

# Users of a consortial chat service are not dissatisfied with chat operators from another library, unless that mismatch is revealed.

## Student back-up staff on evenings and weekends don't receive lower satisfaction scores than librarians.

### Questioning Ask

#### Assessing a Collaborative Virtual Reference Service

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#### Ask at a Glance

The Ontario Council of University Libraries (OCUL) is a consortium representing the libraries of all 21 universities in Ontario. Scholars Portal is OCUL's service arm, providing shared technological infrastructure.

Ask a Librarian (Ask for short) is a virtual reference service managed by Scholars Portal that connects students, faculty members, and researchers from participating university libraries across Ontario with real-time library and research assistance through chat.

- Ask launched in 2011 with seven OCUL libraries and has since expanded to 15.
- Ask reaches around 400,000 FTE students and handles roughly 25,000 chats per year.
- Since 2014, the service has also been offered in French under the name *Clavardez avec nos bibliothécaires* ("Chat with our Librarians") at five libraries.

Ask a Librarian is open 67 hours per week during the academic year. Staffing is managed through a collaborative model in which libraries provide staffing hours relative to their student populations and service usage patterns. During evenings and weekends, staffing is supplemented by part-time virtual reference operators (VROs), generally second-year LIS students or recent graduates, hired by OCUL directly.

In this study, we sought to determine if Ask's model of collaborative service with back-up student staff is working well for our users, and whether any question types or user types are associated with user dissatisfaction.

#### The Analysis

We reviewed 473 of the 9,424 chats that took place between June 1 to December 1, 2016. 256 chats were randomly selected of the 1,395 chats that had completed exit surveys, while all 217 chats with exit surveys indicating anything less than satisfaction were selected.

The chat session metadata, pre-chat survey responses, and exit survey responses were pulled into an Excel spreadsheet. We anonymized the spreadsheet data using a checklist provided by Ask's Data Working Group, in order to remove any identifying information such as the identity of the chat operator, the user, or the institutional affiliation of either individual. The same process was used to anonymize the corresponding chat transcripts.

#### Study Variables

**User Type:** self-identified through a mandatory pre-chat survey. The options were: undergraduate student, graduate student, faculty, alumni, or other.

**Operator Type:** we recorded whether the operators were librarians, paraprofessionals, part-time operators employed by OCUL, or students before removing the operator names.

**Question Type:** users asked their question in a mandatory pre-chat survey. We coded their responses by question type according to a schema previously developed at Scholars Portal and the University of Toronto (Maidenberg, Greenberg, Whyte Appleby, Logan, & Spence, 2012). The two coders received near perfect agreement (as measured by Cohen's Kappa,  $K = 0.876$ )

**Institutional Mismatch and Institutional Mismatch Reveal:** the institutional affiliation of the operator and user were listed in the chat metadata. We recorded whether the participants in the chat were associated with the same institution or whether there was a mismatch. Through transcript analysis, we recorded chats in which the operator disclosed that they did not have the same institutional affiliation as the user. Average pairwise percent agreement was 93.3% indicating near perfect inter-coder reliability.

**Dissatisfaction:** based on the exit survey responses, we recorded whether the user was dissatisfied or not dissatisfied. Users were considered dissatisfied if they answered at least one of the four exit survey questions related to satisfaction with a neutral or dissatisfied response.

#### Statistical analysis

Once transcript coding was completed, we merged that data with the spreadsheet containing the chat metadata, survey responses, and information for the other study variables. We used SPSS to conduct Pearson chi-square tests of independence to determine if there were significant relationships between variables.

#### Findings & Discussion

Our analysis did not find a statistically significant relationship between dissatisfaction and user or question type, indicating that Ask a Librarian provides a consistent level of service to all patrons and satisfactorily answers all types of library- and research-related questions.

#### Institutional Mismatch and Mismatch Reveal

Pearson's chi-square test of independence indicates that the presence of a mismatch between the user's institution and the operator's institution is not significantly related to dissatisfaction, but revealing such a mismatch is related to dissatisfaction,  $\chi^2 (1, N = 473) = 4.323, p = 0.038$ .

This shows that users can be served by operators from across the consortium without compromising user satisfaction. Since OCUL is a consortium with a high level of collaboration and similar resources, this finding is not fully generalizable to other consortium types.

Revealing an institution mismatch was associated with user dissatisfaction. This is an area that has not been widely studied and requires further follow-up. In particular, we want to rule out confounding factors, such as operators being more likely to reveal the mismatch if a chat is already going poorly, before giving this finding too much weight. However, Scholars Portal will consider advising Ask operators not to reveal a mismatch unless necessary.

#### Staffing Type

The operator type variable was statistically significant in Pearson's chi-square test of independence,  $\chi^2 (4, N = 473) = 25.513, p < 0.001$ . Examining the observed and expected counts in the chi-square table, we determined that users shows a slight but statistically significant preference for graduate student staff or recent graduates hired by the consortium. The other operator types did not significantly contribute to dissatisfaction in either direction.

It's important to note that the student staff of Ask a Librarian are all LIS graduate students who have taken at least one reference course, so they may perform more like librarians than undergraduate students and non-LIS graduate students staffing similar services (for example, in terms of following RUSA best practices).

This finding reinforces Ask a Librarian's use of student staff to supplement evening and weekend shifts as an appropriate way to extend reference services beyond the normal working hours of reference staff.

#### Limitations

Beyond the generalizability of the findings, there are a few limitations to this study. Satisfaction was reported by users in an exit survey, which was only presented when the operator ended the chat, or when the user clicked an "end chat" button; users who simply closed the window did not see it. Self-reported satisfaction scores are also not always reliable measures as they can introduce the user's bias, and user satisfaction is only one measure of an interaction's success.

Other factors influence user satisfaction and therefore may contribute to the relationships discussed here. The quantitative analysis for this study did not include any moderating variables that may partially explain relationships.

#### Conclusion

When OCUL launched Ask a Librarian, the service model and policies were developed based on standards and best practices informed by other chat reference services. Now that Ask a Librarian has grown into a mature service, a review is important to ensure that the model and policies are working for our community.

This study largely reaffirmed Ask's service model, staffing practices, and policies. Users are not dissatisfied with the service received from chat operators at partner institutions, or by service provided by non-librarians. Best practices related to disclosing institutional mismatches may need to be changed, as these reveals were associated with higher levels of dissatisfaction. This is an area that merits further investigation.

Overall, this research demonstrates that institutions can trust the consortium with their local users' virtual reference needs.

#### Acknowledgments

We would like to acknowledge the other members of the research team, Judith Logan (University of Toronto Libraries) and Amy Greenberg (Scholars Portal).

#### References

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Results of Chi-Square Test of Independence: Operator Type and Dissatisfaction				
Operator Type	Dissatisfied Users		Not Dissatisfied Users	
	Observed Count	Expected Count	Observed Count	Expected Count
Librarian	80	78.5	91	92.5
Paraprofessional	74	60.6	58	71.4
Part-Time Virtual Reference Operator	25	44	71	52
Student Worker	24	24.8	30	29.2
Mixed	14	9.2	6	10.8

$\chi^2 (4, N = 473) = 25.513, p < 0.001$   
\* significant at the  $p < 0.05$  level

Results of Chi-Square Test of Independence: Institutional Mismatch and Dissatisfaction				
Institutional Mismatch	Dissatisfied Users		Not Dissatisfied Users	
	Observed Count	Expected Count	Observed Count	Expected Count
Match	84	82.6	96	97.4
Mismatch	133	134.4	160	168.6

$\chi^2 (1, N = 473) = 0.073, p = .787$

Results of Chi-Square Test of Independence: Institutional Mismatch Reveal and Dissatisfaction				
Institutional Mismatch Reveal	Dissatisfied Users		Not Dissatisfied Users	
	Observed Count	Expected Count	Observed Count	Expected Count
Revealed	34	26.6	24	31.4
Did Not Reveal	183	190	160	168.6

$\chi^2 (1, N = 473) = 4.323, p = .038$   
\* significant at the  $p < 0.05$  level

