

The Development of Argumentive Discourse Skill

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The skills involved in argument as a social discourse activity presumably develop during the childhood and adolescent years, but little is known about the course of that development. As an initial step in examining this development, a coding system was developed for the purpose of analyzing multiple dialogues between peers on the topic of capital punishment. A comparison of the dialogues of young adolescents and those of young adults showed the teens to be more preoccupied with producing the dialogue and less able to behave strategically with respect to the goals of argumentive discourse. Teens also did not exhibit the strategic skill that adults did of adapting discourse to the requirements of particular argumentive contexts (agreeing vs. disagreeing dialogues).

Contemporary research in argumentation theory has led to revisions in the normative models of argument. Compelling models have been developed in informal logic (Walton, 1995), communication theory (Jacobs & Jackson, 1982), and pragma-dialectics (van Eemeren & Grootendorst, 1992). A common thread running through these approaches has been the examination of argument in the context of natural conversation (Gilbert, 1997). Argumentation is viewed as a social activity in which two or more people advance, defend, and compare arguments in support of opposing positions (Willard, 1983). Largely absent are the mathematical models of formal logic that divorce arguments from the contexts in which they arise. Instead, normative models are based on the social construction of argument.

They examine how individuals construct arguments in relation to the advances, questions, challenges, and critiques of conversational partners.

This trend is of particular interest to us as developmental psychologists studying argumentation. First, it grounds theory in empirical data on how people engage in argument. Psychologists have a long history of studying argument empirically and developmental psychologists, specifically, have produced a substantial literature on the development of individual children's reasoning abilities. Second, this new trend defines argument as an activity that a person engages in with others rather than a product generated by an isolated individual. This latter approach is relatively new to the field of psychology and scant psychological research exists on argument in social contexts.

The hypothesis pursued in the research we describe here is that the skills of argumentative discourse develop. This developmental hypothesis seems a tenable one given that complex cognitive capabilities are clearly invoked in argumentative activity, and the most plausible way to explain their presence is that they are an outcome of a gradual process of development. Little evidence exists, however, to address this hypothesis. Although there is substantial data on development in argumentative reasoning, we know very little about development in the ability to navigate and direct argumentative discourse with others. The conceptual and empirical work described in this article is devoted to identifying salient features of the development of argumentative discourse skills.

ARGUMENT AS PRAGMATIC

The advantage of a discourse-based model is that it acknowledges the role of social interaction in the construction of argument. Only in very formal settings, such as courtroom proceedings or political debates, are arguments presented outside of a conversational context. Most often, arguments arise from disagreements people have with one another. Arguments are likely to be initially incomplete and to grow as the speaker addresses the challenges presented by a conversational partner. Henle (1962) supported this claim by showing that arguments may be logically sound even if they are incomplete by the standards of formal logic; that is, an argument may be valid even though its underlying premises remain implicit. Furthermore, individuals may not elaborate arguments unless they recognize the need to clarify themselves or convince their audience. Grice's (1975) maxim of quantity holds that a speaker will provide only as much information as necessary for an audience to construct meaning. Thus, discourse is integral to the construction of an argument. If this is the case, then the best way to examine the development of argumentative competence is to examine the process by which individuals construct arguments in the context of discourse.

ARGUMENT AS STRATEGIC

Walton (1989) developed a useful model for examining argumentive discourse. In *critical dialogue*, each speaker elicits a set of commitments from a partner. A *commitment* is a presumptive or inconclusive premise that the partner is willing to concede. The goal of critical dialogue is to draw one's own conclusion from a partner's commitments; that is, each participant in the dialogue must get the partner to accept certain premises. Once these are granted, the individual can construct an argument based on these concessions. Thus, according to Walton, each participant has two goals in a critical dialogue. The first is to secure commitments from the partner that can be used to support one's own claims. The second is to undermine the partner's position by identifying and challenging unwarranted premises. If one's assertion is presumptive, a commitment must be secured from the opponent that concedes this premise. If an opponent's assertion is presumptive, the individual must challenge the assertion. The strategies entailed in argumentive discourse function to direct argumentive discourse to address these goals.

A DEVELOPMENTAL MODEL OF STRATEGIC ARGUMENTIVE DISCOURSE

Activity theory (Leont'ev, 1981) offers a useful framework for conceptualizing the development of strategy in argumentive discourse. According to Leont'ev, an activity is composed of goal-directed behaviors known as actions. The development of an activity proceeds as we adapt our behavior to fit more and more advanced goals. Thus, development occurs on two fronts. First, activity develops as the individual produces more sophisticated behaviors in pursuit of a goal. Second, activity develops as the individual refines the goals being pursued. The former involves the development of goal-directed strategies, whereas the latter entails development of the goals themselves.

Thus, if we regard argumentive discourse as an activity in the process of development, two forms of development can be identified. One is enhanced skill in directing the course of critical dialogue to meet the activity's objectives. The other is enhanced understanding of the goals of argumentive discourse. These two forms of development, we predict, reinforce one another. In other words, progress in strategic performance is propelled in part by a better understanding of the goals of discourse. At the same time, exercise of these strategies in discourse activity promotes more refined understanding of the goals of the activity. More generally, as has been proposed in other areas of strategic cognitive development, metalevel understanding both directs and is informed by strategic performance (Kuhn, 2001b).

As the first step toward understanding discourse strategies in this developmental framework, this article reports the development of an analytic scheme for identifying the strategies that appear in simple argumentative discourse, that is, the argumentative discourse of individuals not explicitly trained in these respects. We then employ the scheme to compare the argumentative discourse strategies exhibited by a group of young adolescents to those exhibited by a group of adults.

METHOD

The empirical data reported here are based on transcriptions of a series of dyadic discussions on the topic of capital punishment (CP). Participants were drawn from two populations: One was a group of young adolescents and the other was a group of young adults. Prior and subsequent to the series of dialogues with 5 different peers, participants were asked to indicate and justify their own individual positions regarding CP. These pre- and posttest assessments were the basis of an earlier study of the effects of cognitive engagement on argumentative reasoning (Kuhn, Shaw, & Felton, 1997). The intervening dialogues provided the data for the work presented here.

Participants

Both samples were from the same inner-city population of low socioeconomic status. The adults were 31 students at a vocationally oriented community college, and the adolescents were 33 seventh- and eighth-grade students attending a small, alternative, public junior high school. Roughly equal numbers of males and females participated in both groups, and adolescent participants met in same-sex dyads.

Procedure

Assigning participants to dyads. At the start of the study, participants identified their positions on CP using a 13-point opinion scale. This scale, adopted from Kuhn and Lao (1996), presents 13 statements of position from which participants may choose. The middle position on the scale reads, "I have mixed or undecided opinions about capital punishment." Each position above and below the middle point is slightly more extreme in favor of or against CP than the one before. Altogether, the scale provides six pro positions, six con positions, and one neutral position from which to choose. Reports on the opinion scale were used to assign participants to agreeing, disagreeing, and neutral dyads. Over the course of five dialogues, each with a unique partner, every participant was assigned to at least one of each kind of dyad.

Dialogues. The five dialogues took place over an interval of 5 to 6 weeks, with an average interval of 1 week between dialogues. Each dialogue began with a brief set of instructions in which participants were asked to share their opinions on CP. If the dyad members agreed with each other, they were asked to find all of the reasons they agreed. If they disagreed, they were asked to try to resolve their differences of opinion and reach a consensus. If the participants had difficulty maintaining the dialogue during the prescribed time, the investigator repeated the instructions to prompt further dialogue. Dialogues lasted an average of 10 min among adolescents and 15 min among adults (see Kuhn et al., 1997). All of the verbal dialogue data were recorded on audiotape and later transcribed for coding and analysis.

Analytic Scheme

The purpose of the analytic scheme developed for use in this research is to categorize each utterance in a dialogue based on its function relative to the preceding utterance. This functional objective predominates over characterization of conversational content. (The completed scheme is available in manual form from Mark Felton.) It includes for each code a definition, examples, and contrasting cases. The scheme comprises three broad categories: transactive questions, transactive statements, and nontransactive statements. An utterance is defined as transactive if it attempts to engage the partner in discourse either by referring to the partner's preceding utterance or by prompting a response from the partner.

Development of the analytic scheme. Two pools of dialogue, each representing roughly one quarter of the total data set, were randomly selected. One pool was used to develop the scheme. The second was used for the purpose of cross-validation and calculation of interrater reliability. The first stage of development of the scheme involved reading transcripts from the first pool and the drafting of a provisional set of codes. This phase of the work was conducted by a four-person group that included ourselves and two graduate research assistants. When the scheme was completed, the provisional codes were applied to the remainder of the data in the first pool independently by members of the research group. The members then came together to ascertain reliability and identify new codes for any utterances that were not classifiable in the provisional system. As this process was reiterated, the need for revisions or additions to the scheme diminished, and satisfactory interrater reliability was achieved.

Reliability. Two raters, blind to the treatment, time, and identity of the dialogue participants, established interrater reliability by coding the second pool of dialogues reserved for this purpose. For each conversational turn in a dialogue, raters applied the code, checked their agreement, and tallied reliability. Depending on the number of speech acts produced, as many as three codes could be

assigned to a single conversational turn. Therefore, when raters disagreed on the number of codes to apply, the higher number was added to the total number of codes and the disagreement was added to the tally. Raters then resolved any disagreements by discussion before moving on to the next conversational turn. Percentage agreement between the raters was 87% (Cohen's $\kappa = .85$). Once the reliability had been tallied, the remaining dialogues from the data set were divided equally between the raters and coded.

Summary of scheme. The codes included in the scheme are summarized in Table 1. Transactive questions are utterances that request a response from the partner. They often take the grammatical form of a question (e.g., What do you mean? or Why do you prefer capital punishment over life in jail?). When transactive questions are not in the form of a question they are either commands for the partner to say something (e.g., Now tell me why you say that) or implied requests (e.g., Say it was your mother who was sentenced to death [would you still be in favor of the death penalty?]). In either case, the function of the utterance is to elicit a response from the partner. These codes fall under the category of directives in Searle's (1979) taxonomy of speech acts.

Transactive statements do not directly request a response from the partner. Instead, they are expressions of the speaker's thoughts offered in response to the partner. They are transactive because they connect directly to the partner's preceding utterance. These codes include both assertives and commissives from Searle's (1979) taxonomy.

Nontransactive statements are utterances that fail to connect to the partner's preceding utterance; that is, they neither address the partner's previous utterance nor prompt the partner to respond. "Continue" is used when the speaker ignores the partner's preceding utterance and continues his or her own train of thought. In such cases, the speaker is connecting to his or her own last utterance rather than to the partner's. "Unconnected" is used when the speaker fails to connect to either the partner's or his or her own last utterance. In such cases, the speaker is breaking from the preceding conversation and introducing a new argument or train of thought.

In the exchange illustrated in Table 2, Speaker A opens with a transactive question. She asks her partner to clarify his position (Clarify-?). Speaker B responds with a transactive statement of clarification (Clarify) and Speaker A retorts with a critique (Counter-C). Each utterance serves a specific function in the conversational exchange.

RESULTS

The primary objective of our empirical analysis is to identify differences between adolescents and adults in the use of the utterance types in Table 1. For this purpose, we confined ourselves to those dialogues in which there existed unambigu-

TABLE 1
 Summary of Utterance Types in the Analytic
 Scheme for Coding Argumentive Dialogue

Transactive questions	
Agree-?	A question that asks whether the partner will accept or agree with the speaker's claim
Case-?	A request for the partner to take a position on a particular case or scenario
Clarify-?	A request for the partner to clarify his or her preceding utterance
Justify-?	A request for the partner to support his or her preceding claim with evidence or further argument
Meta-?	A question regarding the dialogue itself (vs. its content)
Position-?	A request for the partner to state his or her position on an issue
Question-?	A simple informational question that does not refer back to the partner's preceding utterance
Respond-?	A request for the partner to react to the speaker's utterance
Transactive statements	
Add	An extension or elaboration of the partner's preceding utterance
Advance	An extension or elaboration that advances the partner's preceding argument
Agree	A statement of agreement with the partner's preceding utterance
Aside	A comment that does not extend or elaborate the partner's preceding utterance
Clarify	A clarification of speaker's own argument in response to the partner's preceding utterance
Coopt	An assertion that the partner's immediately preceding utterance serves the speaker's opposing argument
Counter-A	A disagreement with the partner's preceding utterance, accompanied by an alternate argument
Counter-C	A disagreement with the partner's preceding utterance, accompanied by a critique
Disagree	A simple disagreement without further argument or elaboration
Dismiss	An assertion that the partner's immediately preceding utterance is irrelevant to the speaker's position
Interpret	A paraphrase of the partner's preceding utterance with or without further elaboration
Meta	An utterance regarding the dialogue itself (vs. its content)
Null	An unintelligible or off-task utterance
Refuse	An explicit refusal to respond to the partner's preceding question
Substantiate	A utterance offered in support of the partner's preceding utterance
Nontransactive statements	
Continue	A continuation or elaboration of the speaker's own last utterance that ignores the partner's immediately preceding utterance
Unconnected	An utterance having no apparent connection to the preceding utterances of either partner or speaker

ous contrast in the positions of the 2 participants (disagreeing dialogues). Participants who indicated a neutral position (middle point on the 13-point scale) at the outset of the study (4 adults and 9 adolescents) are therefore excluded from the analysis. The remaining participants who initially indicated nonneutral positions sometimes changed their positions across the sequence of dialogues. Hence, it was necessary to examine the positions expressed by each participant at the begin-

TABLE 2
An Example of the Coding Scheme Applied to an Excerpt of Adult Dialogue

<i>Code</i>	<i>Speaker/Utterance</i>
Clarify-?	A: Do you mean to say society must be protected?
Clarify	B: Yes, they must.
Counter-C	A: I agree, but if it is the only way to safeguard us from those murderers, then [the murderers] must be killed.
Disagree	B: No, but you see—
Continue	A: —But, you see, the person who poses a threat to the life of others must lose his whole right to live.

ning of a dialogue. Only if the positions expressed at this point represented opposing (pro vs. con) positions was the dialogue included in the data set as a disagreeing dialogue. The number of participants included in this set, which forms the basis for the analysis presented here, was 26 adults and 24 adolescents. There were 51 dialogues produced by the adults and 55 dialogues produced by the adolescents.

Age Differences in Argumentive Dialogues in Disagreeing Dyads

Frequency of use within a participant's discourse was calculated for each of the utterance codes in Table 1. Those codes that represented more than 1% of the total dialogue for each group were examined for differences between the two age groups. The mean percentage of total dialogue for each code in each group is presented in Table 3. Statistically significant differences between adolescents and adults in disagreeing dyads appeared with respect to six utterance codes (see Table 3).

We begin with discussion of the codes that were more prevalent in adolescent discourse than in adult discourse: *Case-?*, *Position-?* and *Clarify*. *Case-?* is defined as a request for the partner to make a decision regarding a particular case or scenario that the speaker poses. Typically, the speaker introduces either a hypothetical or a real situation and asks the partner to indicate whether CP should be applied. If successful as an argumentive strategy, the request leaves the partner to defend an unappealing stance, take a position that contradicts his or her CP position, or heavily qualify his or her position. Table 4 presents an example from the adolescents' discourse.

Clearly, case-based questions are intended to pursue argumentive ends. However, rather than directly dismantling a partner's argument, they seek to challenge the partner's position in extreme cases in which the position is most difficult to defend. In Table 4, Speaker A is trying to get Speaker B to qualify or soften her position on CP. In fact, Speaker B concedes that the justice system should be

TABLE 3
Mean Percentage Use of Each Utterance Type in Disagreeing Dialogues

Code	Adult		Adolescent		p
	M	SD	M	SD	
Case-?	3.08	3.27	8.32	8.74	***
Clarify-?	9.84	6.56	7.94	5.14	*
Justify-?	1.54	1.59	1.24	1.52	
Position-?	1.12	1.25	2.92	1.91	****
Add	12.66	9.54	13.01	8.44	
Agree	8.34	7.74	9.20	8.98	
Aside	3.12	2.98	3.45	4.76	
Clarify	23.19	12.64	29.55	11.70	**
Counter-A	1.78	3.24	1.14	1.76	
Counter-C	20.42	8.08	8.51	5.74	****
Disagree	2.08	4.00	1.79	2.80	
Interpret	3.43	5.70	1.11	2.04	**
Meta	4.33	5.01	4.27	4.43	

*p < .10. **p < .05. ***p < .01. ****p < .001.

TABLE 4
Example of Case-?

Code	Speaker/Utterance
Case-?	A: Say [a guy] was robbing someone—he was like robbing a store and he was trying to get away. The people across the street getting into their car got shot accidentally. Should he get [the death penalty] for that?
Clarify	B: Yeah.
Case-?	A: What if he was sorry that he did it?
Clarify	B: I dunno. He should like go to jail for a long time instead [of getting the death penalty].

more lenient on a remorseful criminal. Both speakers end up focused on the conditions for applying CP rather than on any argument for or against CP. Thus, although case-based questions may succeed in challenging an opponent’s position on an issue, they often leave that opponent’s arguments intact. Hence, they represent a relatively weak argumentive strategy. They may serve the function of eliciting a partner’s commitment—consistent with the goals of strategic discourse—but they do not represent an attempt to direct the course of that argument, per se.

A second utterance type found significantly more often in adolescent discourse is *Position-?*. This utterance requests the partner to take a stand on CP. In adult discourse, this code generally appears at the start of a dialogue as the partners establish their position. In adolescent discourse, in contrast, it arose throughout the dialogues. Adolescents were likely to use the question to prompt their partner to advance an argument. This action may serve the function of eliciting a partner’s

commitment, consistent with the goals of argumentive discourse. However, it does not attempt to direct the course of that argument. Hence, it is strategic in only a very weak sense.

The final utterance type found more often in adolescent discourse is *Clarify*. This code is defined as a statement produced by the speaker in response to the partner's preceding utterance. It occurred most commonly as the response to a question. The age difference, then, may simply be epiphenomenal to the finding that adolescents produced more Case-? and Position-? questions, which require a response from the partner, than did adults.

The three remaining utterance types for which adult and adolescent use differed—Interpret, Counter-C, and Clarify-?—occurred more commonly in adult than in adolescent discourse. Significantly, each of these reflects an effective argumentation strategy, clearly more effective than the weak strategies just considered for which adolescent use surpassed that of adults. Interpret, Counter-C and Clarify-? all address the partner's argument and undertake to weaken it, directly in the case of Counter-C and indirectly in the case of Interpret and Clarify-? Table 5 presents an adult exchange from our database in which all three of these types appear.

In Table 5, Speaker B asks Speaker A to clarify her argument (“Do you really think jail is making them suffer?”). There is a specific purpose to this question. Speaker B wants to elicit what she sees as a weak argument from Speaker A. The strategic role of requests for clarification is that they elicit a commitment from the partner. This commitment may constitute a concession to an argument being advanced by the speaker, or as in this case, it may elicit a commitment to an argument that the speaker is prepared to critique. Next, we see that Speaker A accepts this argument, so Speaker B interprets this argument in its weakest form (“Sitting in jail is the same as dying . . .”). In this way she undermines Speaker A's position. However, Speaker A retorts with a counterargument to Speaker B's argument (“The chair isn't the same as being murdered, either”), thus undermining the opponent's claim. In this exchange, both speakers engage in strategic, goal-

TABLE 5
Examples of Interpret, Counter-C, and Clarify-?

<i>Code</i>	<i>Speaker/Utterance</i>
Clarify	A: Let [murderers] go to jail, make them think about what they done [. . .] Let them rot there.
Clarify-?	B: Do you really think jail is making them suffer?
Clarify	A: Uh huh.
Interpret	B: So, by sending them to jail, we make them suffer the same way they made their victim suffer. Sitting in jail is the same as dying at the hands of some crazed killer. I say they should just kill him and let him feel what it's like.
Clarify	
Counter-C	A: The chair isn't the same as getting murdered either. It's painless. At least in jail he's got no rights, no freedom. That's worse.

directed discourse. They each attempt to gain the upper hand by dismantling the opponent's position.

All three strategies employed in Table 5 represent powerful forms of argumentative discourse because they explicitly pursue argumentative goals. Clarify-? elicits a commitment from the partner, Interpret undermines the strength of the partner's argument, and Counter-C dismantles the partner's argument through critique. In contrast to case-based questions, these strategies directly address arguments the partner has advanced.

It is important to note, however, that Interpret and Clarify-? need not always reflect argumentative strategies. In the course of dialogue, individuals could produce these utterances without argumentative goals in mind. However, in a context of disagreeing dialogue, and as illustrated here, they represent an orientation toward directing and defining the opponent's argument with the intention of weakening it.

Strategic Sequences

The preceding illustration highlights the fact that argumentative strategies may extend across multiple utterances to achieve their intended goal. After the coding of individual utterances in our database was completed, we reexamined all dialogues in search of patterns of utterances that might represent an attempt to advance or preempt an extended argumentative strategy. We identified three such sequences that appeared with some frequency in the dialogues of multiple participants. Each of the three clearly reflects argumentative discourse goals. Moreover, empirical analysis of the database shows that each of the three occurred more frequently in the adult dialogues than in the adolescent dialogues. The first of the three we term a *corner sequence*. It is defined as either a Clarify-? or Interpret by the speaker, a response by the partner, and then a Counter-C by the speaker. In such sequences, it is clear that the speaker's goal in advancing the initial Clarify-? or Interpret is to elicit a commitment from the partner that the speaker is prepared to critique. Thus, the speaker corners the partner in an untenable or weak position. In Table 6, for example, Speaker A questions his partner for the purpose of establishing an inconsistency in the partner's position, which Speaker A is then able to criticize.

A second strategic sequence we identified is *rebuttal*, defined as any Counter-C that follows a Counter-C or Counter-A produced by the partner. Its intent is to eliminate or reduce the force of a partner's counterargument by critiquing it, thereby restoring force to one's own argument. As we see in Table 7, Speaker A offers the critique that CP does not bring back the dead (Counter-C). Speaker B rebuts by arguing that CP does prevent further murders from occurring (Counter-C).

The sequence in Table 7 demonstrates strategic behavior in that it addresses an attempt to dismantle the speaker's argument. It is an essentially defensive move, but one that demonstrates an awareness of the goals of argumentative discourse.

TABLE 6
Example of a Corner Sequence

<i>Code</i>	<i>Speaker/Utterance</i>
Clarify-?	A: So, you think we should give him two or three chances and that's it?
Clarify	B: No. That's two or three [more] dead people. Two or three! They might kill your mother. They might kill my mother second. No, no, no. Don't give them opportunities to keep killing.
Clarify-?	A: So, you said that we should only kill repeat offenders. How are you gonna determine which are repeat offenders if you don't give them a chance to kill again?
Clarify	B: Well, I'm not saying [. . .] I'm saying wait until they commit a few serious crimes.
Counter-C	A: But the way you explain it, that's the only way to do it, because you're saying we should only kill repeat offenders [. . .] or those who need help and can't be fixed [. . .] the only way to figure that out is to sit back and wait and see what happens.

TABLE 7
Example of a Rebuttal

<i>Code</i>	<i>Speaker/Utterance</i>
Clarify	B: I'm not saying that everyone who commits a crime should be put to death. I mean if it's a situation where you know the crime was committed [by the accused] or where [the accused] admits to it and it's like a situation where he says he just doesn't care, then why shouldn't that person be put to death?
Counter-C	A: OK, what if you put that person to death, has that solved the problem? It still don't bring that person back.
Counter-C	B: It doesn't bring the dead person back, but it prevents that person who killed from killing again.

A third strategic sequence we identified is the *block*. Like rebuttals, blocks represent a defensive move on the part of the speaker. Blocking occurs when the speaker rejects or counterargues the premise of a leading question posed by the partner. In so doing, the speaker avoids being forced to undermine his or her position. For example, in Table 8, Speaker A advances a leading question in asking whether Speaker B would favor the death penalty in the case of manslaughter. In refusing to accept her partner's premise, Speaker B presumably anticipates the damaging intent of the assertion. Otherwise, she would have little reason not to go along with her partner's hypothetical scenario. In this sense, then, Speaker B's speech reflects an attempt to preempt a strategic sequence because it anticipates a partner's later utterance.

Each of the three sequences identified—corner, rebuttal, and block—occurred more frequently in adult dialogues than they did in adolescent dialogues. In the case of corners and rebuttals, we found significant between-group differences. In the case of block, we found only marginally significant between-group differ-

TABLE 8
Example of a Block

<i>Code</i>	<i>Speaker/Utterance</i>
Case-?	A: Okay, let's say somebody gets hit by a car and they say it's manslaughter. And he was running across the street and the guy's just driving and he couldn't hit the brakes in time. And witnesses say it's true, it's true he did it for real. [Should the driver get] the death penalty?
Counter-C	B: You can't get the death penalty for that. The most that they give you is probably—I don't know what they'll give you.

TABLE 9
Mean Frequency of Each Sequence Type in Disagreeing Dialogues

<i>Sequence</i>	<i>Adult</i>		<i>Adolescent</i>		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Corner	1.27	1.39	0.21	0.62	**
Rebuttal	5.02	4.47	1.07	1.54	**
Block	0.25	0.56	0.08	0.29	*
Case-?	0.21	0.46	0.14	0.51	
Counter-C					

p* < .10. *p* < .001.

ences. Our findings with respect to blocking remain tentative because our results were only marginally significant and both groups generated the sequence rather infrequently.

A fourth sequence we identified, one for which adolescents and adults did not show differential use, is worth noting. It is a variant of the corner sequence defined by Clarify-? followed by Counter-C. Instead of Clarify-?, the opening statement is Case-?. Adults and adolescents produced roughly equal numbers of Case-?/Counter-C sequences (see Table 9). Similar to the Clarify-?/Counter-C sequence, case-based sequences reflect offensive attempts to direct the partner's argument. Table 10 presents an example of a Case-?/Counter-C sequence.

Speaker A in Table 10 leads Speaker B with a line of reasoning. He presents a case-based question about the death penalty, elicits a response, and then points out that Speaker B is inconsistent. He has shown that Speaker B will not maintain his position under certain circumstances. Similar to the simple Case-? utterance code on which they are based, case-based sequences aim to challenge the partner. However, similar to Case-?, case-based sequences fail to address arguments, focusing instead on the partner's position (see earlier discussion of Case-?). In this respect, they lack the strategic power corner sequences possess. Interestingly, then, whereas adolescents produced significantly more case-based questions than adults, adults and adolescents produced roughly equal numbers of case-based sequences. This finding suggests that when adults do resort to using a case-based

TABLE 10
 Example of a Case-?/Counter-C Sequence

<i>Code</i>	<i>Speaker/Utterance</i>
Case-?	A: Let's say somebody got killed and [. . .] they were close to you. Would you want [the killer] to get the death penalty, yes or no?
Clarify	B: At that moment, I would, at that moment.
Counter-C	A: So then you agree with me. But if it was like somebody else that you don't know, you wouldn't agree.

strategy, they at least use it to their argumentive advantage; that is, it culminates in an effective Counter-C offensive against the partner's argument. Based on the far greater number of case-based questions than case-based sequences in adolescent discourse, it would appear that adolescents, once they have initiated a Case-? utterance, are less able to follow the Case-? strategy through to an effective conclusion.

Argumentive Strategy in Agreeing Dialogues

The preceding analysis portrays a picture of young adolescents as less adept strategically than young adults in pursuing the goals of argumentive discourse in disagreeing dialogues. Another respect in which the strategic nature of argumentive discourse might be assessed is by examining the extent to which strategies are adapted to fit particular argumentive contexts. We do this here by comparing participants' argumentive discourse in dyads in which both partners held the same pro or con position on CP, which we termed agreeing dyads (see criteria presented earlier for categorizing dyad types). The number of participants engaged in agreeing dialogues was 27 adults and 18 adolescents.¹ There were 65 dialogues produced by the adults and 23 dialogues produced by the adolescents.

Paralleling Table 3, Table 11 presents mean percentage use of utterance types for agreeing dialogues with two additions. Means for the codes Advance and Substantiate did not appear in Table 3 because each utterance type represented less than 1% of participants' disagreeing dialogues. Adolescents, Table 11 shows, exceed adults in the frequency of use of the same three categories in which they exceed adults in disagreeing dialogues—Case-?, Position-?, and Clarify—in addition to a fourth category, Clarify-?, in which adolescents now exceed adults. In this respect, adolescents' discourse is fairly stable across the two types of dialogues.

A similar picture emerges when we compare adolescents' frequency of use of each utterance type across the two dialogue types. This comparison yields only

¹Adolescents were more likely to change positions and to centrare than adults in the study (see Kuhn, Shaw, & Felton, 1997). Thus, the disparity in the number of agreeing dialogues between groups was due to the greater degree of fluctuation in the opinions of adolescents in the study.

TABLE 11
Mean Percentage Use of Utterance Types in Agreeing Dialogues

Code	Adult		Adolescent		p
	M	SD	M	SD	
Case-?	1.60	1.55	7.51	8.27	**
Clarify-?	6.13	4.75	12.08	8.10	**
Justify-?	1.15	1.54	1.79	3.01	
Position-?	0.96	1.37	2.22	2.13	*
Add	28.85	14.98	9.72	6.91	***
Advance	4.16	3.58	0.78	1.52	***
Agree	16.94	8.50	3.78	4.42	***
Aside	4.34	4.06	5.65	6.98	
Clarify	13.94	7.89	34.56	12.61	***
Counter-A	0.75	0.97	0.79	1.39	
Counter-C	5.97	5.26	8.43	8.01	
Disagree	0.88	1.79	1.40	2.23	
Interpret	1.81	2.77	0.29	0.84	**
Meta	4.57	4.52	5.09	7.41	
Substantiate	2.07	1.77	0.91	1.41	**

*p < .05. **p < .01. ***p < .001.

TABLE 12
Example of Add

Code	Speaker/Utterance
Add	A: What they're [promoting] is an eye for an eye, a tooth for a tooth.
Agree	B: Exactly.
Continue	A: That's wrong because what they're really teaching is [...] well this guy killed people so the government can come and kill him. So if my friend hits me, I'm gonna hit him right back because that's what I'm feeling.
Add	B: You know, it defeats itself [...]. The idea of society is to teach other people that to take a life is wrong [...]. It defeats itself because what it actually tells people is that it's okay to kill.

three categories in which adolescents' use deviates more than 1 percentage point across the two dialogue types. These are Clarify-?, which, as just noted, becomes more prevalent when adolescents are conversing with agreeing partners, and Clarify, which is even more prevalent in agreeing dialogues than it was in disagreeing dialogues—most likely reflecting the increased responding to the increased frequency of Clarify-?. A third change, in which the prevalence of Agree decreases in agreeing dialogues, is not readily explainable.

Adults in agreeing dialogues, in contrast, show a marked departure from the discourse patterns they exhibited in disagreeing dialogues, as observed by comparison of Tables 3 and 12. In agreeing dialogues, adults reduce the prevalence of six different utterance types and increase the prevalence of five others. Disagree,

unsurprisingly, becomes less prevalent, but so do the utterance codes that we identified in our earlier analyses as reflecting strategic discourse in disagreeing dialogues: Counter-C, Interpret, Clarify-?, and Case-? (the sixth, Clarify, is the only nonstrategic type and decreases, most likely, as a secondary effect of its association with Clarify-? and Case-?).

At the same time, five utterance types increase in prevalence when adults move from disagreeing to agreeing dialogues: Agree, Add, Advance, Substantiate, and Aside. In comparisons between adults and adolescents in frequencies of utterance types in agreeing dialogues, Agree, Add, Advance, and Substantiate are now all more common in adult dialogues than they are in adolescent dialogues, as is Interpret (which was also more common among adults than adolescents in disagreeing dialogues). In each of these cases, the adult participant in discourse establishes agreement with the partner, but then (in using any of the remaining codes) endeavors to build on the partner's argument. Add, for example, is defined as an extension or elaboration of the partner's immediately preceding utterance. Table 12 presents an example of Add.

DISCUSSION

In educational literature, one finds repeated reference to critical thinking as a central goal of education. In definitions of critical thinking, the effective use and comprehension of argument invariably figure prominently. The realization of these goals in educational practice, however, has been constrained by the very limited empirical evidence that exists regarding what needs to develop cognitively during childhood and adolescence to enable students to engage in effective argumentative discourse (Kuhn, 1999).

In developmental psychology, the empirical data related to argument largely address individuals' ability to support a claim, or, more commonly, to draw correct inferences from information that has been presented (Moshman, 1998). As noted earlier, the growing emphasis in argumentation theory on argumentative discourse as a social phenomenon offers a framework for empirical investigation of the relevant cognitive skills and how they may develop. In particular, we have drawn on Walton's (1989) ideas regarding the dual goals of argumentative discourse—to secure commitments from the partner that can be used to support one's own claims and to undermine the partner's claims. Also key to our analysis is the idea of argumentative strategies, by means of which these goals are pursued. Leont'ev's (1981) writings are useful here in conceptualizing development as occurring along dual fronts, one in continuing refinement of one's understanding of the goals and the other in development and refinement of strategies that meet those goals. These two trajectories we conceptualize as mutually reinforcing: Exercise of strategies enhances goal understanding, which in turn directs strategy use (Kuhn, in press-b). The strategic differences we observed across age groups, then, may in part reflect differences in understanding of discourse goals.

Our results, we believe, indicate a number of respects in which adults behave more strategically in argumentive discourse than do young teens. Adults use the directly offensive strategy of counterargument more than twice as often as teens. Moreover, in other conversational moves, such as Interpret and Clarify-?, adults are preparing the way for counterargument by directing and defining the partner's argument with the intent of weakening it. Such sequences, extending over multiple conversational moves, are less frequent among teens. Also less frequent among teens are defensive strategic sequences—notably, the key strategy of rebuttal.

The other key way in which adults can be seen to behave more strategically than young teens is in their adaptation of strategies to the requirements of discourse context. Teens, strikingly, showed minimal modification of discourse behavior when moving from disagreeing to agreeing partners. Counterargument, most notably, remained at about the same level of frequency when a difference in position did not exist as when it did. Adults, in contrast, in discourse with a partner who shared their position, diminished use of strategies directed toward weakening the partner's argument and increased use of strategies that might enhance and strengthen their own position (Add, Advance, and Substantiate).

Until they are replicated in other populations and argumentive contexts, the developmental differences we have identified are only tentative. Still, they are suggestive of what the developmental challenges may be as children and young adolescents begin to develop more sophisticated discourse skills. Young adolescents appear more preoccupied with merely producing argumentive discourse—that is, with generating the form of dialogue that they understand to be required in argumentive discourse. Speakers must take turns, must address the topic, and should try to articulate their views adequately. We have evidence that teens embrace and achieve these goals. Frequencies of unconnected or off-topic utterances are low. Moreover, teens (as well as adults) undertake to express their own views clearly. In disagreeing dialogues (Table 3), teens make clarifying statements regarding their own position almost four times as frequently as they seek clarification of the partner's position and four times as frequently as they critique the partner's position. Although they do show some use of counterargument, it is not clear to what extent teens understand the goal of undermining the partner's argument—a goal that needs to be distinguished from the goal of undermining the partner's position. The latter goal could be understood as attainable by a superior presentation of one's own position. A favored discourse mode of teens, we saw, is Case-?, although teens are less likely to use it with the strategic intent that is observed on the part of adults. Instead, to the extent the earlier mentioned discourse requirements (of articulating positions) are perceived as having been met, the adolescent may see posing scenarios as a way of keeping the discourse going, with an implicit goal of furthering the articulation of positions.

Our evidence regarding the strategic adaptation of argumentive discourse to fit discourse type or context highlights the importance of strategic flexibility, a performance factor, as well as strategic understanding, a competence factor (Kuhn,

2001a). Adolescents, perhaps due to a combination of social and cognitive constraints, show less flexibility in their argumentative discourse than do adults. Our data suggest that we should pay more attention to the role of discourse strategy as a source of developmental differences in argumentation. This approach may be especially fruitful in light of research that has claimed that many of the apparent differences between adult and child argumentation result from differences in knowledge base rather than reasoning (Stein & Miller, 1991). The study reported here provides new avenues for examining developmental differences in argumentation that may extend beyond knowledge of content or an understanding of argument structure.

Our data also highlight the fact that not all argumentative discourse is disagreeing. Agreeing discourse may be fully as strategic as disagreeing discourse, although its goals differ. In articulating, supporting, and enriching a position, it may be very productive, as Gilbert (1997) argued on philosophical grounds. Recent empirical research (Keefer, Zeitz, & Resnick, 2000; Kuhn et al., 1997; Lao, 1999) has supported this view.

Indeed, an adequate taxonomy of argumentative discourse contexts is likely to contain many more than two types (Gilbert, 1997; Keefer et al., 2000). Empirical delineation of such a taxonomy will be important to further research on the development of argumentative discourse skills, especially to the extent that strategic flexibility in adapting discourse to context proves to be a salient dimension of this development. Also, as mentioned earlier, there is a need to examine other populations, including those with argumentative expertise, to verify the developmental trends identified here. In this same vein, and the objective of a forthcoming paper (Felton, 1999), there is the need to document in experimental research that the discourse skills of young participants are amenable to advancement along the developmental paths that have been suggested by this research.

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