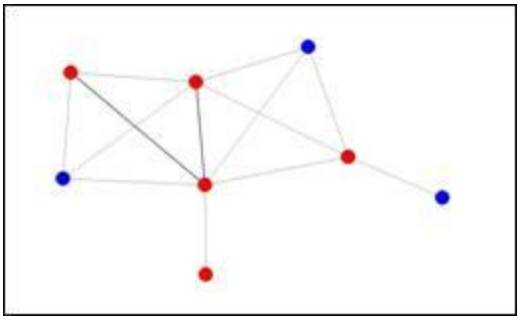

Figure 6. OJDLA component (n = 8).

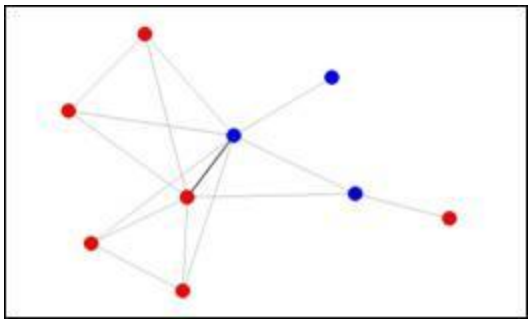

Figure 7. OJDLA component (n = 9).

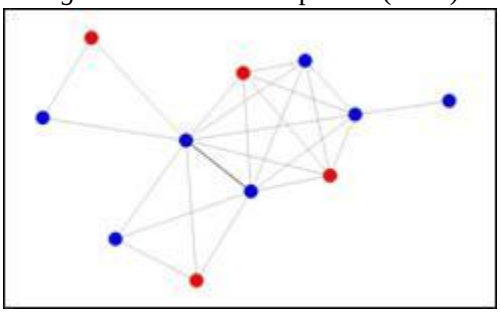

Figure 8. OJDLA component (n = 11).

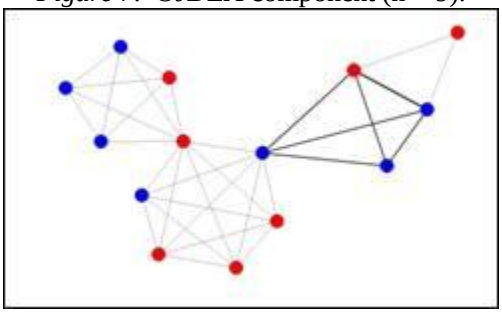

Figure 9. OJDLA component (n = 14).

Strength of ties. Within the OJDLA network, the strength of ties (the darker lines in the figures indicate stronger ties) is defined as the number of coauthoring instances that occur between any two authors in the network. The distribution of stronger ties demonstrates important structural variations within this network. Of the 295 undirected collaboration ties, only 20 ties (7%) demonstrated strength greater than one, suggesting the tie had been repeated (see Table 3). Table 3 indicates that tie strengthening through multiple coauthoring collaborations tends to occur most often in the larger components. This suggests that authors may be more likely to repeat coauthoring ties within the context of a larger base of potential collaboration.

The value of tie strength for collaboration networks is that repeated ties may generate stronger and more relationally-embedded ties which can increase more effective communication, specific knowledge of the coauthoring partner, and trust (Gulati, 1995; Granovetter, 1985; Hite, 2003; Uzzi, 1996). These characteristics of interaction provide necessary conditions for effective knowledge creation and transfer between the two authors and suggest that stronger ties are more likely to function as conduits for knowledge transfer or flow into other parts of the network (Inkpen & Tsang, 2005). Increasing the number of strong ties can also increase network density, which in turn can increase intranetwork information and resource access.

Table 3

Structural Distribution of Collaboration Network Tie Strength.

Structural Position of Dyadic Tie Strengths >1	Number of Ties with Dyadic Tie Strengths > 1	
	Tie Strength = 2	Tie Strength = 3
Dyad	2	0
Triad	2	0
Component (4 authors)	1	0
Component (range 5−14 authors)	7	8

Yet, when density becomes too high, it also brings the corresponding challenges of making the network somewhat “impenetrable.” This results in a network with the increased potential for information redundancy

and restricted knowledge flow from outside the network (Hite & Hesterly, 2001). An "impenetrable" network can consequently be less inclusive or accessible, as well as low in creativity and adaptability.

Bridging (structural holes). Bridging, or filling structural holes (Burt, 2001), is another element of network structures. A bridge is identified when a specific tie is the only connection between two substructures, and were the tie removed, the component would split into two disconnected components. Thus, the tie is said to fill a "structural hole" in the network. In this network, bridging ties can be found in two-author dyadic ties filling structural holes in Figures 6–8, such that without this tie or bridge, one of the authors would be an isolate (a component with only one author) and disconnected from other members of the network. A different form of bridging is also seen in the redundant ties of three-author articles in Figures 7–9, which bridge to an author who would otherwise be an isolate. In this situation, in contrast to the traditional perspective of ties creating the bridges (Burt, 2001), a collaboration event indicated by a publication with multiple coauthors can also create a bridge. Consequently, the level of analysis for bridging expands from ties to also include collaboration events that create multiple ties. Thus, not only can single dyadic ties fill structural holes but a published article can also fill a structural hole within the context of a collaboration network of coauthors.

The value of bridging ties is that they facilitate the development of greater network connection (e.g., density and cohesion)—bridging becomes a form of "super," "supra," or "hyper" collaboration. As bridging increases, a more identifiable core begins to emerge. As Figure 3 demonstrates, OJDLA's collaboration network is replete with structural holes, as indicated by its low density and multiple components. More complex bridging to fill
structural holes and connect these components, however, is not yet well demonstrated in this network. The lack of complex bridging structures may relate to the relatively young age of this network, the nature of the distance education field, or to the fact that this network results from only one journal.

Brokering (degree centrality). In filling brokering roles, authors attain a greater degree centrality (defined as an author's number of ties). Brokering roles are most evident in Figures 4–7, in which several authors fill brokering roles by being the connecting author between different articles. Brokering focuses on the position of the author, whereas bridging focuses on the development of ties. The value of brokering in a network is that it serves to increase an author's centrality and thus potentially creates greater influence for the author within the network. This increased influence occurs as the central author is more involved in, and can help facilitate, the processes of knowledge transfer and creation within the network (or at least within the component).

In network theory, multiple types of centrality can be measured. However, in the OJDLA network, only degree centrality can be calculated effectively due to the disconnected nature of the network structure. Degree centrality takes into account multiple authoring with the same coauthor, counting each coauthoring relationship as a separate tie. Table 4 indicates the 10 most central authors in the OJDLA collaboration network—those having the highest number of coauthoring ties in the network. The centrality of these authors stems from the implied strategies of coauthoring multiple publications with the same people (strength of ties), coauthoring with a greater number of different coauthors (bridging or brokering), or some of both. Previous research has found that a combination strategy promotes increased publication productivity in the field of higher education (Hite, Hite, & Rumsey-Wairepo, 2006). The number of substructure connections in Table 4 indicates the number of connections each author has to other parts of the network, and the efficiency of their degree centrality indicates how well each author has used collaboration ties to build structural connections within the network. Lower efficiency of degree centrality suggests the author is likely repeating ties.

OJDLA Institutional Collaboration Network

In the OJDLA institutional network, all authors from the same institution are aggregated into a single network node. Ties represent a coauthoring relationship of authors between two different institutions. Figures 10 and 11 present the institutional network graphs by location and institution type.

Size, density, and distribution. While 177 institutions are represented by published articles in OJDLA, 83 (47%) of these institutions have 134 cross-institutional collaboration ties. With a very low network density of 0.44%, the institutional network demonstrates low cohesion. Density indicates the ratio of actual over potential institutional ties (if ties existed between all institutions). Of the institutions with collaboration ties, 72 (83%) are based in the United States, and 78 (90%) represent higher education. While institutions not in the U.S. or in higher education do have collaboration ties, these institutions are located in more peripheral positions.

Table 4

OJDLA's Top Ten Authors and Degree Centrality.

Author's Name	Author's Institution	Degree Centrality	Number of Structural Connections	Efficiency of Degree Centrality
Susan M. Fritz	University of Nebraska−Lincoln	14	2	.14
S. Kay Rockwell	University of Nebraska−Lincoln	11	2	.18
Dave P. Marx	University of Nebraska−Lincoln	11	2	.18
Barbara K. McKensie	University of West Georgia	10	3	.30
James W. King	University of Nebraska−Lincoln	9	2	.22
Kim Dooley	Texas A&M	9	4	.44
Jolene Shauer	University of Nebraska−Lincoln	9	1	.11
Scott L. Howell	Brigham Young University	8	2	.25
James Lindner	Texas A&M	8	3	.38
Michael Waugh	University of West Georgia	8	2	.25

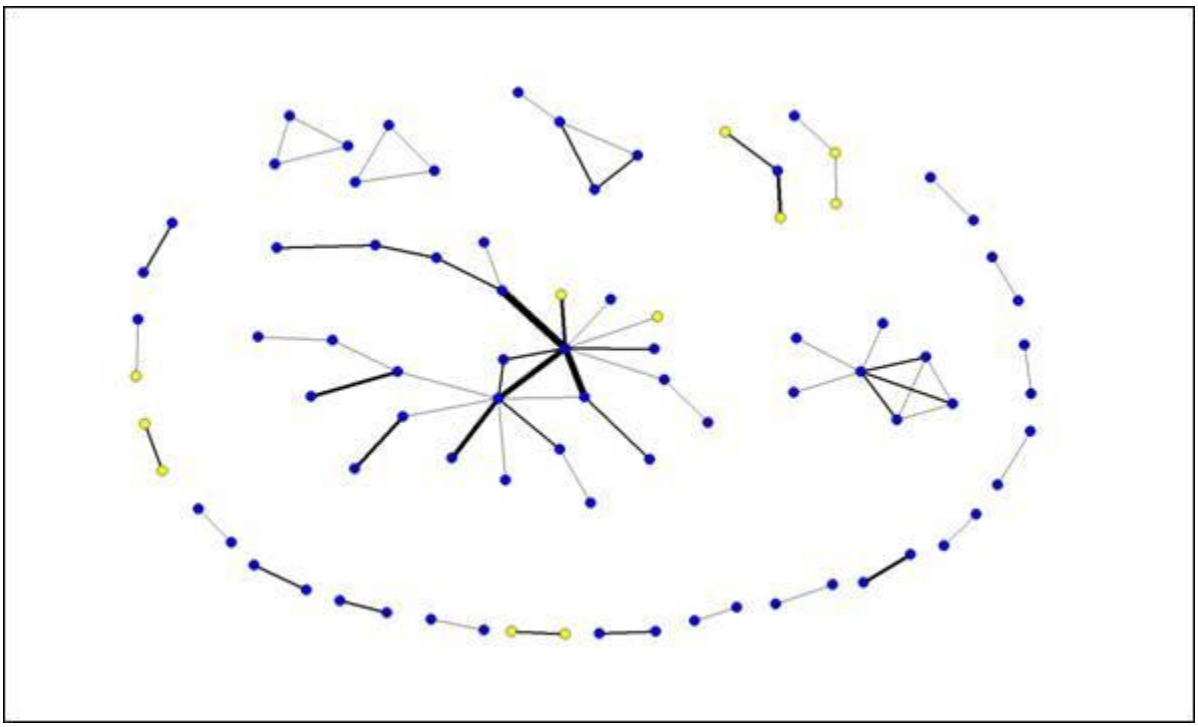

Figure 10. OJDLA institutional collaboration network by location.

(KEY: Nodes colored by location: blue = U.S.-based, yellow = non-U.S.-based)

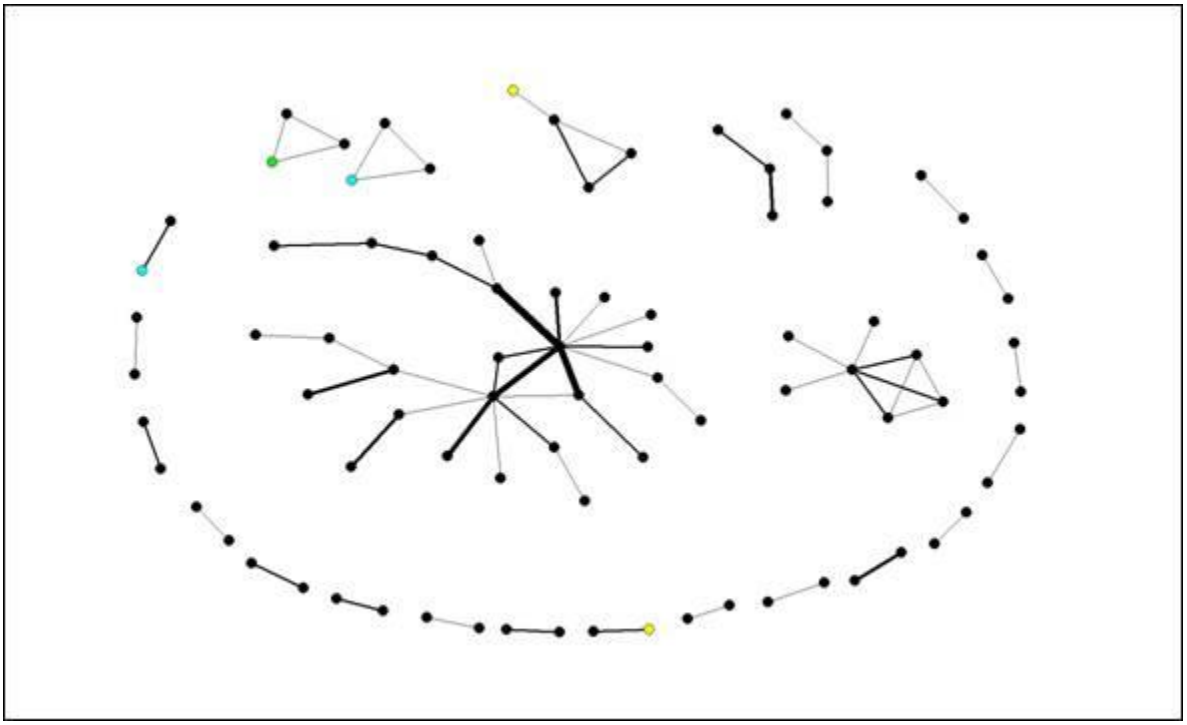

Figure 11. OJDLA institutional collaboration network by type.

(KEY: black = higher education institution, yellow = online organization, green = U.S. public school, light blue = private organization)

Core v. periphery. Similar to the author network, the institution network demonstrates a highly peripheral structure with 94 (53%) isolate institutions that have no cross-institution coauthoring ties and 17 (10%) with dyadic ties. Thus, 63% of the institutions reside in the network periphery. However, unlike the author network, a network core is evident in one main component of 27 institutions (15%), representing one-third of the institutions that have ties (see Figure 12). The next largest component has only 7 institutions, followed by 5 smaller components and 17 dyads.

Strength of ties. The strength of ties, ranging from 1–6, identifies the number of repeated coauthoring ties between institutions. The darker lines in the main component displayed in Figure 9 visually demonstrate how repeated coauthoring ties apparently help build this main component. At the institutional level, strength of ties may indicate that many authors at one institution are connected to another institution, indicating the potential for a broad base of community collaboration between the institutions. For example, the University of West Georgia (UWG), which has six coauthoring ties with the University of Nebraska−Lincoln (UNL), is in the center of the main component in Figure 12. This tie lays a foundation for building inter- institutional collaboration for distance education research as well as potentially linking UWG into UNL's extended network (and vice-versa). The University of West Georgia also has five coauthoring ties with Texas A&M and six coauthoring ties with the University of Alabama. These two strong ties facilitate an even larger and denser community structure for collaboration that includes Texas Tech University.

Bridging (structural holes). Bridging is demonstrated in the main component of the institutional network with five cases of dyadic ties creating bridges that fill structural holes in the network. These bridging ties, illustrated in Figure 12, serve to connect smaller components to the main component, thereby creating a larger

network structure. For example, the tie between the University of West Georgia and the University of Nebraska−Lincoln fills a structural hole, connecting both institutions to other parts of the network.

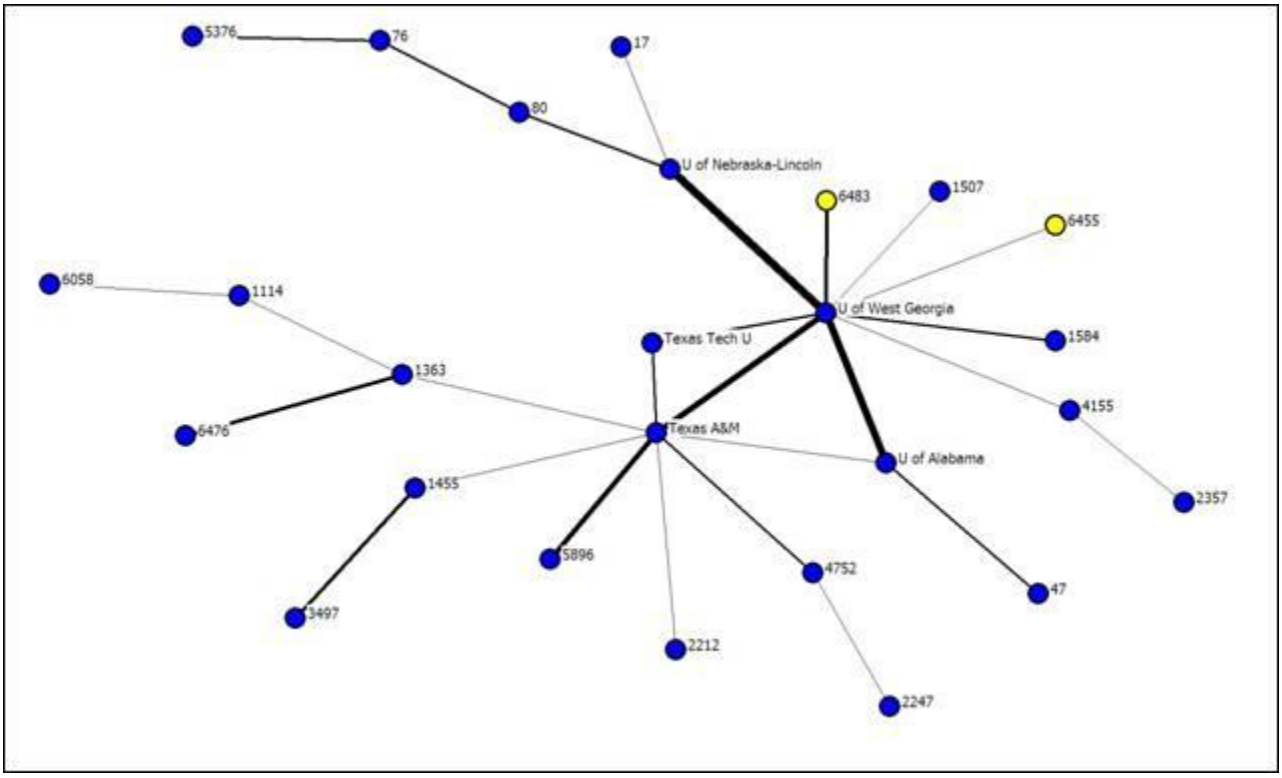

Figure 12. Main component of the institutional collaboration network.

(KEY: blue = U.S.-based, yellow = non-U.S.-based)

Bridging can also create more direct ties for collaboration and often, in doing so, create greater cohesion (density) in that part of the network. For example, UWG has a direct tie with Texas A&M. Although this tie is not filling a structural hole (since they already have two other indirect connections with Texas A&M through the University of Alabama and Texas Tech University), the tie is creating a more direct bridge to Texas A&M's larger extended network and creates more density between the four institutions.

Brokering (centrality). The core component in the institutional network has emerged, in part, due to the high degree of centrality of a few institutions with a higher number of cross-institutional collaboration ties. As reported in Table 5 and illustrated in Figure 3, the two most central institutions in the OJDLA institutional network are the University of West Georgia and Texas A&M. Fifteen of the next most central institutions are listed in Table 5. The mean degree centrality across all institutions, including isolates (with centrality of zero) is 1.4 (SD = 2.85) collaboration ties, indicating the average number of ties per institution. The number of sub-structure connections in Table 5 indicates how many connections the institution has to other parts of the network. The efficiency of their degree centrality indicates how well each institution has used their collaboration ties to build these structural connections within the network. A lower efficiency of degree centrality suggests that the institution is generally repeating ties or co-authoring within their own institution.

A key structural explanation for the centrality of the University of West Georgia (see Table 5) is their engagement in multiple coauthored publications with six other institutions, including two institutions in the top five with whom they have coauthored six articles at each institution (University of Nebraska−Lincoln and University of Alabama). This pattern highlights the multiplicative effect of cross-institutional

collaboration. One collaboration tie enhances the centrality of all coauthors and their institutions. Thus, institutional centrality within collaboration networks emerges and develops as authors create coauthoring ties.

This study has examined the OJDLA collaboration network at the author and institutional levels to present a systems view of this virtual community. Many articles in distance learning journals refer to the role of community, virtual learning, and collaboration in the implementation of distance learning for the learners (Ivankova & Stick, 2005; Shattuck, 2007; Sheer & Fanning, 2006). In a recent edition of OJDLA, Battista et al. (2008) discuss the role of a virtual community in promoting collaboration. These principles also apply to the collaboration network or virtual community that authors and academics can now more easily create with the help of communication technologies. Increasing collaboration within this virtual community of authors and academics will promote scholarly productivity and its diffusion in the field of distance learning.

Table 5

OJDLA—Institutions with High Degree Centrality.

Institution Network Number	Institution Name	Location (State)	Degree Centrality	Number of Substructure Connections	Efficiency of Degree Centrality
1625	University of West Georgia	GA	27	7	.25
5844	Texas A&M	TX	17	6	.35
79	University of Alabama	AL	9	2	.22
3624	University of Nebraska–Lincoln	NE	9	3	.33
3355	University of Southern Mississippi	MS	9	4	.44
2094	Indiana University–Bloomington	IN	5	2	.40
1363	Nova Southeastern University	FL	5	3	.60
5938	Brigham Young University	UT	4	1	.25
2322	Morehead State University	KY	4	1	.25
5877	Texas Tech University	TX	4	1	.25
76	Troy State University	AL	4	2	.50
78	United States Sports Academy	AL	4	1	.25
80	University of Alabama–Birmingham	AL	4	2	.50
1444	University of Central Florida	FL	4	1	.25
5896	University of Houston	TX	4	1	.25
2972	University of Michigan–Ann Arbor	MI	4	2	.50
1455	University of South Florida	FL	4	2	.50

This study informs the nature of collaboration and knowledge creation (through publication and co-authoring) in the field of distance learning. Its purpose has been to provide a reflective view of one aspect of how knowledge is created and conveyed about distance learning administration—the role of collaboration among those who are researching the field. The purpose has been to shed light on the progress of the field and suggest implications that may guide future strategic decisions by authors and journals regarding knowledge creation in the field of distance learning administration. At a more philosophical level, if the field is promoting collaboration as a means to facilitate the administration of distance learning initiatives (which is clearly promoted by Moore (2003)), then collaboration is certainly relevant in the processes of how we learn about the administration of distance learning. Academic knowledge creation provides leadership for the field, and leadership facilitates the development of the culture of learning and its corresponding values.

Limitations and Future Research

Future research needs to cast a wider net over the author and institutional collaboration network in the field than was done for this one journal. It is likely that different network patterns will emerge in an overall study of the collaboration network when other academic journals are considered. However, if sole authoring continues to prevail among other distance education journals, as it did this one, the likelihood of more ties across journals will remain low. Increasing multiauthor productivity, with a broader range of coauthors, is likely the best strategy for facilitating cross-institutional and cross-journal collaborative network development—something that future research can help validate.

Future research should also examine the extent to which a multiple-journal collaboration network structure reflects current institutional norms within the field (Hite, Hite, & Chang, 2007). The case of the OJDLA collaboration network reflects three potential norms for publishing in the distance learning field: sole authoring (low author collaboration), the influence of certain U.S. higher education institutions within the network, and the emergence of strategic cross-institutional collaboration.

Conclusion

One result of the remarkable growth that has occurred in the field of distance learning during the 1990s, and continues into the 21st century (Allen & Seaman, 2007; Pisel, 2008), is the emergence of successful journals' supporting distance learning research like OJDLA. As academic authors in the field of distance learning work together, a collaboration network structure also emerges to facilitate the flow of knowledge and resources throughout the field.

This anniversary study of the OJDLA helps elucidate the role of knowledge creation and diffusion in the field of distance learning from a social network perspective. While the 10-year-old OJDLA collaboration network presently reflects a strong peripheral structure with low cohesion, few bridging ties, and few brokering authors, it will evolve and mature in the years to come. Certain authors are already emerging as central in the network as determined by coauthoring across network components (bridging) and coauthoring with a greater number of other coauthors (brokering).

The corresponding institutional network, an aggregate of the author network, also demonstrates a clear peripheral structure, though a core component is now present. Within this institutional core, more complex network structures are evident, including stronger ties, bridging, and brokering. The centrality of certain institutions is evident and may be influenced by the centrality of authors at the University of West Georgia, Texas A&M, and University of Nebraska–Lincoln.

Can the academic and administrative distance education community use social network theory—and analyses like this one—to inform collaboration strategy? And how strategic should the field be about its scholarly partnerships and alliances among and across authors and institutions? While more questions exist than answers, everyone agrees the distance learning community is better, more academic, and more informed because of the collaborative milieu created by OJDLA ten years ago to foster the "formal exchange of ideas and research in this area" (Clay, 2008b). The distance education community salutes the journal's editor and sponsoring institution, its editorial board, and those many international contributors and institutions who have collaborated these past 10 years to advance and diffuse "practical distance education management ideas as well as more theoretical works" (Clay, 2008a). Happy birthday, OJDLA, and many more!

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