Why Argue? Developing Understanding of the Purposes and Values of Argumentive Discourse

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In a pedagogical method increasing in popularity, students of all levels—from elementary to post graduate—are likely to be asked to engage in debate with peers. How they understand the purposes and values of argumentive discourse is likely to affect its effectiveness. The 3 studies presented here involve junior high school, senior high school, and university students in the United States and China, and are based on their responses to scenarios involving either the opportunity for or necessity of argumentive discourse in cases where a difference of viewpoints exists. The results reveal that many, and in some cases most, students do not appreciate the value of such discourse as having the potential to enhance individual or collective understanding. Comparisons of participants from different populations, however, indicate cultural, as well as developmental, differences, although evidence appeared of individual malleability in relation to cultural patterns.

Engaging students in purposeful discussion with their peers has become highly regarded by educators as an instructional method serving a variety of productive
ends across a wide age range, from elementary school through higher education (Bereiter, 2002; Botstein, 1997; Brookfield & Preskill, 2005; Damon, 1984; Damon & Phelps, 1988; Hmelo-Silver, 2002, 2004; Resnick, Levine, & Teasley, 1991; Resnick & Nelson-Le Gall, 1997; Slavin, 1990). In a supportive atmosphere, students of any age can fairly readily be engaged in such discourse. Little attention has been paid to the possibility that they may be unprepared to do so or that, if better prepared, they would do so more productively. Specifically, do students understand the purposes of discourse with their peers? Do they recognize what they individually or collectively stand to gain from it? Such understanding, or lack of it, is likely to affect the productivity of engaging in the practice.

There are, of course, many kinds and purposes of discourse; and, in this work, we examine the discourse context in which a diversity of viewpoints on an issue are known to be present, and discourse offers the potential to bring them into contact with one another. To identify it, we refer to such discourse as argumentive discourse. What kinds of understandings support the disposition to engage in such discourse? We reasoned that they lie in concepts of what such discourse is able and likely to achieve. What value can accrue from my becoming informed of my peer’s point of view, from making the peer aware of my own view, or from engaging in joint reflection on these views, possibly with the objective of reconciling them? The ideal, of course, is that individual viewpoints are enriched; shared understanding is created; and possibly even new, previously absent understandings are jointly constructed. When we ask students to engage in such discourse with peers, can we assume that any such conception of argumentive discourse is part of what they bring to the task?

Behavioral evidence is limited but suggests a negative answer. A growing body of literature on the development of argumentation skills indicates that students’ skills are weak (Berland & Reiser, 2008; Clark, Sampson, Weinberger, & Erkens, 2007; Driver, Newton, & Osborne, 2000; Duschl & Osborne, 2002; Erduran & Jimenez-Aleixandre, 2007; Erduran & Simon, 2004; Felton, 2004; Felton & Kuhn, 2001; Iordanou, 2010; Kuhn, in press; Kuhn, Goh, Iordanou, & Shaenfield, 2008; Kuhn & Udell, 2003, 2007; Maloney & Simon, 2006; Nussbaum, 2005; Udell, 2007). Walton (1989) is commonly cited with respect to the goals of argumentation. He identified two primary ones. The first is to secure commitments from the opponent that can be used to support one’s own argument. The second is to undermine the opponent’s position by identifying and challenging weaknesses in the opponent’s argument. Both of these require attention to the opponent’s arguments, and this is where at least young adolescents (but also many older ones) falter. They appear to have difficulty attending to these dual objectives. When asked to engage in debate with a peer on a controversial topic (Felton & Kuhn, 2001), or to choose effective strategies for doing so (Kuhn & Udell, 2007), their typical approach is to introduce reasoning
in support of their own claim while ignoring the opponent’s claim, appearing to believe it will disappear if their own position is only argued forcefully enough.

These findings suggest that young adolescents may have a limited conception of argumentation—its nature, goal, purpose, and value. To the extent argumentive discourse invokes knowledge sharing and knowledge construction, we reasoned the most relevant kinds of understandings would be those involving conceptions of knowledge and knowing. If so, a burgeoning literature on the development of epistemological understanding becomes relevant. (For reviews, see Hofer & Pintrich, 1997; Kuhn, 2009; Kuhn & Franklin, 2006; Moshman, 2008; Muis, 2007; Muis, Bendixen, & Haerle, 2006.) Where feasible, we therefore include independent measures of level of epistemological understanding in the studies reported here.

In the main instruments we employ to examine understandings regarding the purpose and value of argumentative discourse, we asked students of varying ages and backgrounds about the activity of engaging in focused discourse with peers when multiple positions on an issue exist. What do they see as its purpose? Do they see it as productive and, if so, what do they expect it to accomplish? Such understandings are likely to vary developmentally but also to be influenced by the social and cultural values and experiences that students have been exposed to. Different social groups have been recognized as holding different kinds of norms and values regarding interpersonal interactions, particularly when potential for conflict is involved (Shweder, 1991; Turiel, 2002). In the series of three studies presented here, we therefore consider both sources of influence—cognitive developmental and social–cultural—on the understandings of concern to us, and make an effort to explore how they interact.

THE DEVELOPMENT OF EPISTEMOLOGICAL UNDERSTANDING

The origins of epistemological understanding lie in early childhood. Three-year-olds make the now-classic error of unwillingness to attribute to another a belief they know to be false (Perner, 1991). The impossibility of false beliefs reflects an epistemology in which all beliefs come directly from the external world, rather than being constructed by the knower. Hence, there are no inaccurate renderings of events, nor any possibility of conflicting beliefs because everyone apprehends the same external reality. Once it is recognized that assertions are produced by human minds and need not necessarily correspond to reality, assertions become susceptible to evaluation vis-à-vis the reality from which they are now distinguished. Here, the potential for scientific thinking emerges. The products of knowing, however, for a time still remain more firmly attached to
the known object than to the knower. At this *absolutist* level of epistemological understanding, knowledge is thus regarded as an accumulating set of certain facts.

During childhood, the absolutist level of thought prevails, although there is progress toward what has been called an “interpretive” theory of mind (Carpendale & Chandler, 1996). By age eight or nine, children recognize that individual minds interpret reality and may do so in different ways. Someone may see the object a masked man carries while fleeing a building as a gun, whereas another sees it as something different. There remains an absolute truth, however, that will be known once the relevant information is revealed. One person will be right and the other wrong. There is no room for a legitimate multiplicity of viewpoints about any knowledge claim. Claims regarding the causes of crime or school failure are seen to have similarly certain answers (Kuhn, 1991).

Although details vary across different researchers, there is general agreement that further development is characterized by transition to a *multiplist*, or relativist, level, followed by, in at least some individuals, further transition to an *evaluativist* level. Although progression beyond absolutism is unlikely during childhood, with early adolescence comes the likelihood of the striking shift to multiplism. The discovery that reasonable people—even experts—disagree serves as a source of recognizing the uncertain, subjective aspect of knowing. Acceptance of this diversity of opinion, however, at least temporarily eclipses recognition of any objective standard that could serve as a basis for evaluating conflicting claims. From the multiplist perspective, knowledge consists not of facts but of opinions, freely chosen by their holders as personal possessions. Everyone has a right to their opinions, which, accordingly, are not open to challenge. Knowledge is now clearly seen as emanating from the knower, rather than the known, but at the significant cost of any discriminability among competing knowledge claims.

This progress in epistemological understanding can be characterized as an extended task of coordinating the subjective and the objective elements of knowing (Kuhn, Cheney, & Weinstock, 2000). By late adolescence, many, although by no means all, adolescents will have reintegrated the objective dimension of knowing and achieved the understanding that, although everyone has a right to their opinion, some opinions are more right than others, to the extent that they are better supported by argument and evidence. Justification for a belief becomes more than personal preference. Rather than facts or opinions, knowledge at the evaluativist level of epistemological understanding consists of judgments, which require support in a framework of alternatives, evidence, and argument.

Development of an evaluativist level of epistemological understanding, we reasoned, is likely to figure importantly in the development of an understanding of argumentive discourse and its goals. Unless they see the point of such
discourse, students are unlikely to be disposed to involve themselves in it in any deep way. They are more likely to embrace the apparent virtue of tolerance, combining it with the vice of indiscriminability (of opposing views) and, hence, sliding down the slippery slope from everyone has a right to their view to all views are equally right. Supporting such a connection is empirical evidence of a relation between argument skills and epistemological understanding (Iordanou, 2009; Kuhn, 1991; Mason & Boscolo, 2004; Mason & Scirica, 2006; Weinstock, Neuman, & Glassner, 2006). In this work, we wished to explore such a connection more directly by examining understanding of discourse itself.

**DESIGN OF THIS RESEARCH**

In this investigation of students’ understandings surrounding argumentive discourse, where feasible, we thus included a measure of their level of epistemological understanding to investigate its role. We developed a set of questions suitable for use across the wide range of ages and population we wished to examine to probe the experiential, as well as developmental, factors likely to play a role in participants’ conceptions. In both of the scenarios we present, a difference of opinion among protagonists is identified. In the first scenario, we ask about a situation in which there is an opportunity for discussion but there is no demand to engage in it. In another scenario, we ask a set of questions about a situation in which discourse is necessary to complete a task.

In Study 1, we report on the responses of a group of sixth-graders from a public school in a large city in the Northeast United States. They represent the target group whose understandings we wished to explore, for the reasons outlined earlier. As a comparison group, however, we examine responses of an academically accomplished young adult group enrolled in a graduate program at a highly selective university in the same city. They are intended to serve as an “expert” group whose understanding of the value of argumentive discourse would be expected to be at the highest levels among an adult population. Thus, they serve as a benchmark in interpreting the responses of the younger, less intellectually select group. We chose this adult group for comparison, rather than a group of more average adults, so as to identify a potential “endpoint,” or highest level and, hence, a standard of expertise with respect to understanding and valuing of the kind of discourse that is our topic. In Studies 2 and 3, we explore developmental and cultural differences by presenting the same questions to young people of various ages from mainland China—a cultural group that, for reasons we explain, we thought a particularly appropriate one in which to conduct such an investigation.
STUDY 1

Method

Participants

A group of 80 sixth-graders (42 boys and 38 girls), aged 11 and 12, participated—the entire sixth grade of an urban public intermediate school. They were of diverse ethnicities, including African American, Hispanic, Asian, and Caucasian. Roughly one half were from one of a number of Hispanic ethnic backgrounds; the remainder were about equally divided between African American and Caucasian ethnicities, with a few students from an Asian ethnic background. Their families ranged in socioeconomic status from working to middle class. Diverse instructional methods were employed in their classes, including discussion and small-group work. Sample size is slightly reduced ($n = 74$) for the necessity scenario (described later), as a few students arrived to the class late and did not have time to respond to it.

The comparison group consisted of 37 young adults entering a 2-year MBA program at a nearby prestigious university. They were primarily in their mid-to late 20s, with genders roughly equally represented, a majority Caucasian but diverse in ethnic backgrounds, and highly accomplished in terms of educational background, having gained admission to a graduate program that accepts only 10% of applicants. The responses of a randomly chosen section of the entering class were obtained during a session that took place during their week-long orientation program. This time of assessment was chosen so as to eliminate the potential of their responses being influenced by the substance of the curriculum they were about to encounter. Instead, they represent a highly select group of young adults identified by their broad educational achievements and motivations.

Instruments

Two instruments were developed for this research, each eliciting open-ended written responses. In one, respondents were questioned about a situation in which they had the opportunity to engage in collaborative cognition. The other involved a situation in which it was necessary to engage in such activity to complete a task. They are as follows:

Collaborative opportunity scenario: Two candidates, Bo and Le, are running for governor of your state. You are riding the bus with your friend. You know your friend prefers Bo. You prefer Le. Is it a good idea to discuss Bo and Le with your friend?
Collaborative necessity scenario: The director asks your three-person team to develop a new product that will do a better job than the old one and to send a report when you’ve finished. Your teammate B has an idea of what to do, but you have an idea that you think is better. Teammate C has no ideas. What should you do to start? Describe your plan.

Follow-up question: It turns out that you and B have a big disagreement. B thinks his idea is best and you think yours is best. What should you do?

In the necessity scenario, the follow-up question appeared on a separate page and was not addressed until response to the first question was completed.

A third instrument, developed by Kuhn et al. (2000), has been widely used to assess level of epistemological understanding, and was employed for this purpose in this study. The instrument assesses level of epistemological understanding in a developmental scheme consisting of the three broad levels introduced earlier, ranging from the least advanced absolutist level, to the multiplist level, and finally the evaluativist level. At an absolutist level, knowledge is understood to be certain and unchanging; at a multiplist level, it is regarded as uncertain but not subject to evaluation; and at an evaluativist level, it is understood to be both uncertain and subject to evaluation (Hofer & Pintrich, 1997; Kuhn et al., 2000; Moshman, 2008). The respondent is presented a series of items covering a range of content, in each of which two individuals disagree about a claim. The questions pertain to whether only one or both individuals could be right and, in the case of the latter answer, whether one could be any more right than the other. Claims that only one could be right were regarded as absolutist responses, claims that both could be right but neither more so than the other were regarded as multiplist responses, and claims that both could be right but one could be more right than the other were regarded as evaluativist responses.

**Procedure**

The instruments were group-administered in written form in a classroom setting during a single class period for the younger group and for the older group during a 10-min period while they were arriving for that day’s orientation session. Both the opportunity and necessity scenarios were presented to sixth-graders, in that order. Only the necessity scenario was presented to the adults, due to the high demand on their time during the period of assessment and our very limited access to it. For the same reason, the epistemological inventory was similarly administered only to the younger group as a separate and prior task during another class period on the same day. Although the instruments were administered in written form, the younger group had the opportunity to ask for any verbal clarifications they wished, but none did so.
Coding

Opportunity scenario. A portion of responses was examined for the purpose of developing a coding scheme. Responses fell readily into three categories. The first division was an objective one based on whether the response was yes (the topic should be discussed) or no (it should not). The yes category was further divided into two categories based on the justification given (described and illustrated later). Perfect reliability of coding for this scenario was established.

Necessity scenario. A portion of responses were similarly examined for the purpose of developing a coding scheme (described and illustrated later). Two new coders applied the coding scheme to the entire data set and achieved reliability of 80% or greater.

Results

Sixth-Grade Sample

Opportunity scenario. Most important, and as seen in Table 1, the most frequent type of response of sixth-graders was that the topic should not be discussed—41% gave this response. Within Category A (“don’t discuss”), the large majority of responses (69% of Category A) fell into the subcategory of concern about risk of argument (33%) and jeopardizing of friendship (36%). No differences appeared in category distributions across gender.

The remainder said the topic should be discussed, and were divided almost equally into two categories with respect to their justifications—29% favored discussion but saw its purpose as limited to communication (of one another’s positions), with a possible goal of influence. Only 30% of the sample both endorsed discussion and gave justifications indicating as a potential further purpose of discussion an enhancement of understanding. It is these responses that we regarded as reflecting the most mature understanding of the goals and values of argumentative discourse and the ones we expected might be associated with more mature levels of epistemological understanding. Illustrations of responses in each of these categories appear in Table 1.

Sixth-graders’ responses to the opportunity scenario were examined in relation to epistemological levels. Typical of this age level, respondents showed some mixture of levels across the range of content domains assessed by the instrument, with most having begun the transition beyond solidly absolutist thinking. Few, however, showed substantial use of evaluativist thinking—the level we would hypothesize as supportive of an understanding of purposes of intellectual discourse. For these purposes, we therefore distinguished two groups: those who still showed a preponderance (40% or greater of responses) of absolutist responses and those who had progressed beyond predominantly
TABLE 1
Sixth-Graders’ Responses to the Opportunity Scenario

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Don’t Discuss (41%)</td>
<td>“I don’t like talking about government with my friends. Usually we talk about movies and rockstars.”</td>
</tr>
<tr>
<td>1. It’s not interesting</td>
<td>“I don’t like talking about government with my friends. Usually we talk about movies and rockstars.”</td>
</tr>
<tr>
<td>2. It serves no purpose</td>
<td>“No, because it’s my opinion so I wouldn’t discuss it to change my friend’s opinion because it’s his own thought.” “They can think whatever they want. I don’t want to change their opinion about it. We can be friends and have different interests.”</td>
</tr>
<tr>
<td>3. It risks argument</td>
<td>“You could get into an argument.” “Because it’s a personal opinion and it can lead to disagreements.”</td>
</tr>
<tr>
<td>4. It risks argument and jeopardizes friendship</td>
<td>“You could get into a serious argument and you may not be friends anymore. Also, if you don’t, arguments can be avoided and your friendship has a better chance of being longer.” “Your friend might feel disrespected and might not want to be your friend anymore.”</td>
</tr>
<tr>
<td>B. Discuss to Communicate or Influence (29%)</td>
<td>“You’ll see why the other likes the person they prefer and you can show them the same.” “You can convince him to like Le so you can like the same candidate.”</td>
</tr>
<tr>
<td>C. Discuss to Understand (30%)</td>
<td>“Because she might know more about the other candidate and I might know more about the one I’m for. We could tell each other more and we would learn something new. Although we might get into a fight, if we were both nice we wouldn’t.” “Because if you discuss the candidates’ pros and cons, you might see that either you or your friend is for the wrong person and might want to change sides.” “If we talk about it we might be able to come to a conclusion.”</td>
</tr>
</tbody>
</table>

absolutist thinking. Of the 78 respondents, 38% showed predominantly absolutist responses, and the remaining 62% showed at least some multiplist or evaluativist responses. Although a lower proportion of absolutists (than multiplist or evaluativists) favored discussion, a chi-square test was not statistically significant ($p = .14$).

**Necessity scenario.** Response categories and illustrations for the necessity scenario appear in Table 2. Again, no differences appeared in category distribution across gender.
TABLE 2
Sixth-Graders’ Responses to the Necessity Scenario

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Prevail by Power (08%)</td>
<td>“I would try to persuade him to say my idea is the best.”</td>
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<tr>
<td></td>
<td>“Bring other people to help you out that would support your opinion.”</td>
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<tr>
<td>B. Defer to Another (28%)</td>
<td>“Let C decide.”</td>
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<td></td>
<td>“Go with B’s idea so he doesn’t get mad.”</td>
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<td></td>
<td>“Tell the director if you can’t work it out.”</td>
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<tr>
<td>C. Search for an Alternative (05%)</td>
<td>“Find an idea we both like and use that one.”</td>
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<tr>
<td></td>
<td>“Brainstorm and come up with something better.”</td>
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<tr>
<td>D. Combine (26%)</td>
<td>“Combine both of your ideas.”</td>
</tr>
<tr>
<td>E. Compare Via Test (05%)</td>
<td>“Test his idea first, then test mine.”</td>
</tr>
<tr>
<td>F. Discuss (28%)</td>
<td>“Try to do both ideas and see who does it better.”</td>
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<tr>
<td></td>
<td>“We should debate and see problems to both of our ideas.”</td>
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<tr>
<td></td>
<td>“Have a group discussion where we all share our thoughts and ideas. We would vote and discuss how some ideas are better. Then we will all agree on one.”</td>
</tr>
</tbody>
</table>

These results are consistent with those for the opportunity scenario in indicating that less than one third of participants in responding to each of the scenarios regarded enhancement of understanding as a goal and potential outcome of argumentative discourse. Comparison across the two tables shows that endorsement of discussion as an opportunity (first scenario) and as a strategy for achieving a goal (second scenario) occur with nearly the same frequency across the two scenarios—among slightly less than one third of respondents. The necessity scenario elicits a wider range of strategies than does the opportunity scenario (where there is no problem to resolve). Yet, all except the last (and possibly the infrequent next-to-last, compare via test) category in Table 2 reflect strategies that will solve the problem in a way that does not rely on discourse to enhance understanding.

In terms of associations across individuals, a modest level of consistency appears. Among those advocating Discuss to Understand in the opportunity scenario, 48% propose discussion as a strategy in the necessity scenario. Among those advocating Discuss to Communicate or Influence, the proportion proposing a discussion strategy drops to 27% in the necessity scenario; and among those not advocating discussion in the opportunity scenario, this proportion drops to 14%, yielding an overall significant cross-task association: \( \chi^2 = 7.33, p = .026 \).

**Adult Sample**

In striking contrast to the responses of the younger group, the responses of the elite young adult sample were highly uniform. Of the 37 respondents,
33 (89%) responded to the necessity scenario in ways that clearly reflected their conceptions of argumentive discourse as a foundation of collaborative work. In addition to *discuss* as a term used to describe how the team in the scenario should proceed, other terms commonly employed were *exchange ideas, hash out, figure out, analyze, and evaluate*. They also frequently said it would be important to “encourage C’s input” as an important part of the process. The following is a succinct, representative, verbatim example of one response:

- Listen to everyone’s ideas.
- Weigh pros and cons of both ideas.
- Talk out best solution.

If consensus could not be reached, this respondent went on to say, a vote should be taken. Remarkably similar, although less succinct, was this response:

I would suggest that both B and I take time to fully explain each of our ideas. Then we will take some time to discuss the advantages of each as a group. At that time, we should be able to come to a consensus.

Even the responses of the four respondents who did not fall into the Discuss category had similar elements and were different in quality from those of the younger group. Two fell into the Prevail category and two into the Defer category. An example of the former is the following:

I would attempt to persuade Teammate C of my idea. Then after building a consensus, we could jointly persuade B of the brilliance of my idea.

Discussion

Although the findings are constrained by the existence of data for only one of the instruments for the elite group, we believe these findings to be noteworthy in several respects. Discussion among peers about an issue involving conflicting viewpoints is widely regarded as a promising instructional method for middle and high school students. Yet, across two distinctly different contexts (the 2 scenarios we employed), fewer than one third of students of this age level understood the value and educational potential of argumentive discourse—namely, that of enhancing understanding. The lack of a statistically significant relation to epistemological understanding we believed was contributed to by limited variance in the epistemological variable. We explore further in Study 3, with an older group, whether there is evidence for such a relation.

Comparison of sixth-graders’ responses to those of the young adult group supports a developmental interpretation, if we regard the adult group as providing
an endpoint of mature understanding in recognizing and valuing the potential of discourse. In contrast to the responses of the younger group, this group provided a highly uniform set of responses to the necessity scenario. The large majority saw discussion—consisting of the three-pronged “listen,” “weigh,” and “talk out” expressed in the response quoted—as central to the activity the team was to engage in and as enhancing the intellectual quality of their performance of their task.

More important, a minority of sixth-graders also gave responses that indicated some understanding of the productivity and potential value of argumentive discourse, indicating that such understanding is not beyond their grasp at this age level. At least as important, however, are our findings with respect to why the large group of sixth-graders chose not to engage in such discourse (in the opportunity scenario) or did not see it as a strategy of choice (in the necessity scenario). Especially striking is the stance taken by the majority of sixth-graders, who in response to the opportunity scenario, accounted for their disinclination to engage in discussion on the grounds of concerns about avoiding conflict and preserving social relationships. Even those who advocated discussion sometimes raised these concerns, as in the response quoted in Table 1: “Although we might get into a fight, if we were both nice we wouldn’t.”

Responses like these suggest that there exist two sets of values that figure in the responses of these young students—the value of affiliation, as represented in avoidance of conflict, harmony, and social relationships; and the value of intellectual engagement with others, for the benefits it might be seen to confer. If so, and respondents experience the two values as in competition with one another, strength on the part of one and weakness on the part of the other will combine to produce a response in which the stronger value dominates. Hence, both are worthy of investigation. This evidence suggests that the value of argumentive discourse with others is not well-understood or appreciated by the majority of respondents at our preadolescent age level. On the other hand, social affiliation is known to be highly valued at this age level (Damon, 1983; Smetana, Campione-Barr, & Metzger, 2006). Interpreted in this dual framework, dominance of the latter in this situation is less surprising.

Thus, such findings suggest the importance of examining the former values, and the understandings associated with them, and how these develop. What happens as the preteens studied here mature? Does increasing understanding of the purposes of argumentive discourse occur, and does it or the diminishment of heightened concerns with affiliation lead to significant change in its valuing with age? The adult comparison group we chose in Study 1 was deliberately highly specialized and not intended to be representative of a broader young adult population. Hence, we cannot predict that the understandings and values of the sixth-graders we studied will come to resemble those of this elite group. In Study 2, we therefore undertook a cross-sectional developmental study of three
groups: a junior high school group, a high school group, and a college group. Furthermore, we chose an Asian population in which to conduct Study 2—specifically, one from mainland China. We did so because harmony, affiliation, and avoidance of conflict are widely regarded as prominent values in Asian cultures (Bond, 2008) Hence, the valuing of intellectual collaboration needs to be reconciled with the social harmony value at all age levels—positive social connection is not a value that peaks temporarily in early adolescence and then diminishes. This constancy, we anticipated, would make it easier to detect how the understandings and values associated with discourse change with age. Doing so was the central goal of Study 2.

STUDY 2

Method

Participants

Participants in Study 2 were 76 students enrolled in educational institutions in Nanjing, China. The 25 students in the youngest group (12 girls) were similar in age to the sixth-grade group in Study 1. The large majority were 12 years old, with a few older 11-year-olds or young 13-year-olds. They were in their first year at a public junior school. The 26 students in the middle group (15 girls) were mostly 15 years old and students in their first year at a public high school. Students at these schools were from families representing a wide range of economic levels, from unskilled workers to teachers and administrators. The 25 students in the oldest group (9 women) were 20 and 21 years old and in their third year at Nanjing University of Posts and Telecommunications. They came from families representing a similarly wide range of economic levels.

Instruments and Procedures

The opportunity scenario and the necessity scenario described in Study 1 were group-administered to all participants in a classroom setting. As in Study 1, the opportunity scenario preceded the necessity scenario. Students were allowed as much time as they needed to complete each one. Coding of responses to both scenarios was carried out in the same manner as in Study 1, and an acceptable percentage agreement of 80% or above was obtained between two independent coders. Either two or three students in each of the age groups either offered no or an unclear explanation for their judgment in the opportunity scenario, and sample sizes for that scenario are correspondingly reduced. In the necessity scenario, one student in the youngest age group was excluded from the analysis for the same reason.
Results

Opportunity Scenario

Results are summarized in Table 3. As seen there, the proportion of students whose responses were categorized in the Discuss to Understand category in the opportunity scenario were lower than the roughly 30% seen in Study 1. These proportions increased only slightly with age, from 9% in the junior high school group to 18% in the college group. (Responses in the Discuss to Communicate category similarly increased only slightly, from 0% in the preteen group to 14% in the college group.) Thus, the majority of respondents at all age levels were not in favor of utilizing the opportunity for discussion described in the scenario.

The types of justifications Study 2 participants gave for not utilizing the opportunity for discussion were similar to those given by Study 1 participants, yet with some nuances of difference and some modest age trends. Within the subcategory of avoiding argument, a number of responses suggested that the issue went beyond the two individuals involved in the scenario. A college student gave this explanation:

If you argue with your partner on the bus, others may be affected and will be unhappy.

A preteen student voiced the same idea using this language:

If we talk on the bus, maybe it will result in a debate to affect others and I think it is against public morality.

<table>
<thead>
<tr>
<th>Category</th>
<th>Junior High School</th>
<th>High School</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Don’t Discuss</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. It’s not interesting</td>
<td>23</td>
<td>21</td>
<td>09</td>
</tr>
<tr>
<td>2. It serves no purpose</td>
<td>05</td>
<td>08</td>
<td>37</td>
</tr>
<tr>
<td>3. It risks argument</td>
<td>18</td>
<td>21</td>
<td>09</td>
</tr>
<tr>
<td>4. It risks argument and jeopardizes friendship</td>
<td>45</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td>B. Discuss to Communicate or Influence</td>
<td>00</td>
<td>04</td>
<td>14</td>
</tr>
<tr>
<td>C. Discuss to Understand</td>
<td>09</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

Note. Percentages not adding to 100 are due to rounding errors.
These responses leave open the possibility that it is the physical context that is driving the judgment and that discussion might be regarded as permissible or productive in a different context—a possibility we return to in examining responses to the necessity scenario.

Among the youngest group, threats to personal friendship nonetheless remained the dominant concern voiced as a reason to avoid discussion. In the words of one, friends should confine their discourse to topics about which they agree:

We may harm our friendship when we have different opinions. If we have anything in common, we can discuss it.

With increasing age, however, responses in this subcategory diminished, although the overall proportions advocating against discussion showed little change across age groups. In their place there appeared, among the oldest group, an increased proportion of responses advocating against discussion on the grounds that “It serves no purpose” (see Table 3). Some examples of these are as follows:

I don’t think it’s appropriate. If you want to insist on your opinion, just do it. There is no need to argue with a friend.

Each person has his own belief. We can’t force others to believe what we believe. We can control a person’s behavior but we can’t change his will. So we don’t need to argue about candidates.

Because we have our own ideas, discussion makes no sense unless we try to change the other’s idea.

Thus, a comparison of these college students with their younger counterparts suggests that, at this age, many have substituted a more philosophical stance for the personal and social concerns of the younger students—a stance that addresses the purposes of discussion, albeit in negative terms. Hence, as reflected in Table 3, the dominant response across all age groups continues to be against utilizing an opportunity for discussion.

**Necessity Scenario**

Responses of the three age groups to the necessity scenario appear in Table 4. As seen there, in contrast to results for the opportunity scenario, Study 2 junior high school students advocated discussion as frequently as did their American counterparts in Study 1. Moreover, with age, the percentage doing so substantially increased to over two thirds of the group among the high school students. A student in the youngest age group gave this typical response:
We’ll listen to each other’s ideas carefully and learn from each other.

A high school student gave this more elaborated response:

We’ll describe our ideas and analyze the advantages and disadvantages between us. We will all improve our views and make them more perfect and finally merge them.

Thus, Chinese adolescents showed little inclination to engage in discussion when an opportunity presents itself, but doing so is optional. When discussion is necessary to achieve a goal, however, they were quite prepared to advocate it. Moreover, with age, they increasingly appreciated its potential in enhancing knowledge.

Study 2 college students, however, presented a different picture. Their endorsement of discussion substantially dropped, producing a U-shaped developmental trend, with the proportions endorsing discussion greater among the high school students than the younger and older age groups: $\chi^2 = 4.73$, $p = .03$. A number of them advocated deferring to C, citing a Chinese proverb:

Talk to C, because lookers-on see most of the game.

The dominant theme that appeared in the college students’ responses to the necessity scenario was a concern to avoid conflict and maintain harmony. This theme appeared most often in response to the follow-up question regarding the “big disagreement” with B, even among those who initially advocated discussion. A number of students referred to the emotional risks of the situation, and cited the need to “calm down” and retain emotional and social control. Often, the resolution advocated was to defer to maintain harmony. The following responses are characteristic:

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## TABLE 4
Percentages of Response Types of Study 2 Sample to the Necessity Scenario by Age Group

<table>
<thead>
<tr>
<th>Category</th>
<th>Junior High School</th>
<th>High School</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Prevail by Power</td>
<td>00</td>
<td>04</td>
<td>08</td>
</tr>
<tr>
<td>B. Defer to Another</td>
<td>29</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>C. Search for an Alternative</td>
<td>04</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>D. Combine</td>
<td>21</td>
<td>00</td>
<td>24</td>
</tr>
<tr>
<td>E. Compare Via Test</td>
<td>08</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>F. Discuss</td>
<td>38</td>
<td>69</td>
<td>48</td>
</tr>
</tbody>
</table>

---
I won’t argue with him. I’ll state my opinion but I won’t insist.

Calm down first. The director will choose it.

If I can’t make B change, I’ll ask him to choose. After all, it’s a game. I don’t want any unhappy result.

Discussion

The Study 2 results underscore the need to make cross-cultural comparisons in a cautious and nuanced way. In one context (the necessity scenario), Chinese junior high school students resemble their Western counterparts. In another context (the opportunity scenario), they appear different. Cultural values would appear to be influential in producing this result. When discussion is optional, rather than necessary, its perceived value is outweighed by culturally shared social values among Chinese youth having to do with avoiding conflict and preserving harmonious relationships. When discussion is necessary to achieve a goal, however, its value is likely to be recognized and ceases to be outweighed by the social value of avoiding conflict.

In this light, the observed developmental trends are of particular interest. The value of argumentative discourse as a tool for enhancing knowledge increasingly comes to be recognized during the adolescent years, even in a culture in which a strong competing value prevails. As adolescents transition into young adulthood, however, this balance appears to shift, with social values again becoming ascendant, despite the intellectual understanding that has been achieved. However, it is interesting to note that a subtle shift in the rationale underlying these competing values is seen, as witnessed in Study 2 responses to the opportunity scenario. Rather than the personal needs of social affiliation, appeal to a philosophical—specifically, epistemological—basis for eschewing intellectual discussion is increasingly seen: It serves no purpose and, therefore, is not worthwhile.

Participants’ responses are likely heavily influenced by educational experience—a conclusion supported by our results for the expert group in Study 1. Hence, precise comparisons of response frequencies across cultural groups are not warranted because it is impossible to equate such experience across cultures. Within a cultural group, however, age trends are revealing. In particular, the U-shaped curve observed in Study 2 is consistent with the work of a number of scholars who study social and social–cognitive development within and across cultures (Damon, 1983; Shweder, 1991; Turiel, 2002). Collectivist societies, Turiel noted, are most commonly hierarchically structured. Subgroups within the society are accorded different levels of power and authority. Within such societies, the resulting conflicts, and the dispositions and capacities to reason about them, appear to develop in much the same way as they do in more indi-
vidualistic societies, at least during the childhood years, resulting in occasional U-shaped age trends like those observed here.

Is the eventual dominance of culturally specific values over intellectual values that were seen in Study 2 age trends inevitable? Study 3 was undertaken to address this question.

STUDY 3

Method

Participants

Participants were 135 Chinese college students (91 women) who, in three separate groups over a 9-month period, were touring American universities as members of a “Future Leaders of China” program. (Two participants did not respond to the necessity scenario, reducing the sample size to 133 for this scenario.) Participants were in their early 20s, attended many different universities across China, and had expressed an interest in learning more about the American university system. We anticipated, therefore, that they might value argumentive discourse more than many of their more traditional, less adventurous peers.

Procedure

The opportunity scenario and the necessity scenario described in Study 1 were group-administered to all participants in a classroom setting. As in Study 1, the opportunity scenario preceded the necessity scenario. Students were allowed as much time as they needed to complete each one. Coding of responses to both scenarios was carried out in the same manner as in Studies 1 and 2. In addition, the epistemological instrument described in Study 1 was administered, in an identical manner to that described in Study 1.

Results

Results for the opportunity scenario appear in Table 5. No differences appeared across genders.

Comparison with the college students in Study 2 reveals a substantial difference in the proportion who endorsed “Discuss to Understand.” In the Study 3 sample, almost one half did, compared to 18% in Study 2. Also, in contrast to Study 2 college participants, those who were against discussion were about equally likely to give the philosophical “serves no purpose” reason as to cite social factors. Among this group, however, the philosophical stance is similar,
TABLE 5
Percentages of Response Types of Study 3 Sample to the Opportunity Scenario

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Don’t Discuss</td>
<td></td>
</tr>
<tr>
<td>1. It’s not interesting</td>
<td>02</td>
</tr>
<tr>
<td>2. It serves no purpose</td>
<td>17</td>
</tr>
<tr>
<td>3. It risks argument</td>
<td>12</td>
</tr>
<tr>
<td>4. It risks argument and jeopardizes friendship</td>
<td>04</td>
</tr>
<tr>
<td>B. Discuss to Communicate or Influence</td>
<td>16</td>
</tr>
<tr>
<td>C. Discuss to Understand</td>
<td>49</td>
</tr>
</tbody>
</table>

although often expressed even more articulately than was the case among Study 2 college participants:

Whether I like Bo or Le is just my personal perspective. I don’t think it is good to argue with other people on the issue. Which candidate my friend supports is his/her personal right. I have no right to change his/her opinion. What’s more, persuading him/her is meaningless.

Among those endorsing Discuss to Understand, reasons were similarly highly articulate. Social concerns, however, continued to appear:

I think it can be a good idea to discuss Bo and Le because we can always hear the other side of the story and then have a full picture of Bo and Le. In the discussion, however, try to be amicable rather than aggressive.

An association appeared between responses to the opportunity scenario and level of epistemological understanding, as we anticipated might be the case given the further development of epistemological understanding at this age level (relative to the younger Study 1 participants). Participants were categorized into two groups based on their responses on the epistemological instrument: those who showed a solid evaluativist level of understanding (majority of responses were at this level) and those who did not. Among those who endorsed discussion in the opportunity scenario, 44% fell into the evaluativist group. Among those who did not endorse discussion, 21% fell into the evaluativist category, which is a significant association: \( \chi^2 = 7.05, p = .008 \).

Results for the necessity scenario appear in Table 6. Again, no differences appeared across genders. Response types were again similar to those observed in Study 2. As was found to be the case for the opportunity scenario, however, the percentage endorsing discussion greatly exceeds the parallel percentage among college students in Study 2.
**TABLE 6**

Percentages of Response Types of Study 3 Sample to the Necessity Scenario

<table>
<thead>
<tr>
<th>Category</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Prevail by Power</td>
<td>11</td>
</tr>
<tr>
<td>B. Defer to Another</td>
<td>06</td>
</tr>
<tr>
<td>C. Search for an Alternative</td>
<td>00</td>
</tr>
<tr>
<td>D. Combine</td>
<td>02</td>
</tr>
<tr>
<td>E. Compare Via Test</td>
<td>01</td>
</tr>
<tr>
<td>F. Discuss</td>
<td>81</td>
</tr>
</tbody>
</table>

*Note.* Percentages not adding to 100 are due to rounding errors.

**Discussion**

The significance of Study 3 lies in its evidence that the age trends observed in Study 2—and, in particular, the decline in those endorsing discussion from high school to college age—are not inevitable. Even within a culture that is perceived by many to be highly homogeneous, there in fact exists considerable individual variation and fluidity in terms of individual developmental paths. Cultural change itself, over the years represented by the high school and college cohorts, could also be a contributor to this fluidity.

The reverse trend observed in Study 2 between high school and college age in the understanding and valuing of argumentive discourse is, thus, not an inevitable age-related shift. We, of course, do not know what role is played by the many interacting factors of family background, temperament and personality, and early or later educational experiences in influencing individuals toward a different profile of understandings and values than the one more typical of their society. Most important now, given our current state of knowledge, is to be aware that it can occur.

Regarding such profiles of understandings and values, the relation identified between levels of epistemological understanding and understandings of the potential value of argumentive discourse gives us some further insight into the latter. Someone with a solid level of evaluativist understanding is likely to believe that there is a point to intellectual discussion and that the effort it entails is worthwhile. Those with an absolutist level of understanding see debate as readily resolved by an appeal to facts or authority; and those with a multiplist level of understanding see all positions as deserving to be heard but otherwise not subject to evaluation and, hence, not worthy of comparison (Hofer & Pintrich, 1997). It is only the evaluativist understanding, then, that provides the logical underpinnings for what we would hope students to understand when they are asked to engage in argumentive discourse—that the activity promises to
be fruitful because it stands to clarify, advance, or otherwise enhance individual and collective understanding.

GENERAL DISCUSSION

The studies reported here support the claim that how students understand the nature and purpose of argumentive discourse among individuals holding divergent opinions constitutes a critical underpinning that is likely to affect how they engage in the practice and how productive such engagement proves to be. How such understandings of the potential value of discourse affect the way in which this discourse is in fact conducted remains a topic for future research. Examining the nature of these understandings, nonetheless, is an essential first step.

Taken together, the three studies involving diverse populations that have been presented here point to the roles of both cognitive developmental and social–cultural factors in shaping these understandings. These exploratory studies would, of course, be enhanced by in-depth interviews that probe understanding more deeply and over a wider range of questions. The fact that we were not able to administer all items to all participants is a further, potentially remeurable limitation. Nonetheless, the findings we have presented are provocative and worthy of concern, especially in light of the interest in discourse as an instructional method. Study 1 showed there to be limited appreciation among American sixth-graders of the values and purposes of argumentive discourse. Study 2 showed a developmental trend in the direction of increasing appreciation of the purposes of such discourse, even in a culture in which competing values are prevalent. Study 2 nonetheless showed the developmental course of such understandings to be nuanced, affected by the specifics both of situational context (with only some contexts regarded as productive occasions for discourse) and of competing values. Specifically, Study 2 suggests that if the culture does not strongly support discourse as a shared value, or supports values that may conflict with it, individuals within the culture may come to value it less with increasing age and, moreover, come to justify such diminished value with reasoning more sophisticated than that seen in their younger counterparts. If anything, the college students in Study 2 should have represented a more cognitively able and intellectually elite population than the Study 2 high school students, given patterns of higher education in their culture. Yet, they showed less advancement along the dimensions investigated here.

The significance of Study 3 lies in its evidence that such age trends are not inevitable. Even within a culture that many perceive to be highly homogeneous, there in fact exists considerable variation and fluidity in terms of individual developmental paths, again pointing to the roles of both cognitive developmental
and social–cultural factors. Such fluidity would, of course, be an important topic of investigation to better understand the processes and critical variables involved.

Collectively, the findings from the three studies raise critical questions of causality and, in particular, how various kinds of experiences affect the understandings examined here. One possibility that needs to be explicitly rejected is a simple model in which the understandings examined here are regarded as necessary and sufficient conditions to support the use of argumentive discourse methods in classrooms. No such inference should be drawn from these data. A good deal more conceptual, as well as empirical, investigation is necessary to fully understand the relations between practices and understandings of the sort investigated here (Michaels, O’Connor, & Resnick, 2008); and such investigation, moreover, requires a more elaborated model of discourse than the simple one of intersection of contrasting views that has served our purpose here—for example, Bereiter’s (2002) model of discourse as collaborative knowledge construction.

Another, and we believe more correct and productive, model than a unidirectional one in which conceptions inform behavior is one of “epistemologies in action” (Sandoval, 2005). In such a model, practices and understandings bootstrap one another. In other words, by engaging in the practice, one comes to better understand its meaning and purpose. At the same time, increasing understanding supports increased investment in and commitment to the practice. The significance of this work, we believe, lies in its suggestion of the importance of paying attention to both components in this reciprocal relation.

This is the case as much in the realm of educational practice as it is in the realm of theory. How students understand a practice inevitably shapes how they engage in it and the outcomes likely to derive from it. As Olson (2003) stressed, students retain control over what they choose to learn. They will only invest effort in what they value. At the same time, engagement in intellectual practices supports growing awareness and recognition of their value (Kuhn, 2005). This work does not, by itself, tell us what kinds of educational interventions are likely to be most effective in achieving these desirable outcomes. Yet, studies that seek to examine understanding, valuing, and acting as they develop in interaction with one another are likely to provide the soundest base for designing educational interventions to address the particular limitations in understanding that we have identified in this work. Our intervention studies focused on developing the cognitive strategies entailed in argumentive discourse (Kuhn, 2010; Kuhn et al., 2008; Kuhn & Udell, 2003) involve a method of engaging students in dense practice of argumentive discourse over an extended period of time, in the course of which strategic development is gradually seen in a majority of students. These studies support the preceding claim regarding the need for a multipronged approach, in their pointing to the importance of students’ developing epistemological understanding of argumentation as a critical support for strategic development. One, indeed, must see the point of argument to expend the cognitive effort it entails.
REFERENCES


