

# Adaptive Advising Through Text Messaging: Adviser Motives and Institutional Support for Texting Students



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## Abstract

This study explored academic advisor use and perceptions of values, motives, and institutional support of SMS texting as a communication channel with students. Theoretical concepts in Customer Relationship Management (CRM) and adaptive leadership guided the study as well as existing survey research on Computer-Mediated Communication (CMC) in higher education (Duran et al., 2005). Survey responses from advisors nationwide (N = 402) revealed SMS use among all ages, genders, experience levels, and programmatic formats, and advisors overall had a positive view of the

communication channel. Motives for use varied between online and on-ground academic advisers, with SMS used primarily to gain access to richer mediums. A statistically significant association between learning environment and SMS incorporation indicated that online advisers were likelier to use SMS texting for student communication. The study sheds light on the prevalence of SMS use by academic advisers and how institutional policies and resources might better support the university-to-student connection. For HEIs interested in enabling adaptive advising to experiment with interventions at scale and relationship building in student-centric mediums, the findings may help to provide a framework for using SMS text as an additional channel for communication.

## **Introduction**

Higher education students increasingly rely on mobile phones and texting for communication (Arnold et al., 2020). Academic success hinges on effective communication (Sunha et al., 2019; WIARS, 2020). Communication between a Higher Education Institution (HEI) and the student body is primarily mediated by a program, academic, or degree advisor, mentor, or counselor who serves as the primary, ongoing point of contact for promoting successful outcomes such as retention (Brown, 2017; Donaldson et al., 2020; Joslin, 2018).

Retention is particularly challenging with online adult students. Online students are at higher risk for poor academic performance and attrition (Kerby, 2015). Strategies are needed to counter the distancing of online learning, including student engagement and relationships based on regular communications. A customer relationship management perspective suggests that advisers may need to use text messaging to retain and support online students (Calma et al., 2020; Looney, 2022). With the widespread adoption of texting by students, research is needed to determine if academic advisers are open to using this communication channel with students and how to leverage texting to support students.

This paper presents select findings from a doctoral dissertation study of academic advisers' use of texting, comparing motives for online advisers versus on-ground advisers and the impact of perceived institutional support on their efforts (Looney, 2022). The following sections will describe the theoretical frameworks of Customer Relationship Management (CRM) and adaptive leadership that informed the study, connect the study to the computer-mediated communication (CMC) research literature,

describe how the study was conducted, and present the findings for the top four motives for academic adviser use of texting with students. The impact of institutional support on advisor use of texting will also be presented, followed by recommendations for future research and practical implications of the findings for academic advising and institutional leadership.

### **Online Learners as Customers**

Building meaningful ties and promoting retention can be difficult in online settings where all communication is mediated by the technology through which it is delivered (Ng, 2018; Oregon et al., 2018). The Customer Relationship Management (CRM) approach to business focuses on a similar challenge, promoting company-to-customer communication for long-term social ties, satisfaction, and brand loyalty (Calma & Dickson-Deane, 2020; Suntornpithug, 2012). CRM promotes retention through knowing the customer, rapport building, and ongoing dialogue, particularly for companies where the product requires a significant investment or ongoing sale, such as a collegiate-level credential (Azhakaraja, 2020; Niven, 2012).

In the higher education context, academic advisers use CRM to avoid adverse outcomes such as dropping out or failing to complete an academic degree program. Scholarship in retention has focused on past academic performance (Tinto, 2006) and institutional factors ranging from academic program quality to extracurricular activities (Spady, 1971; Tinto, 1975). Bean (1980) extended the Institutional Departure Model (Tinto, 1975) and the Undergraduate Dropout Process Model (Spady, 1971) by adding insights on institutional commitment, noting student satisfaction as an essential factor, as well as institutional quality and opportunity.

The social system for student engagement consists of the student's peer network and university staff, but the latter has a more significant impact on retention since it increases both social and academic integration (Mu & Fosnacht, 2019; Tinto, 1975). While external factors may also contribute to online adult student attrition (Bean & Metzner, 1985), retention via student-facing communication remains vital in ensuring students are academically engaged and persist to graduation.

### **Adaptive Leadership in Higher Education**

The theory of adaptive leadership (Heifetz, 1994) distinguishes two types of challenges; technical issues, for which leaders possess a known solution, and adaptive challenges, which involve a disparity between values and circumstance. These

problems lack a known solution since they stem from environmental changes and thus require learning, experimentation, and alterations in the attitudes and procedures of individuals within an organization (Heifetz, 1994).

Current trends in digital communication are drastically altering the attitudes and protocols for exchange (Chicca & Shellenbarger, 2018; Ghemawat, 2017; Junco et al., 2016). CMC represents an adaptive challenge for HEIs, and, with adaptive leadership, the intent is not the application of authority towards a resolution (Khan, 2017). Heifetz et al. (2009) explain that the intent behind this theory is to place the responsibility of problem-solving on the individuals who need to learn and shift with the circumstance.

Advisors can be the key connecting factor for online students, as increased social presence and engagement with the university improve student success (Aldosemani et al., 2016). Advisors typically engage with learners throughout the student life cycle, developing long-term relationships better served to communicate as conduits for all collegiate offerings and requirements (Vianden & Barlow, 2015).

### **Communication with Online Students**

The Coronavirus (COVID-19) pandemic forced many universities to transition classes to an online platform (Roache et al., 2020). Students attending completely online may only engage with the university staff through computer-mediated communication (CMC).

Redmond et al. (2018) emphasize the importance of engagement in addressing retention and student satisfaction, problems exacerbated by internet-based students (Lockard et al., 2019; Manyanga et al., 2017; Thomas, 2020; Uddin, 2020; Vadell, 2016).

When students withdraw before graduation, there are multiple negative consequences both for the individual, in terms of lost time and money, as well as society in a greater sense, through the financial impact of defaulted loans and the lack of credentialed candidates entering the workforce (Lockard et al., 2019; Sunha et al., 2019; Vadell, 2016). The individuals most at risk for dropping out are also the least likely to reach out (Uddin, 2020).

Communications between academic advisers and students can bolster student engagement with the university and improve retention. Recent studies have shed light on the potential positive application of "nudge theory," with email and other electronic communications reminding students to complete financial aid forms (Castleman & Page, 2016) and other administrative (Junco, 2016; Naismith, 2007) and academic requirements (Castleman & Meyer, 2020; Smith et al., 2018). While traditional

conversation methods, like face-to-face academic advising appointments, retain relevance, CMC is increasingly important in online student support (Junco et al., 2016). The avenue of academic advisors and student CMC exchange focused on in this study is Short Message Service (SMS) text messaging.

Texting campaigns to reduce informational barriers through individualized advising have also demonstrated a positive impact on completion and persistence rates in first-year college students (Castleman & Meyer, 2020). Academic advisers support students on their educational journey in many ways, and regular communication is key to establishing and maintaining this vital relationship (Zarges et al., 2018). Text messaging offers targeted, succinct, and immediate feedback expected by younger and digitally proficient students in Gen Z (Chicca & Shellenbarger, 2018).

### **Assessing Adviser Motives**

The purpose of the non-experimental, quantitative study was to investigate the perceptions of college and university academic advisors, mentors, and counselors in the United States regarding institutional support for texting, adviser use of texting based on institutional type, and motives for the use of the communication channel. A survey for assessing computer-mediated communication (CMC) in higher education (Duran et al., 2005) was revised in this study to assess how advisers use SMS texting to support students.

### **Research Questions**

- RQ1: What perspectives and motives do academic advisors report regarding their use of SMS text messaging with students?
- RQ2: Does the use of SMS text messaging with students differ between academic advisors of online and ground campus environments?
- RQ3: Are there any differences in institutional support of SMS as a platform for student communication between advisors using and advisors not using SMS text messaging?

### **Survey**

The primary instrument was a version of Duran et al.'s (2005) survey on HEI employee use of CMC tools for student communication, with language adapted to focus on text messaging. The following four value statements were provided to obtain advisor views on text messaging as an institutional tool for academic adviser-student communication:

**Table 1***Value Statements*

Statement for Perceived Value of SMS	
Statement 1	Text messaging is a beneficial technology tool for increasing student communication.
Statement 2	Adding text messaging to my contact options improves my ability to build and manage student-to-advisor relationships.
Statement 3	The ability to communicate with students through text messages advances university goals and my performance as an advisor.
Statement 4	The ability to communicate with their university through text messaging will be increasingly important for students in the future.

Participants rated their level of agreement with each statement based on a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). In addition, participants identified as primarily online or on-ground based on their institution's operations. In addition, a scale for institutional support of the use of texting was included consisting of six statements regarding various ways an institution's administration could prevent, enable, or even encourage SMS as an option for advisor communication avenues (Table 2).

**Table 2***Institutional Support Items*

Short title	Full survey statement
Support: administration	The administration of my institution supports advisor use of text messaging in student-facing communication.
Support: supervisor	My immediate supervisor encourages me to use text

	messaging as an option in student communication.
Support: Resources	My institution provides the technology tools necessary to support text messaging for student contact.
Support: policy	The policies and procedures for incorporating text messaging with students are clear at my institution.
Support: training	I receive adequate training from my administration on how to use text messaging with students.
Support alignment	My institution's leadership has clarified how texting can improve my performance as an advisor.

Since the survey was altered, two statistical methods were incorporated, Content Validity Ratio (CVR) and Cronbach's alpha, to further establish validity and reliability. The CVR ranges for proposed survey items were between 0.6 and 0.8, indicating that experts who reviewed the instrument agreed those items were essential in answering the research questions. Internal consistency determined via Cronbach's alpha for the three included scales were as follows: 0.917 for SMS motives, 0.932 for the perceived value of SMS, and 0.930 for institutional support. Looney (2022) conducted additional analysis to ensure reliability and validity; for a detailed description of the validity and reliability procedures, see Chapter four in the complete dissertation.

## **Participants**

Participants comprised 402 academic advisers from private/public or proprietary/non-profit United States accredited HEIs (CHEA, 2020; DAPIP, 2020). The survey link was provided to the target population using multiple avenues, including 26 professional association Facebook pages, 15 professional association list serves, and institutional email accounts retrieved from 32 open directories (Looney, 2022). The survey was distributed from May through July of 2021. Of the 402 participants, 106 academic advisers were predominantly online, and 296 were on-ground; 311 were female, 79 were males, and 12 preferred not to say. The average age of participants was 41, with an average of 11 years of experience advising in an academic setting.

## **Results**

Academic advisers view SMS texting more positively than negatively, with an overall mean score of 3.935 for this set of five-point Likert items (Table 1). Further, the overall mean for online advisers' perspectives of the usefulness of SMS was 4.087, whereas the overall mean for on-ground advisers was 3.881. Therefore, the results support the conclusion that advisers see the value SMS of text messaging for adviser-student communication, with online advisers having a more favorable view of this medium than their on-ground counterparts.

For motives, participants reporting the use of SMS rated the frequency concerning fourteen motives for initiating student text messaging. This paper's results are limited to the top four adviser motives for using SMS and perceived institutional support.

The top four motives for advisers to use texting were: 1. requesting student contact, 2. ensuring receipt of another message, 3. making an appointment, and 4. providing encouragement or recognition (Table 3). For advisers from online formats (n=106), the most predominant motive was to ensure receipt of another message such as email, with a mean of 3.915, and relationship building was ranked comparatively higher at 3.789.

**Table 3**

*Motives Ranked by Mean of Frequency*

Mean	Motive
3.3913	Motive 1: Request student contact
3.3430	Motive 13: Ensure receipt of another message, such as an email
3.2705	Motive 2: Make an appointment
3.0918	Motive 8: Provide encouragement or recognition

Survey results demonstrate that slightly more than half (51.49%) of the participating 402 advisers use texting with their students. Online advisers were more likely to use texting, with 136 out of 296 on-ground advisers using texting and 71 out of 106 online advisers using texting to communicate with students. Therefore, results for items

addressing research question two suggest that SMS use differed between on-ground and online advisers.

In answering RQ2, a chi-square test was applied to explore whether SMS text messaging usage differs between academic advisers of online and ground campus environments. The data from the related survey items were as follows: 296 advisers from traditional formats (T), 106 were online (O), 207 responded yes to the use of SMS texting (Y), and 195 responded they were not SMS users (N). The chi-square test reveals that online advisers are more likely to use text messaging than on-ground advisers, with a statistically significant difference,  $X^2(1, 402) = 13.83, p = .0002$ . It is noted that advisers at both types of institutions choose to do so (Table 4).

**Table 4**

*Chi-Square Data for Adviser SMS Use by Institutional Type*

Subgroup	Actual		Expected	
	Frequency	Percent	Frequency	Percent
Traditional Users	136	34%	152	38%
Traditional non-users	160	40%	144	36%
Online Users	71	18%	55	14%
Online non-users	35	9%	51	13%
Total observations	402	100%	402	100%

Research question three focused on the impact of institutional support and reported academic advisers' use of SMS texting for student communication. The Wilcoxon Rank Sum test (Looney, 2022) supported a statistically significant difference,  $z = -10.71, p < .0001$ , with SMS users being more likely to have a higher score for total institutional support for SMS.

Summed responses for the institutional support scale (Table 2) are reported as median and mean scores for online and on-ground adviser groups of SMS users and non-users. The median for the entire sample (n=402) was 15 (Table 5). The median of SMS non-users (n=195) was 12, while the median of SMS users (n=207) was 19 (Table 5). The p score (0.0001) of the Wilcoxon Rank Sum test indicated a statistically significant difference between median institutional support scores for SMS texting users and non-users (Table 6), with SMS users being more likely to have a higher score for total institutional support for SMS.

**Table 5**

*Wilcoxon Ranked Sums for the Variable Support*

SMS Use	N Obs	Mean	Std Dev	Minimum	Maximum	Median	N
N	195	12.3794872	4.1949392	6.0000000	26.0000000	12.0000000	195
Y	207	18.9613527	6.1017628	6.0000000	30.0000000	19.0000000	207
		15.7686567	6.2038290	6.0000000	30.0000000	15.0000000	402

**Table 6**

*Wilcoxon Two-sample Test*

Statistic	Z	Pr < Z	Pr >  Z	t Approximation	
				Pr < Z	Pr >  Z
26846.00	- 10.7055	<.0001	<.0001	<.0001	<.0001

*Note: Z includes a continuity correction of 0.5.*

## Findings

Online advisers were more likely than their on-ground counterparts to use SMS. Both online and on-ground advisers use texting to prompt students to use a richer medium, such as a phone call or meeting. A statistically significant association between learning environment and SMS use indicated that online advisors were more likely to use SMS texting for student communication.

Motives for online versus on-ground advisers differed somewhat, with *online* advisers using SMS for the following motives: 1. ensure receipt of another message, 2. provide encouragement or recognition, 3. request student contact, and 4. relationship building.

Perceived institutional support impacted adviser use of texting, with increased use reported by advisers from SMS-supportive institutions. Furthermore, advisers reported using SMS texting for transactional and relational communication, even when their institution did not support the channel with training, policies, or technology.

## **Recommendations**

Based on the results of this study, the following two broad recommendations are posited for academic advising and HEI leadership; 1. Support adaptive advising with SMS integrated into CRM and training, 2. Institutional leadership support is needed to ensure SMS is leveraged and assessed in terms of positive student outcomes and overall institutional goals.

Flexible approaches to advising include adapting to students' preferred modes of communication. Application of adaptive leadership means allowing for an environment enabling advisor experimentation with communication approaches. Since CMC is an emerging field in higher education, experimentation with channels for student engagement with the university through technology is abundant (Amador & Amador, 2017; Arnold et al., 2020; Castleman & Meyer, 2020; Davidovitch & Belichenko, 2018; Oregon et al., 2018; Page et al., 2020; Roache et al., 2020; Weidlich & Bastiaens, 2018). The current study indicates that advisers are texting for various reasons and have an overall positive view of the communication channel. Practical implications for HEI leaders thus inherently include a call for SMS incorporation into university strategy as the channel is already used and positively perceived by advisers.

One limitation of the present study is that the findings cannot explain why a relationship exists or if it is genuinely the research variable influencing the observed data. While online advisers were more likely to use SMS messages, this study does not purport to explain that relationship. Future research might apply a mixed methods approach to

explore why online advisers are likelier to use SMS texting and how the use of texting may vary based on various factors, including the student's present stage in the student's life cycle.

This study highlights the need for institution-level support for guidelines, technology, and training for the strategic use of SMS and other communication channels to serve students and fulfill the institution's mission. HEIs can leverage adaptive advising to experiment with interventions at scale and relationship building in student-centric mediums. HEIs that fail to integrate CMC approaches into institutional structural approaches to relationship management cannot evaluate whether SMS-texting improves outcomes (Joslin, 2018). Aligning strategy and software with end-user needs can help ensure university communication is within the purview of those measuring advisor impact on intended business outcomes like engagement and retention.

Instant messaging as a university-provided medium may also be a student's desired format for interaction. Students report greater satisfaction when they are allowed to elect their feedback method (Bikanga-Ada et al., 2017). Furthermore, although institutional support was associated with SMS use, advisors reported varying levels of support in their school's leadership, training, policies, and technology.

The digital transition facing HEI professionals requires efforts to meet changing student expectations; adaptive leaders can take existing theories and best practices and apply new approaches based on current needs (Dopson et al., 2019). Accountable for the design and implementation of business strategy, institutional leaders are responsible for an organized approach to managing student support options.

## **Summary**

This study focused on advisor use of Short Messaging Service (SMS) or texting, institutional support, and perspectives regarding texting for student communication. Survey responses from 402 advisors nationwide suggest that advisers at online institutions are more likely to use texting for student communication, and most advisers use texting to prompt interaction through a richer communication medium (Looney, 2022).

Student-centered approaches to academic advising include adapting to current online students' communication preferences, such as using SMS text messaging. Institutions can support this communication and improve the assessment of the impact of such communications by integrating SMS in the strategic approach, training, and CRM for

student support. Aligning strategy and software with demand can help ensure that university communication is within the purview of those needing to measure its impact on intended institutional outcomes like engagement and retention.

## References

Aldosemani, T., Shepherd, C., Gashim, I., & Dousay, T. (2016). Developing third places to foster a sense of community in online instruction. *British Journal of Educational Technology*, 47(6), 1020–1031. <http://dx.doi.org/10.1111/bjet.12315>

Amador, P., & Amador, J. (2017). Academic help-seeking: a framework for conceptualizing Facebook use for higher education support. *TechTrends: Linking Research & Practice to Improve Learning*, 61(2), 195–202. <https://doi-org.wgu.idm.oclc.org/10.1007/s11528-016-0135-3>

Arnold, K., Israni, V., & Rohn, K. (2020). The Student Experience of Two-Way Text-Message College Advising: A First Glimpse. *Journal of College Access*, 5(2), 81–111. Available at: <https://scholarworks.wmich.edu/jca/vol5/iss2/6>

Azhakaraja, C. (2020). An Overview of Customer Relationship Management. *CLEAR International Journal of Research in Commerce & Management*, 11(12), 5–8. <http://dx.doi.org/10.5772/39185>

Bean, J. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12(2), 155–187. <http://dx.doi.org/10.1007/bf00976194>

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485–540. <https://doi.org/10.3102/00346543055004485>

Bikanga-Ada, M., Stansfield, M., & Baxter, G. (2017). Using mobile learning and social media to enhance learner feedback. *Journal of Applied Research in Higher Education*, 9(1), 70. <http://dx.doi.org/10.1108/jarhe-07-2015-0060>

Brown, B. (2017). Higher education distance advising in the 21st century: Distance learning Students and advisors' perceptions (Order No. 10684423). Available from ProQuest Dissertations & Theses A&I; ProQuest Dissertations & Theses Global. (2026813193). <http://dx.doi.org/10.4018/978-1-4666-7316-8.ch006>

Calma, A., & Dickson-Deane, C. (2020). The student as customer and quality in higher education. *International Journal of Educational Management*, 34(8), 1221.

<http://dx.doi.org/10.1108/ijem-03-2019-0093>

Castleman, B., & Meyer, K. (2020). Can Text Message Nudges Improve Academic Outcomes in College? Evidence from a West Virginia Initiative. *Review of Higher Education*, 43(4), 1125. <http://dx.doi.org/10.1353/rhe.2020.0015>

Castleman, B., & Page, L. (2016). Freshman year financial aid nudges. *Journal of Human Resources*, 51(2), 389–415. <http://dx.doi.org/10.3368/jhr.51.2.0614-6458r>

CHEA. (2020). Browse databases and directories. Council for Higher Education Accreditation. <https://www.chea.org/search-institutions>

Chicca, J., & Shellenbarger, T. (2018). Connecting with Generation Z: Approaches in Nursing Education. *Teaching and Learning in Nursing*, 13, 180–184. <https://doi-org.wgu.idm.oclc.org/10.1016/j.teln.2018.03.008>

DAPIP. (2020). *Database of Accredited Postsecondary Institutions and Programs*. US Department of Education. <https://ope.ed.gov/dapip/#/home>

Davidovitch, N., & Belichenko, M. (2018). Using Facebook in higher education: Exploring effects on social climate, achievements, and satisfaction. *International Journal of Higher Education*, 7(1), 51–58. <http://dx.doi.org/10.5430/ijhe.v7n1p51>

Donaldson, P., McKinney, L., Lee, M., Horn, C., Burrige, A., & Pino, D. (2020). Insider information: Advisors' perspectives on the effectiveness of enhanced advising programs for community college students. *NACADA Journal*, 40(2), 35–48. <http://dx.doi.org/10.12930/nacada-18-26>

Dopson, S., Ferlie, E., McGivern, G., Fischer, M. D., Mitra, M., Ledger, J., & Behrens, S. (2019). Leadership development in Higher Education: A literature review and implications for program redesign. *Higher Education Quarterly*, 73(2), 218. <http://dx.doi.org/10.1111/hequ.12194>

Duran, R., Kelly, L., & Keaten, J. (2005). College faculty use and perceptions of electronic mail to communicate with students. *Communication Quarterly*, 53(2), 159–176. <http://dx.doi.org/10.1080/01463370500090118>

Ghemawat, P. (2017). Strategies for higher education in the digital age. *California Management Review*, 59(4), 56–78.

Heifetz, R. (1994). *Leadership without easy answers*. Harvard University Press.

Heifetz, R., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership: Tools and tactics for changing your organization and the world*. Harvard Business Press.

Joslin, J. (2018). The case for strategic academic advising management. *New Directions for Higher Education, 2018(184)*, 11–20. <https://doi-org.links.franklin.edu/10.1002/he.20299>

Junco, R., Mastrodicasa, J., Aguiar, A., Longnecker, E., & Rokkum, J. (2016). Impact of technology-mediated communication on student evaluations of advising. *NACADA Journal, 36(2)*, 54–66. <http://dx.doi.org/10.12930/nacada-16-014>

Kerby, M. (2015). Toward a new predictive model of student retention in higher education: An application of classical sociological theory. *Journal of College Student Retention: Research, Theory & Practice, 17(2)*, 138. <http://dx.doi.org/10.1177/1521025115578229>

Khan, N. (2017). Adaptive or transactional leadership in current higher education: A brief comparison. *International Review of Research in Open & Distance Learning, 18(3)*, 178–183. <https://doi-org.links.franklin.edu/10.19173/irrodl.v18i3.3294>

Lockard, A., Hayes, J., Locke, B., Bieschke, K., & Castonguay, L. (2019). Helping those who help themselves: Does counseling enhance retention? *Journal of Counseling & Development, 97(2)*, 128–139. <https://doi-org.links.franklin.edu/10.1002/jcad.12244>

Looney, K. (2022). *Computer-Mediated Communication: Perceptions of Academic Advisors Regarding Text Messaging in Higher Education* [Doctoral dissertation, Franklin University]. OhioLINK Electronic Theses and Dissertations Center. [http://rave.ohiolink.edu/etdc/view?acc\\_num=frank1646054773542189](http://rave.ohiolink.edu/etdc/view?acc_num=frank1646054773542189)

Manyanga, F., Sithole, A., & Hanson, S. M. (2017). Comparison of student retention models in undergraduate education from the past eight decades. *Journal of Applied Learning in Higher Education, 7*, 30–42.

Mu, L., & Fosnacht, K. (2019). Effective advising: How academic advising influences student learning outcomes in different institutional contexts. *Review of Higher Education, 42(4)*, 1283. <http://dx.doi.org/10.1353/rhe.2019.0066>

Naismith, L. (2007). Using text messaging to support administrative communication in higher education. *Active Learning in Higher Education*, 8(2), 155–171.

<http://dx.doi.org/10.1177/1469787407078000>

Ng, K. (2018). Implementation of New Communication Tools to an Online Chemistry Course. *Journal of Educators Online*, 15(1). <http://dx.doi.org/10.9743/jeo2018.15.1.8>

Niven, P.R. (2012). *Balanced scorecard step-by-step: Maximizing performance and maintaining results* (2nd ed.). Wiley & Sons, Inc.

Oregon, E., McCoy, L., & Carmon-Johnson, L. (2018). Case analysis: Exploring the application of using rich media technologies and social presence to decrease attrition in an online graduate program. *Journal of Educators Online*, 15(2).

<http://dx.doi.org/10.9743/jeo.2018.15.2.7>

Page, L., Castleman, B., & Meyer, K. (2020). Customized Nudging to Improve FAFSA Completion and Income Verification. *Educational Evaluation and Policy Analysis*, 42(1), 3–21. <https://doi.org/10.3102/0162373719876916>

Redmond, P., Abawi, L., Brown, A., Henderson, R., & Heffernan, A. (2018). An online engagement framework for higher education. *Online Learning*, 22(1), 183–204.

<http://dx.doi.org/10.24059/olj.v22i1.1175>

Roache, D., Rowe-Holder, D., & Muschette, R. (2020). Transitioning to online distance learning in the COVID-19 era: A call for skilled leadership in higher education institutions. *International Studies in Educational Administration*, 48(1), 103–110.

Smith, B., White, D., Kuzyk, P., & Tierney, J. (2018). Improved grade outcomes with an emailed “grade nudge.” *Journal of Economic Education*, 49(1), 1. <https://doi-org.links.franklin.edu/10.1080/00220485.2017.1397570>

Spady, W. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2(3), 38. <http://dx.doi.org/10.1007/bf02282469>

Sunha, K., McVee, M., & Faith, M. (2019). Can information and communication technology improve college access for all in the United States of America? *Educational Sciences: Theory & Practice*, 19(3), 14–32. <https://doi-org.links.franklin.edu/10.12738/estp.2019.3.002>

Suntornpithug, N. (2012). Investigating customers' perceptions towards text messaging services as a CRM medium. *Advances in Customer Relationship Management*.

<http://dx.doi.org/10.5772/31071>

Tinto, V. (2006). Research and Practice of Student Retention: What Next? *Journal of College Student Retention: Research, Theory & Practice*, 8(1), 1–19.

<https://doi.org/10.2190/4YNU-4TMB-22DJ-AN4W>

Tinto, V. (1975). Dropout from Higher Education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.

<http://dx.doi.org/10.3102/00346543045001089>

Uddin, M. (2020). Best practices in advising engineering technology students for retention and persistence to graduation. *Journal of Technology, Management & Applied Engineering*, 36(1), 1–13.

Vadell, K. (2016). *The influence of academic coaching on the retention of distance education students* (Order No. 10126176). Available from ProQuest Dissertations & Theses A&I; ProQuest Dissertations & Theses Global. (1797415234).

Vianden, J., & Barlow, P. J. (2015). Strengthen the bond: relationships between academic advising quality and undergraduate student loyalty. *NACADA Journal*, 35(2), 15–27. <https://doi-org.links.franklin.edu/10.12930/NACADA-15-026>

Weidlich, J., & Bastiaens, T. (2018). Technology matters - The impact of transactional distance on satisfaction in online distance learning. *International Review of Research in Open & Distance Learning*, 19(3), 222–242.

<http://dx.doi.org/10.19173/irrodl.v19i3.3417>

WIARS. (2020). Education and new developments 2020. World Institute for Advanced Research and Science. [http://dx.doi.org/10.36315/education-and-new-developments\\_2020](http://dx.doi.org/10.36315/education-and-new-developments_2020)

Zarges, K., Adams, T., Higgins, E., & Muhovich, N. (2018). Assessing the Impact of Academic Advising: Current Issues and Future Trends. *New Directions for Higher Education*, 2018(184), 47–57. <https://doi-org.links.franklin...>

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