

ORIGINAL RESEARCH

Implementation of a liquid syllabus to enhance online connections: An educational innovation

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ABSTRACT

Objective: Fostering connections in online learning is essential for student success. The liquid syllabus is a student-centered course outline shared in a digital format to engage students. The goal of this study was to implement a liquid syllabus in two online, asynchronous nursing courses to explore the effectiveness of the liquid syllabus on course humanization.

Methods: Faculty implemented the liquid syllabus and measured perceptions using a Likert survey and one qualitative question based on humanizing online learning experiences.

Results: The students' overall perception was positive toward the liquid syllabus with all means greater than 3.8 on a scale from 1-5. Students stated ease of use, feelings of improved preparedness, and feelings of trust toward the instructor. Considerations for timing and connection emerged.

Conclusions: The liquid syllabus can be an effective tool to engage online learners, enhance course preparedness, limit anxiety and potentially foster connection.

Key Words: Connection, Humanizing, Liquid syllabus, Online learning

1. INTRODUCTION

In online education, a sense of community and engagement among students is crucial for enhancing learning outcomes and overall student satisfaction. As part of the continuous efforts to improve the online learning experience, the integration of innovative tools and approaches can positively impact the student experience. One technological tool described in academic writing to improve online connections is called a liquid syllabus, a mobile-friendly webpage distributed via weblink before the course begins.

The liquid syllabus is described as a student-centered, interactive webpage designed to be welcoming and accessible, a digital supplement to the traditional static syllabus that can impact course humanization. The term 'liquid' refers to

the ease in adaptability to update continuously and ability to be shared in an accessible, engaging webpage viewable on any device.^[1] Its development incorporates key principles such as effective communication through technology, fostering connections, and providing meaningful student support.^[2,3] This project seeks to implement a liquid syllabus in two online, asynchronous nursing courses exploring its effectiveness on course humanization.

1.1 Overview

1.1.1 Using technology to communicate

Early and often, instructor outreach is especially important for developing connections and belonging in online courses, especially for students in first-program courses.^[4-6] Connecting with students can be done through course announcements,

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introductory emails, or video-based introduction/course orientation and the use of an interactive visual syllabus.^[2,3] Visual interaction is essential for students to feel connected in online learning.^[2] Several studies discuss using introductory videos to increase connectedness in online learning.^[3,5,7]

1.1.2 Supporting the student

Students in an online learning environment often need additional support to feel connected to the course and ultimately experience success. Gogu and Kumar described the correlation found in online courses between connections, course interest, and course success.^[2] Students experiencing a greater connection with their teacher are more likely to be interested in the course and be successful.^[2] Perceived connections were related to seeing the instructor and personal attention.^[2] Technical issues and a lack of less formal interactions were associated with a lower level of connection.^[2] Tseng et al. also examined the relationship between student success and connections, finding that students who felt more connected to the course and instructor had higher levels of performance and satisfaction.^[8] Increased interaction and collaboration were positively associated with student success, demonstrating that there is a significant social component of online learning.^[8] Early support for the student in using information and communication technologies is valuable as this is the medium for developing teacher/student connections throughout the course.^[9]

1.2 Communication

Early communication is described by Berry as an important first step in the faculty-student connection.^[4] Faculty should reach out early to students to start developing a relationship that is "supportive, understanding, and responsive",^[5] This early communication can take several forms but is more likely to connect if multiple avenues are used, including in writing and by video. A video introduction was rated the highest by students in the instructor connection construct in research by Martin et al.^[3] Video introductions can include a brief professional update but may provide more of a connection if they provide a personal introduction and are less formal.^[3] Students value personal updates^[3] and a conversational tone^[5] as a mode of developing a connection with their instructor.

1.3 Humanizing the online experience

Humanizing the online environment is essential for students' perception of connectedness. Online faculty can develop meaningful communication and interactions by increasing social presence. Martin et al. suggest that timely responses facilitate presence, especially in novice students.^[3] Empathetic communication is also essential, including expressing

positive communication, encouragement, understanding, caring, being approachable, and providing detailed instructions for student course success are highly regarded.^[5,10]

2. METHODS

2.1 Implementation of the liquid syllabus

The liquid syllabus was implemented in two early courses in a fully online associate degree registered nurse to bachelor's completion program (RNBCP) at a midwestern University. The RNBCP program length is one to two years depending on student preference of progression (full vs. part time status). Two instructors from this program developed personalized liquid syllabus' using Google Sites based on an online module created by Pacansky-Brock.^[11] The method was chosen due to limited published evidence on this topic and early antidotal information about the potential impact on student connections. University IRB approval was obtained in February of 2024. Inclusion criteria consisted of a convenience sample of 39 students enrolled in two early nursing courses taught by the instructors during the fall 2024 semester were invited to participate. These courses were selected as foundational of the program: one a prerequisite for subsequent courses, the other typically taken the following term. The link to the liquid syllabus was emailed to students in week zero of the course, then again week one. Informed consent was obtained, and data was collected via Qualtrics Survey weeks two and three of the course.

Step 1: Pacansky-Brock,^[11] one pioneer of the liquid syllabus, developed a Creating a Liquid Syllabus step-by-step module which the instructors used to create the liquid syllabus. Each page of the liquid syllabus was intentionally developed to use technology to connect with students prior to the start of the course with the goal of addressing any early student concerns about the course or course access.

Step 2: The liquid syllabus was developed on Google Sites and consisted of six webpages.

The first page titled Home, included a short instructor introduction video designed to be warm, friendly, and personal. This page also provided a brief overview of course organization, including start dates, module structure, and clarification of synchronous versus asynchronous learning expectations.

The second page, Course Essentials, included the instructor's teaching philosophy written in a personal and approachable tone, along with the course description, learning outcomes, textbook information, and technical requirements needed for success in the online classroom.

Page three focused on the Schedule and included a mobile-friendly link to the course calendar for easy access.

Page four, Grading, provided students with a positive and transparent description of the instructor’s grading philosophy and included links to short videos demonstrating how to view grades within the learning management system (LMS).

Page five, Policies, outlined the most important policies for students to understand at the start of the course, including accommodations, course ground rules, tips for success, and expectations for online etiquette, all written in a positive tone.

The final page, Support for You!, explained how students could ask questions and connect with the instructor, outlined multiple communication options, described how the instructor would communicate with students, and included links to essential technology support resources. The liquid syllabus also provided direct links for logging into the LMS and guidance on where to seek assistance if technical issues arose.

Step 3: A user-friendly weblink to the liquid syllabus was emailed to students in two early courses of the nursing pro-

gram week zero of the course, then again week one. The liquid syllabus did not replace the course syllabus found in the learning management system; rather, it was an adjunct intended to set the early stage for course connections, humanization, and success.

2.2 Likert survey

To understand student perceptions of the liquid syllabus, a survey was developed based on four components related to online learning, including connections, using technology to communicate, student support and humanizing online experiences. The Qualtrics survey included demographic questions, 15 Likert-style questions rating from 1-5 with 1 being ‘strongly disagreed’ to 5 being ‘strongly agree’, and one open-ended question. The Likert-style survey was developed for this exploratory study based on the concepts in the literature determined to be of value to course humanization and was not formally tested for reliability of validity. Email invitations were sent out weeks two and three of the course to complete the survey. See Table 1 for the survey questions.

Table 1. Liquid syllabus student survey questions

Pedagogical Concept	Survey Quantitative Likert Questions
Using Technology to Communicate	1) It was easy to access the liquid syllabus.
	2) The liquid syllabus helped me access the course without difficulty.
	3) The liquid syllabus helped give a general overview of the course.
Connections/Communication	4) I feel a connection to the teacher after viewing the video introduction.
	5) I am more likely to communicate with my instructor with questions or concerns after viewing the liquid syllabus.
	6) Viewing the instructor's expectations helped me feel prepared for course success.
	7) Early connection from the instructor increased my confidence in taking this course.
Supporting the Student	8) I feel supported by the instructor after reviewing the liquid syllabus.
	9) I feel prepared to start this course after reviewing the liquid syllabus.
	10) I feel confident about how to manage technical issues during the course after reviewing the liquid syllabus.
	11) The liquid syllabus helped ease any self-doubt I feel about taking this course.
Humanizing the Online Experience	12) I trust my instructor wants me to be successful in this course after viewing the liquid syllabus.
	13) I feel like my instructor is on this course journey with me after viewing the liquid syllabus.
	14) I feel like my instructor wants to know me as a person after viewing the liquid syllabus.
Survey Qualitative Question	
Open-ended Question	15) Please share any other comments regarding your experience with the liquid syllabus.

3. RESULTS

3.1 Demographics

A total of 39 students were eligible to participate in the study. The overall response rate was 44% (n = 17). The participants were mostly female (94%), the majority were over 25 years

of age, 37% identified as a student of color. Seventy-eight percent of respondents had less than two years’ experience as an RN. Eighty-nine percent of respondents had been out of school two years or less and all had experience in online courses, 89% having 3 courses or more (see Table 2).

Table 2. Participant demographics

Variable (n = 17)	n	%
Age		
18-24	4	22
25-34	7	39
35-44	7	39
Ethnicity		
White	12	63
Black or African American	4	21
Asian	2	11
American Indian or Alaskan Native	1	5
Years Worked as RN		
0-2	14	78
3-5	4	22
Years Since Last College Nursing Course		
0-2	16	89
3-5	2	11
Online Courses Taken in the Past		
1-2	2	11
More than 3	16	89

3.2 Qualitative analysis

Quantitative analysis was performed using descriptive statistics. Students were asked to rate on a scale of 1 to 5 their

experience with the liquid syllabus related to the identified pedagogical concepts with 1 being 'strongly disagreed' to 5 being 'strongly agree'. A total of 17 students (44%) from the two online courses completed the survey. Results indicated students felt the liquid syllabus was easy to access ($M = 4.5$, $SD = 0.6$), it gave a general overview of the course ($M = 4.7$, $SD = 0.5$), the student trusted the instructor wanted them to be successful ($M = 4.6$, $SD = 0.5$), the instructor was on the course journey with them ($M = 4.5$, $SD = 0.5$). Greater variance was noted in questions related to whether the student was more likely to communicate with the instructor ($M = 4.2$, $SD = 0.8$), felt increased confidence ($M = 4.1$, $SD = 0.8$) and whether the liquid syllabus eased self-doubt ($M = 3.8$, $SD = 0.9$) (see Table 3).

3.3 Qualitative themes

Qualitative analysis of the student open ended answers was completed by the two researchers. Each open-ended answer was identified by theme and like themes were grouped together to provide feedback on the liquid syllabus. Overall, there were nine responses indicating that 53.9% of students who completed the survey also added qualitative feedback. This positive feedback related to three themes: timing, ease and user-friendliness, and enhancing course preparedness.

Table 3. Liquid syllabus student summary

Likert Question (n = 17)	Minimum	Maximum	Mean	Std Deviation	Variance
It was easy to access the liquid syllabus.	3	5	4.5	0.6	0.4
The liquid syllabus helped me access the course without difficulty.	3	5	4.2	0.8	0.6
The liquid syllabus helped give a general overview of the course.	4	5	4.7	0.5	0.2
I feel a connection to the teacher after viewing the video introduction.	3	5	4.35	0.59	0.35
I am more likely to communicate with my instructor with questions or concerns after viewing the liquid syllabus.	2	5	4.24	0.81	0.65
Viewing the instructor's expectations helped me feel prepared for course success.	3	5	4.41	0.6	0.36
Early connection from the instructor increased my confidence in taking this course.	2	5	4.12	0.83	0.69
I feel supported by the instructor after reviewing the liquid syllabus.	3	5	4.3	0.8	0.6
I feel prepared to start this course after reviewing the liquid syllabus.	3	5	4.2	0.6	0.4
I feel confident about how to manage technical issues during the course after reviewing the liquid syllabus.	3	5	4.0	0.7	0.5
The liquid syllabus helped ease any self-doubt I feel about taking this course.	3	5	3.8	0.9	0.7
I trust my instructor wants me to be successful in this course after viewing the liquid syllabus.	4	5	4.6	0.5	0.3
I feel like my instructor is on this course journey with me after viewing the liquid syllabus.	4	5	4.5	0.5	0.3
I feel like my instructor wants to know me as a person after viewing the liquid syllabus.	3	5	4.1	0.7	0.3

3.3.1 Timing

The timing of distribution of the liquid syllabus was important for students. Although the liquid syllabus was sent out the week prior to the start of class, one student would have liked it sooner, stating “Sending out a little earlier would be nice” to be able to have course information to prepare sooner. One unanticipated issue was exclusion of ‘late student addition’ to the course, indicating putting a provision for this in the future. A student explained “I never received this “liquid syllabus” until getting this survey. not sure if it is because I was waited listed for this course and joined later?” It will be important to include a process for getting the liquid syllabus to students who are added after the start of the course as well as sending it out early so students can prepare.

3.3.2 Ease and user-friendliness

Students felt the mobile-friendly liquid syllabus was easy to use and did not require learning any new programs or information to see the material. Students had similar comments regarding ease of use including “It is easy to understand and use, and the instructor make it very clear,” “It was easy to follow and clear with the information,” and “Felt very user friendly.” For students who may be overwhelmed at the beginning of a program this may be an important takeaway.

3.3.3 Enhancing course preparedness

Sending out information about an upcoming course early with the liquid syllabus helped students be more prepared mentally and some felt that it relieved anxiety regarding the unknown. One student stated “I found the liquid syllabus reassuring to receive prior to the opening of the course ... It helped me to mentally prepare for the course work and what to expect instead of having to review all of this information on the 1st day of class...it helped relieve some anxiety.” Another student appreciated the early course information, “It was a good heads-up on what to expect going into the course.”

4. DISCUSSION

Preliminary data from liquid syllabus project implementation suggests a positive impact on the student’s initial experience in the online course. These findings carry important implications for nursing education, particularly in the online learning environment where students can feel isolated and alone. The student-centered liquid syllabus can help ease the transition into new academic courses and programs while establishing an early rapport between the instructor and the student. For nursing students who often juggle clinical responsibilities, work and family commitments, tools that promote connections, provide clarity, and offer emotional reassurance are critical. By promoting early access to course information in a supportive format, the liquid syllabus can enhance student

readiness and foster a more humanized, engaging start to online nursing education courses.

From an instructional design perspective, consistently high ratings related to access, course overview, and perceived support suggest that the liquid syllabus can be effective at reducing barriers at the beginning of the online course. This early clarity might decrease cognitive load by allowing students to focus on the information most important for early connection and learning.^[9] The strong perceptions of trust and instructor presence highlight the role of the liquid syllabus in humanizing the online learning environment. Early recognition of the instructor as a real person who is on the course journey with the student may help foster a sense of partnership in the learning process.^[7,9] The liquid syllabus has important implications for online education, where connection and support are foundational to student success.^[4]

The variability of confidence outcomes including self-doubt and the willingness to initiate communication suggests that the liquid syllabus is an effective entry point, but it does need to be part of a broader support strategy for connecting with students in an online course. The instructor should consider additional strategies for connections such as early check-ins, personalized outreach, and other methods of student-instructor interaction throughout the course.^[10] The liquid syllabus is a no-cost, high-impact strategy supporting access, connection, and preparedness in online learning. When intentionally integrated with broader educational connection strategies, it holds significant potential to enhance the student experience and promote success in online education and beyond.

Next steps in the research on early connections and humanization in the online course include plans to refine the liquid syllabus and disseminate to all sections of early courses after incorporating lessons learned from the project. This includes continuing to refine and evaluate its effectiveness on student satisfaction and whether this translates into greater student success in an online asynchronous course. Ultimately, the researchers believe there is a role for a liquid syllabus in all courses—face to face, synchronous online, and asynchronous online as well as all content subjects— as a greater sense of humanization can impact student connections in all educational settings.

Limitations

The sample size was small, predominantly female and most of the participants were younger, early in their nursing career which impacts generalizability. Age group analysis was not completed regarding familiarity with technology because it was not an outcome of the study. Because the survey was

not formally tested for reliability or validity, findings should be cautiously interpreted, and any future use of the survey should include psychometric testing of the instrument. Future research could include larger sample sizes and the use of comparative or longitudinal designs.

5. CONCLUSIONS

The implementation of the liquid syllabus was shown to be an effective strategy for enhancing student-faculty connection and humanizing the online learning experience. The positive feedback from students highlights the liquid syllabus as an easy-to-use tool promoting course preparedness while reducing anxiety and fostering trust. While the results are promising, it is important to consider the timing and frequency of interactions to further strengthen student connections. Overall, the liquid syllabus holds significant potential for supporting student success in the online learning environment by setting the foundation for a more connected and supportive course.

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AUTHORS CONTRIBUTIONS

Dr. Ellen Johnson and Dr. Louisa Krueger were responsible for the study design, data collection, data analysis, drafting the manuscript, and revision of the manuscript. All authors read and approved the final manuscript.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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