

## A Policy with Updated Information State and Dialogue Acts

### 1. <ask\_question\_to\_usr>

#### Information state:

[Agent/BEL: {NULL}]  
[Agent/DES: {nonconfusion(usr)}]  
[Agent/AGENDA: <notify confusion(usr)>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State A1}]  
[Public/LU: {Speaker: agent;  
Move: {answer(wordproblem(usr))}}]

**Dialogue Act:** {notify confusion(usr)}

### 2. <ask\_question\_to\_usr\_A1>

#### Information state 2.1:

[Agent/BEL: {State A1(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA:  
<restate(wordproblem(agent))>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State A1}]  
[Public/LU:

{Speaker: usr; Move: {cofirm(help)}}]

**Dialogue Act 2.1:** {confirmation(usr)}

#### Information state 2.2:

[Agent/BEL: {State A1(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA:  
<inforExten(wordproblem(agent))>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State A1}]  
[Public/LU: {Speaker: agent;

Move: {restate(wordproblem(agent))}}]

**Dialogue Act 2.2:** {restatement(agent)}

### 3. <ask\_question\_to\_usr\_insufficient>

#### Information state:

[Agent/BEL: {State A1(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA:  
<inforSply(wordproblem(agent))>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State A1}]  
[Public/LU: {Speaker: usr;  
Move: {inforExten(wordproblem(agent))}}]

**Dialogue Act:** {information extension(agent)}

### 4. <ask\_question\_to\_usr\_complex>

#### Information state:

[Agent/BEL: {State A1(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA:  
<cofirm(answer(wordproblem)),  
affirm(wordproblem(agent))>]

[Public/QUD: <?a.wordproblem(agent)>]

[Public/COM: {State A1}]

[Public/LU: {Speaker: agent; Move: {infor-  
Sply(wordproblem(agent))}}]

**Dialogue Act:** {information supplement(agent)}

### 5. <ask\_question\_to\_usr\_complex\_2>

#### Information state:

[Agent/BEL: {State A2(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA: <downdate(wordproblem)>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State A2}]  
[Public/LU: {Speaker: usr;

Move: {cofirm(answer(wordproblem)),  
affirm(wordproblem(agent))}]

**Dialogue Act:** {feedbackrequest(usr),  
affirm(agent)}

### 6. <ask\_question\_to\_usr\_state A2>

#### Information state:

[Agent/BEL: {State A2(usr), tohelp(agent)}]  
[Agent/DES: {nonconfusion(usr), tohelp(agent)}]  
[Agent/AGENDA:

<notify confusion(usr), ack(answer(usr))>]

[Public/QUD: <?a.wordproblem(agent)>]

[Public/COM: {State A2}]

[Public/LU: {Speaker: agent; Move: {down-  
date(wordproblem)}}]

**Dialogue Act:** {notify confusion(usr)}

### 7. <ask\_question\_to\_usr\_state B>

#### Information state:

[Agent/BEL: {State B(usr)}]  
[Agent/DES: {nonconfusion(usr)}]  
[Agent/AGENDA: <NULL>]  
[Public/QUD: <?a.wordproblem(agent)>]  
[Public/COM: {State B}]  
[Public/LU:

{Speaker: usr; Move: {ack(answer(usr))}]

**Dialogue Act:** {notify confusion(usr)}