The Hallmarks of High-Quality Tutoring

Dr. Danielle Kearns-Sixsmith

for Tutor.com

Over twenty-two years and twenty-two million sessions of online learning, Tutor.com has gained valuable insight into what constitutes great tutoring. This report provides understanding into identifying and defining quality in tutoring sessions. Furthermore, this paper shares findings from an internal study conducted to identify and define the hallmarks of high-quality tutoring sessions.

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Executive Summary

What we know about online learning has greatly expanded over the past thirty years. Since the inception of Tutor.com, a pioneer in online tutoring, understanding and expectations for effective learning experiences continue to evolve. Online tutoring has served K-20 students as well as workers who aim to close knowledge gaps and improve career outlook. Tutor.com reiteratively improves platform technology and tool offerings, expanding capabilities for an array of learner types and preferences, and deepens their understanding of what it takes to provide great online learning experiences. Evidence from the literature confirms that online tutoring resonates with traditional constructs of learning which leads to increases in student achievements and successes (Hrastinski et al., 2019). Great tutoring sessions can motivate, drive learning, and foster perseverance (Mendoza & Kerl, 2021; Sembiring, 2018; Heinrich et al., 2014). With the goal of providing great sessions every time, Tutor.com invests time and resources to reflect upon and design solutions that enhance experiences of tutoring for all. This includes decisions about the screening, training, and evaluating of tutor quality.

Prepared by and for Tutor.com, an internal research study was conducted to harvest generalized principles of successful online tutoring. Gleaned from archived tutoring session transcripts, hallmarks of high-quality tutoring were identified, defined, and confirmed via mixed methods. This paper shares perspectives of identifying and defining quality of tutoring sessions, findings in comparisons between low-quality and high-quality sessions, and the defining hallmarks of quality tutoring. These hallmarks infer how quality of online tutoring can be evaluated. At Tutor.com, this information is used to enhance tutor screening, training, and evaluating of sessions to ensure consistent high level tutor quality so that every student and every experience can be the most effective learning experience possible.

Identifying Quality

There are several ways to identify the quality of a tutoring session. Sessions can be recorded for potential review by students, tutors, and/or administrators of services. These transcripts can be stored on student or institutional accounts and within internal repositories. Tutoring transcripts consist of a chat log, audio and/or video file. There is rich qualitative information contained in session transcripts. Additionally, following a completed session, tutors and students can leave comments about the session. Quantitatively, any wait time, session length, recommendations, and satisfaction can be measured. Students can rate a session using a scale from 1 to 5, with 5 being the highest rating possible, and 1 being the lowest. This is considered a valid form for measuring student satisfaction (Chen et al., 2019). When reviewing these metrics, a rating in combination with an alignment between tutor comment and student comment can be used to indicate a highly satisfying or a highly dissatisfying tutoring session. Consider a student rating of “5” with a comment left by the tutor, “Student worked through problem-solving successfully” and by the student, “This service is amazing and helped me understand what I needed to do”. Compare this to a student rating of “1” with a comment left by tutor, “The student wanted the answer without the work” and the student comment, “This service is not helpful. The tutor just kept asking me questions.” The former would be seemingly and potentially high-quality given the satisfaction rating of “5” and positive alignment from tutor and student while the latter can be considered a lower quality online learning experience given the rating of “1” and aligned negative comments.

While exploring session transcripts, it becomes evident that some interchanges between a tutor and a student are more successful, effective, or of a higher educational value than others. To investigate characteristics or attributes, an exploratory-confirmatory mixed methods grounded theory study was conducted internally. A theoretical model was built from the literature, another built using grounded theory from a sampling of archived session transcripts, and a meta-model

incorporating both was then synthesized. Following the creation of 23 items and subsequent factor analyses, eight factors emerged as the hallmarks of high-quality tutoring sessions. Finally, a *Student t*-test between high and low quality online tutoring sessions confirmed statistical significance in all hallmarks between groups. Qualitative data led to further refining of the hallmark definitions.

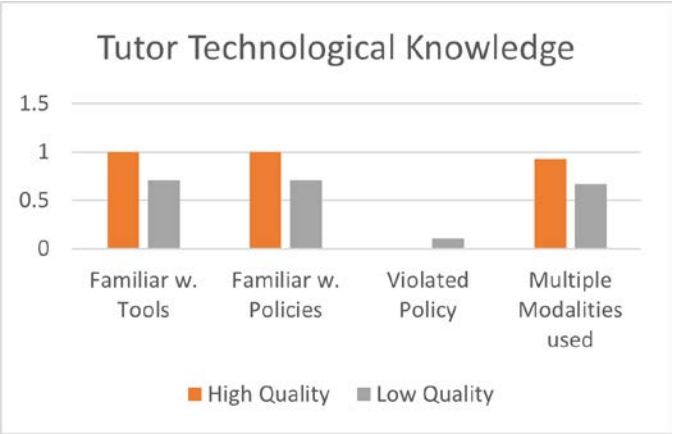
Defining Quality

Before factor analysis, differences in frequencies were observed between high- and low quality tutoring sessions using the TPACK framework (Mishra & Koehler, 2006).

Technological knowledge. In all high-quality sessions evaluated, tutors were perceived as capable in this regard, familiar with platform technology and system tools. In the few low-quality sessions found, there were several incidents where a tutor was unable to assist nor explain file sharing, for example. Similarly, an association was found between a tutor's familiarity with policies and procedures, such as engaging topics unrelated to the problem or question posed. This was only observed in low quality sessions. In high-quality sessions, use of chat accompanied by another modality, use or writing on the board, for example, was evident but less frequently in the low-quality sessions. Figure 1 summarizes these findings.

Figure 1

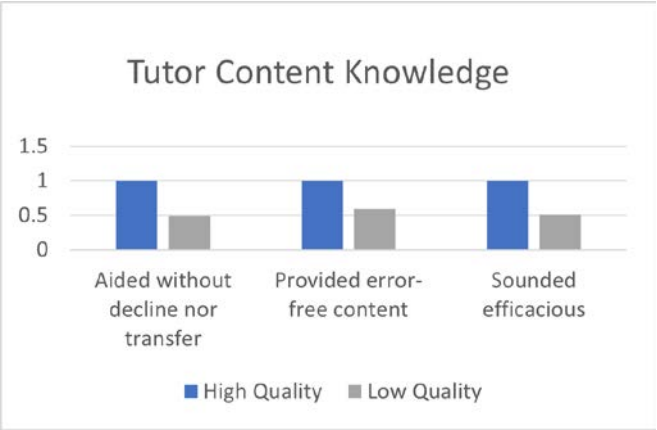
Comparison of quality in technological knowledge of tutor



Content knowledge. A lack of content knowledge was interpreted when a tutor stated that they were not familiar with a topic in the given subject area or claimed a lack of expertise or transferred the session, thus, they did not engage nor embrace the learner and problem presented. Tutors can also decline a request or transfer a session. This was only observed in sessions that were deemed low-quality. Another construct that emerged was that of tutor efficacy. None of the higher-quality sessions in this review demonstrated instances of apparent errors, apologies, or utterances of doubt. All tutors in these sessions sounded confident and capable in their subject area.

Figure 2

Comparison of quality in content knowledge of tutor

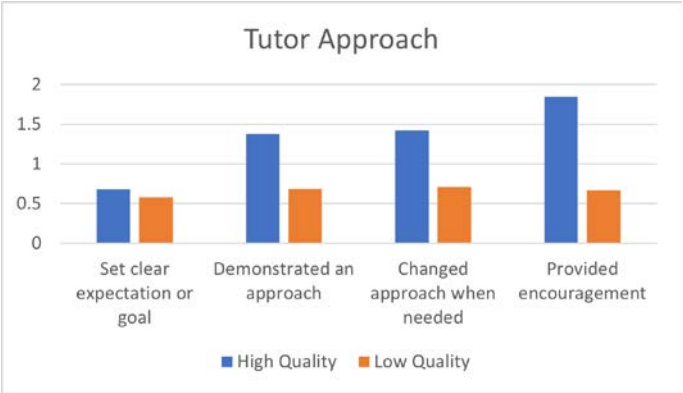


Pedagogical knowledge. Interactions between tutor and students in high quality sessions were interpreted as organized, professional, purposeful, and mindful in recorded responses. Demonstrations of an interactive, back-and-forth flow of utterances in high quality sessions and a lack of understanding and flow in the exchanges between tutor and student in low quality sessions were gleaned from chat logs. Goal setting or iterating expectations were more common in high quality sessions as was demonstrating a purposeful approach, changing that approach when flow was disjointed or disrupted, and encouraging the learner to continue examining and building upon their mental schema. Interestingly, encouragement and support were mainly positive but not always effective. In some lower-quality sessions, the tutor seemed

to overuse emojis and use inflated positive phrases when minor steps were accomplished. In some sessions where the learner failed to answer the tutor's question correctly, the tutor did not respond positively but was still deemed as encouraging. In others, a tutor's succinct nature was often interpreted by raters as "tone" perceived by students. For this reason, a better term would be *supportive* or *encouraging* but not necessarily always positive.

Figure 3

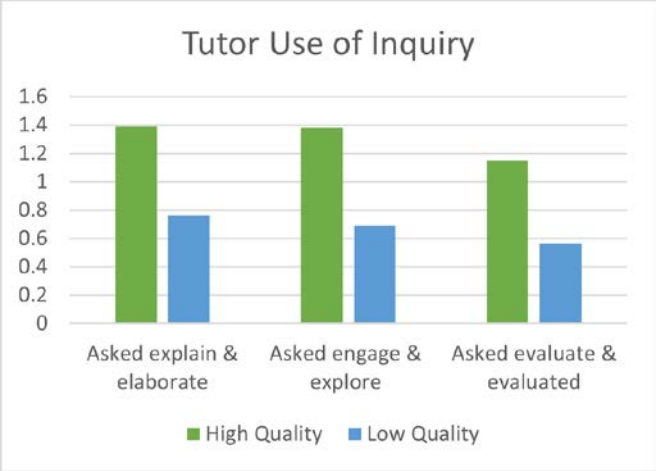
Comparison of quality in tutor approach



A tutor's **use of inquiry** was found to be valuable to learners. Inquiry-based scaffolding on concepts seemed to follow closely with the 5E model (Duran & Duran, 2004) of instruction. Indications from coding of quotes between learner and tutor showed a variety of inquiry-based questions and comments that resembled attempts to engage, explore, explain, elaborate and/or evaluate. This was more frequent in high versus low quality sessions. In comparison, there was evidence of answer-giving and lecturing in far less engaging low-quality sessions. However, answer-giving was not completely absent in high quality session either. There were notable differences, however in high quality sessions where short bursts or chunks of answer-giving seemed to function as enrichment to conceptual understanding (Chen et al., 2019).

Figure 4

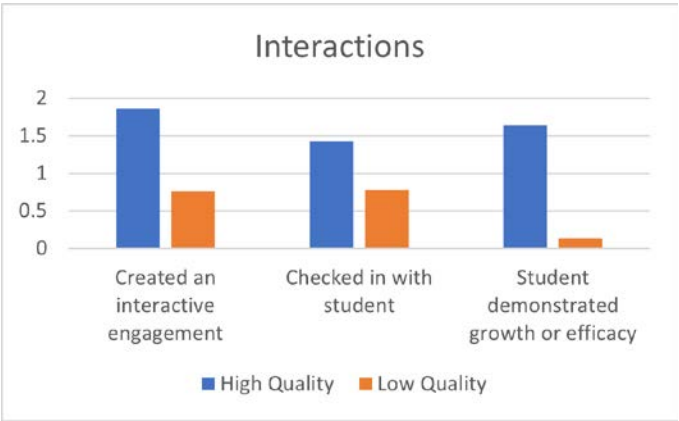
Comparison of quality in tutor use of inquiry



Creating an engaging and satisfying interaction. The more utterances between tutor and student, the more likely inquiry questions were noted. Tutors that were supportive of learning and encouragement seemed to be key to continuing sessions for learners who seemed frustrated. In another area of inquiry, questions asked by tutors included *checking in* with what seemed like attempts to clarify or ensure student understanding. Frey, Fisher, and Alamode's *How Tutoring Works* which stated that tutoring works when teachers use clarity to build relevance. Learner efficacy was noted with statements such as, "I now know and can do this. Thank you."

Figure 5

Comparison of quality by tutor interactions

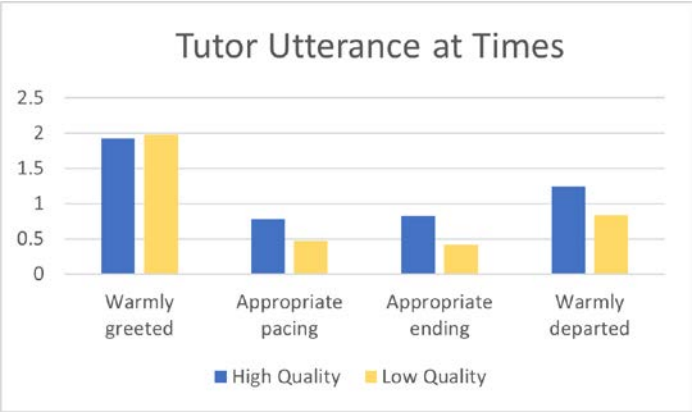


Characteristics of **tutor utterances** included the amount of time between utterances, such as delays in responding by tutors to students. These occurred more frequently in low quality sessions. In both types of sessions, warmly greeting students and warmly departing was evident. This is one reason several items, including evidence of warm greeting and warm departing were excluded during factor analyses.

High-quality sessions were more likely to demonstrate **appropriate pacing** between utterances. Appropriate pacing excludes unnecessary delays between a student's comment and a tutor's response. This included appropriately ending tutoring sessions in a naturally or educationally sound manner. Low-quality sessions were more likely to end abruptly with either the student disconnecting without explanation or the tutor stating they had to end the session (shift was ending, unable to help, lack of expertise).

Figure 6

Comparison of quality by tutor utterances



Hallmarks of Quality Online Tutoring

Three latent variables incorporating eight hallmarks of quality tutoring were identified following factor analyses. The latent variables were tutor efficacy, student centered, and instruction. The

eight factors or hallmarks are: (a) Tutor efficacy of platform technology and tools; (b) Use of multiple modalities when applicable; (c) Engagement evidenced as multiple and appropriately paced interactions; (d) Inquiry and incorporation of student's prior knowledge; (e) Support as encouragement of student efforts; and (f) Ensuring understanding through clarifying and checking-in with student.

Figure 7

Hallmarks of High-Quality Tutoring

To explore if these hallmarks could distinguish between low and high-quality online tutoring, approximately 150 session transcripts were analyzed quantitatively. The overall comparison of means between the two groups was performed. While the majority of the 150 session transcripts under review yielded high quality sessions, comparing the means yielded a significant difference, t (117) = -5.766, p = .000. Differences were seen at each factor level

(hallmark) and latent variable. The results suggest that when tutors are student-centered, instructional, and efficacious, they positively impact the quality of online tutoring sessions. Following additional coding of qualitative information, enriched definitions were made for each of the hallmarks.

Evidence of Tutor Efficacy of online tutoring platform and tools:

Manifests Platform Capabilities – In high quality sessions, tutors demonstrate familiarity with platform, procedures, tools, and usage as demonstrated in session. There are no misunderstandings nor delays in using tools by tutors and explanations are provided to learners who may be struggling to use a tool. Any difficulty is resolved as a result.

Use of Multiple Modalities – In high quality sessions, tutors engage with learners in multiple ways using multiple tools. This includes use of a *board*, sharing images or diagrams, working on graph paper, using a coding editor, or some other visual modality including and marking up of images or files with annotations. These are in addition to an area for texting. This can also include audio or video, which was eliminated from this data set to avoid potentially confounding variables.

Evidence of Instruction:

Accesses and builds upon a student's prior knowledge – Tutors begin by reviewing a posted statement or problem and greeting the student. In high quality sessions, tutors are more likely to ask the learner about established or associated information, revealing mental schema a student had concerning the objective. This is observed in contrast to a tutor that would review the problem and then lead the learner through lecturing about the solving of the problem. While accessing prior knowledge, the tutor should refrain from excessive nor extraneous background probing, acclimate to learner level and then build upon the provided information in attempts to move the interactions forward.

Inquires using open-ended questions – In high quality sessions, effective tutors use inquiry to guide learning for the student. Inquiry is used to scaffold the constructivist building of generating connections and “realizations”. In some cases, tutors may provide information, as short statements as opposed to lengthier narratives. Answer-giving and lecturing by tutors are more commonly found in low quality sessions. When short bursts of information are found as answer-giving in high quality sessions, these are perceived more likely to be used to enrich to the topic being discussed. Many inquiry-based questions can be categorized or associated with the 5E model of inquiry-based learning such as: asking to elaborate or explain, asking to engage or explore, and asking to evaluate.

Clarifies to ensure understanding – Highly effective tutors ask questions to reveal their assumptions about what they think the student knows or was learning through the process. This seemed to be a critical strategy for the successful tutor. By clarifying understanding, the tutor continues with current instructional approach or changes their approach as needed. Without this information, the tutor might be oblivious to learner frustration, confusion, and/or disappointment. This can be seen in low-quality sessions when students repeat the term, “okay” without being able to move forward in solving the problem. Some students will disconnect or voice concern that they are not being helped or that they are getting [more] confused.

Connecting and maintaining engagement – In high-quality sessions, tutors will *connect* to the learner. The rapport between tutor and student will seem to *flow* better. Tutors that *check-in* with learners maintain a momentum of active engagement. Tutors’ questions should relate to the process in this regard. Examples of these types of questions include, “Does this make sense?”, “Do you understand what we did on the board?”, “Do you want to try an example?”, “Shall we continue?”.

Evidence of Student-Centered communication:

Engagement through multiple and appropriately paced interactions – In high quality sessions, tutors more frequently demonstrate an attempt to engage students and embrace learning. These tutors seem to create an interactive environment of give-and-take, prompts and responses, with a natural flow of timely responses. In low-quality sessions, tutors are more likely unable to help or understand the learner or the problem. Tutors in these sessions claim the topic is out of scope (when such topics are appropriate for the subject area), transfer the session to another tutor (sometimes repeatedly), decline to use a modality the student requested, had long delays between responses, or disconnected suddenly.

Support to encourage learning by tutor – Tutors in high quality sessions respond to learner efforts and utterances. Often, tutors have positive responses, or smiling emojis, and are empathetic, where appropriate. Tutors use supportive encouragement during the developing learning process or when learners display realization of concepts. In high quality sessions, this does not include elaborate discussions of unrelated nor personal information. In low quality sessions, support was sometimes evident as overinflated or completely absent, or lacking an acknowledgement of the learner's response.

Conclusion

These hallmarks were found rooted in traditional constructs of learning. Strategies that enhance learning, self-efficacy, and student success all incorporate active learning and online tutoring is inherently active (Bransford, Brown, & Cocking, 2000; Jansson et al., 2021). The Hallmarks resonate with constructive cognition (Piaget's constructivism) for the rearrangement, assimilation, and changes in an individual's mental schema and support social interactions and language used between learner and tutor as a shared learning experience (Vygotsky's social constructivism). These Hallmarks consist of: tutor efficacy of platform technology and tools, use

of multiple modalities when applicable, engagement evidenced by multiple and appropriately paced interactions, incorporation of student's prior knowledge, tutor use of inquiry through use of open-ended questions, student support as encouragement of efforts by tutor, clarifying information by tutor to ensure student understanding, and checking-in and connecting with student to ensure engagement and should be further studied. Implications for the use of hallmarks include hiring, training, and/or evaluating tutors by those who oversee tutoring programs. By ensuring tutor quality for each and every session, online learning experiences can reach their potential so that every learner can gain in understanding and success.

About the Author

Dr. Danielle Kearns-Sixsmith the Learning Services Manager for Health & Sciences at The Princeton Review/Tutor.com. She moonlights as an adjunct in the Department of Education of DeSales University and is a consultant for STEM education and evaluation. She is an alumnus and a Scholar-in-Residence for the Center for Educational and Instructional Technology Research Hub at the University of Phoenix. Communications can be directed to Danielle.Sixsmith@Tutor.com

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